Strategic Report

Here we explain how we use our inspiring science to enhance life.

Contents

JM in profile

Our vision is for a world that's **cleaner and healthier**; today and for future generations.

We put our inspiring **science** to work

- Catalysis
- Characterisation and modelling
- Chemical synthesis
- Electrochemistry
- Material design and engineering
- Platinum group metals (pgms) and specialist metallurgy
- Process optimisation
- Product formulation
- Surface chemistry and coatings

tackling the world's big **challenges**

Clean air for all

Achieving more with less

Affordable, accessible healthcare

A new era of clean energy

Our key highlights

Sales[1]
excluding precious metals

£4.2bn

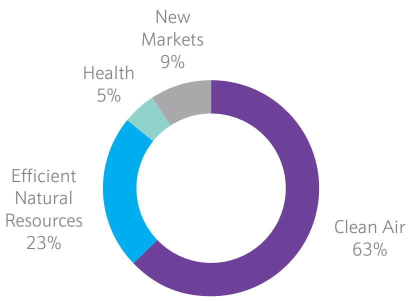
Operating profit
reported

£388m

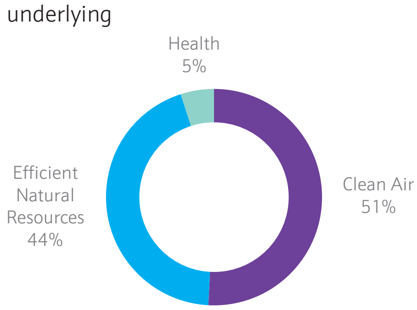
Operating profit
underlying

£539m

Sales by sector
excluding precious metals



Operating profit (excludes £38 million of corporate costs)
underlying



[1] The group believes that sales excluding precious metals is a better measure of the underlying performance of the group than revenue. Total 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 our customers.

Johnson Matthey is a global leader in science that makes the world cleaner and healthier.

The world is facing a set of complex challenges: climate change; the need for cleaner air; the drive for improved health; and a responsibility to be smarter and more efficient in the way we use our planet's finite natural resources.

Using our expertise in science at the atomic scale, JM is developing the solutions that create value for our customers and have an impact globally, making the world cleaner and healthier; today and for future generations.

delivered through four global **sectors** to solve our **customers'** complex problems.

Clean Air

+ See page 56 for more information

A global leader in catalysts and catalyst systems to reduce emissions from vehicles and industry, serving the **automotive** and **energy** markets.

Efficient Natural Resources

+ See page 57 for more information

Products and processes that transform, conserve and recycle scarce resources using less energy and fewer raw materials across the **chemicals, energy, automotive** and **pharmaceutical** markets.

Health

+ See page 58 for more information

Core capabilities in complex chemistry, manufacturing and scale up to create active pharmaceutical ingredients (APIs) and other solutions for niche areas primarily in the **pharmaceutical** market.

New Markets

+ See page 60 for more information

Applying our science into emerging opportunities, such as battery materials and fuel cells, enabling the once in a generation shifts occurring in the **automotive, chemicals** and **energy** markets.

Where we operate

Over **30** countries

~15,350 people

North America

11 major manufacturing facilities

30% of group sales

18% of employees

Europe

14 major manufacturing facilities

49% of group sales

57% of employees

Rest of Asia

6 major manufacturing facilities

8% of group sales

10% of employees

China

5 major manufacturing facilities

7% of group sales

8% of employees

Rest of World

5 major manufacturing facilities

6% of group sales

7% of employees

Chair's statement

Making a huge contribution to a more sustainable future

Patrick Thomas
Chair

As I write to you this year, my thoughts are with you all and I hope you are safe and well.

I also want to extend the board's sincere gratitude to every single JM employee for their immense efforts and contribution over the past few months and, indeed, throughout 2019/20.

As I reflect on the past year, I am pleased with the many changes we are making to strengthen our business, improving our efficiency and effectiveness in such a changing and volatile business environment. I call this the 'known unknown', but I doubt that anyone was planning for the 'unknown unknown' brought about by the global COVID-19 pandemic.

Robert and the whole leadership team have really stepped up to the challenge and the rapid and decisive action they have taken is to be commended. At times of crisis like this, some leadership teams struggle and some get stronger; the board has seen the strength of response at JM.

The ongoing uncertainty has required us to take short term action without losing sight of the long term, and our strong values have guided us well. As the crisis evolved, it was important for us to make clear commitments to all of our stakeholders at such a worrying time.

+ Read more: Our COVID-19 commitments on page 9

Taking decisions for all our stakeholders

We have prioritised – without compromise – the health, safety and financial security of our employees, customers, suppliers, shareholders and communities. And we have played our part in keeping the economy going through supplying countless products that the world's pharmaceutical, food and energy supply chains are reliant on right now.

Who knew that JM's technologies performed a critical role in ventilators? Or that Bitrex, a bitter tasting product that stops accidental swallowing of household cleaning products, is used to make sure medical grade face masks are correctly fitted?

The board members were united in wanting to do their bit alongside JM's 15,000 employees. Each director is adding a portion of their salaries or fees for April, May and June to a new, £1 million science education fund that JM has specially created in the wake of COVID-19. We know that science will help provide the solution to winning the fight against COVID-19, and other global challenges. The new fund will be used to break down the barriers that prevent people choosing to study science.

Our fast response to COVID-19 has ensured JM is in a strong position financially with a solid cash position and a strong balance sheet. One must also remember that JM is a highly resilient and diverse business. The nature of our portfolio means we serve a range of end markets and geographies which will be impacted by COVID-19 to varying degrees and timescales. The actions we have taken to protect our people, maintain good liquidity and a strong balance sheet mean that we are well positioned to navigate COVID-19 and take advantage of the opportunities that will emerge. We have also announced the acceleration of certain strategic initiatives to drive further efficiency which will deliver savings over the next three years. However, the economic situation remains extremely dynamic, especially in our largest market, automotive.

The board is acutely aware of its accountability to maintain the long term financial health of JM and its responsibilities to stakeholders. We have spent significant time considering this year's final dividend and have taken a decision which we believe balances the interests of all our stakeholders.

Notwithstanding the strong financial position of the group, in light of the current uncertainty and to balance the needs of all stakeholders, we are proposing a final dividend for the year of 31.125 pence, representing half the level of the 2018/19 final dividend. This is not intended to be a rebasing; the board remains committed to a progressive divided and anticipates restoring future dividend payments to levels seen prior to the COVID-19 pandemic when circumstances permit.

JM's sustainable technologies are even more relevant

The big growth drivers of JM's business are stronger than ever and the need to balance human prosperity with climate stability has moved even further up the agenda over the last year. Through its science, JM continues to make a huge contribution to a sustainable future – driving down pollution, lowering carbon footprints for our customers and creating molecules to combat cancer – and we are orienting our investments towards the sustainable technologies that will be needed in the not too distant future.

"The ongoing uncertainty has required us to take short term action without losing sight of the long term, and our strong values have guided us well. As the crisis evolved, it was important for us to make clear commitments to all of our stakeholders at such a worrying time."

We use a risk lens to get the right balance of capital allocation across the portfolio, particularly to our investments that relate to our ability to meet automotive industry demands as the shift to lower carbon transportation continues. We are investing significant resources into our eLNO battery materials technology and focusing carefully on the risk management of the market, technology and capital investment elements. As our Clean Air business matures, our investments in new world class manufacturing plants in Europe and Asia will provide the physical and metaphorical 'catalyst' to move the business model into a new mode to maximise value over the next decade.

+ Read more: Risks and uncertainties on pages 67 to 74

Hydrogen, as a source of clean energy, is a necessary element in the transition to a clean, low carbon economy and JM has a unique competitive advantage for this transition. Over the last year, customers, governments, regulators and investors around the world increasingly have been seeing the importance of hydrogen and are coming to JM as a trusted expert in hydrogen production and fuel cell technologies. These aren't technologies that are still at a research scale; JM has well developed, scalable technologies in customer applications today. We have increased investment this year to accelerate our hydrogen strategy and in October, the board witnessed JM's capabilities first hand when we visited our Fuel Cells business in Swindon, UK.

We also spent time at our operations in China and five of us visited several US sites giving us ample opportunity to meet employees from all sectors. The technical competence of our people always impresses me, and my recent visits reinforce how deeply rooted it is right across JM. It is unusual for a company to be able to make that depth of technical expertise available to customers all around the world; the ability to do so is a genuine hallmark of JM.

We have met many more stakeholders and strengthened ways to understand their issues

The board makes it a priority to meet as many of JM's employees as we can as it is one of the most valuable ways of assessing the success of strategy delivery and getting a real feel for the culture of the organisation.

This year, as part of our response to the new UK Corporate Governance Code, we expanded and formalised our workforce engagement mechanisms so we can better understand the issues on the ground.

We spent time discussing how best to achieve this and, following a pilot session to test effectiveness, we introduced a programme of country engagement forums. We will run these regularly with employees from the UK, China, US and Germany and members of the board will be directly involved.

I've also met more of our shareholders this year. Discussions focused mostly on how we are managing and prioritising investments across our business opportunities and there was increased interest in our sustainability credentials and our role in enabling a hydrogen economy. JM's shareholders are among the most engaged I have met and show a genuine interest in the company. In January we also hosted an investor lunch where the board committee chairs and I met with around 25% of our top 20 institutional shareholders.

So, we have good mechanisms in place for the board to understand the views of shareholders, employees, customers and our other stakeholders. Alongside these, I will continue to be available to our major shareholders throughout the year, despite not having the opportunity to meet with some you in person at our AGM in July – which this time will be conducted virtually.

+ Read more: Our stakeholders on pages 28 to 31

+ Read more: Our Section 172 statement on pages 32 to 33

Strategic Report

Chair's statement continued

We have continued to create and shape the right culture and support strategy execution

Every interaction the board and I have had with employees and shareholders has taught us something about the company that is new and gives valuable insights on the potential of the organisation and on its culture.

In my experience, the culture at JM is open and innovative where people enjoy working together and are really connected with the amazing things the company does for the world. My board colleagues and I appreciate the role we play in defining culture and leading by example, especially when it comes to safety and doing the right thing. Throughout the year, we took time to agree how to evolve our culture to keep pace with strategy. We are developing and improving our understanding of how we can assess, monitor and test the culture of the organisation, particularly as it goes through such significant change as we accelerate our strategic initiatives. We still have room for improvement, but our site visits and other interactions with employees are extremely valuable, together with the feedback we get from employee surveys.

+ Read more: Our culture ambition on page 41

Robert and the leadership team have made good progress this year in executing our strategy for sustained growth and value creation, which has set us up well to be able to prioritise and accelerate our plans in the current climate. As a board, we have continued to engage in the development of strategy and ask the really challenging questions.

During the year, we have probed further into the strategies for each of our sectors and have increased the time spent on active and regular risk management in our meeting agendas. Exploring the risk landscape and being more rigorous in using risk as a lens in business decisions, especially on capital investments, has translated into specific mitigating actions, particularly in the eLNO investments.

Board changes have brought new perspectives and experience

Succession planning, not only at board level, is something we have spent more time on to ensure we have the depth of leadership capability required to support the cultural and business change.

At the board level, we have a good breadth of varied and strong skills, experience and diversity which bring richness to our discussions. During the last 12 months we welcomed Xiaozhi Liu and Doug Webb as Non-Executive Directors. As I reported in my statement last year, Doug will take over from Alan Ferguson as Chair of the Audit Committee upon Alan's retirement from the board at the end of the AGM in July which has allowed a good amount of time for a thorough onboarding and handover. I'd like to thank Alan for his wise counsel and contributions. We will all miss his challenge and his immense knowledge of the business. I'm pleased to say, though, that Doug has shown himself to provide equal challenge since he joined the team.

At the end of March, after a 36 year career with JM, including over six years as an Executive Director of the board, John Walker retired from the company. John led the Clean Air business successfully for a decade, and on behalf of the company and its stakeholders, I want to thank him for all he has done for JM. I am impressed by how professionally he has managed his handover to Joan Braca, ensuring that the Clean Air business remains set for continued success for many years to come.

This year, at the end of March, Simon Farrant, Legal Counsel and Company Secretary also retired after 26 years in JM during which he has successfully driven the compliance and governance agenda. Simon has contributed more than you could ask of any Company Secretary and I thank him for his many years of support.

Good governance is more important than ever

At this time of change and volatility, compounded by the COVID-19 pandemic, where we need to maintain financial strength, our priority is on good governance and retaining our dynamic risk management processes. This focus will ensure we ask the right questions of Robert and the team to support them in driving results for the short and medium term. We will build on our work last year on succession planning and culture to support business change and continue to set the tone on environment, health and safety with a focus this year on process safety improvement.

+ Read more: Corporate Governance Report on pages 82 to 91

Resilient for today with a successful future ahead

I'd like to personally thank our shareholders – including the several thousand employees who own company shares – for their strong interest in the long term opportunities that are key to the future of JM and for their interest in how we are managing the transition in our portfolio.

I also want to thank all our people for their dedication to safe operations, improving efficiency and embracing the accelerated strategic changes taking place across JM.

These are challenging and dynamic times but JM is in good shape and we have a sound approach to maintain financial strength in the short term. This means we can optimise value creation long term and make the world we all share, a cleaner, healthier place.

Patrick Thomas

Patrick Thomas
Chair

Our COVID-19 commitments

Johnson Matthey has a clear vision – for a world that's cleaner and healthier; today and for future generations.

We have a strong set of values at the heart of our work, and these have guided our COVID-19 response.

That's why we've outlined a number of commitments to support our people, customers, suppliers, shareholders and communities.

People

We are ensuring the health, safety, and wellbeing of our 15,000 people.

- Upholding the highest standards of safety in all working practices.
- Pledging to make no member of staff redundant as a direct result of the impact of COVID-19 until the end of June.
- Committing not to use the UK Government's scheme for furloughed staff during April, May and June.

Customers and the relief effort

We are providing vital products in the world's most critical sectors and supply chains.

- Keeping operations running for customers where it's safe to do so.
- Producing:
  - products used in ventilators.
  - ingredients used in chronic pain relief medication.
  - catalysts used in the production of food and energy.

Suppliers

We are helping our value chain and suppliers navigate a difficult period.

- Maintaining our payment terms to support all our suppliers.
- Pledging to support any small supplier that is suffering hardship and requests early payment terms as a result of the impact of COVID-19 during April, May and June.

Communities

Our communities are at the heart of the fight against COVID-19, and we are playing our part.

- Matching all donations made by our employees to funding local relief efforts.
- Coordinating a local volunteering programme across JM.
- Manufacturing goggles and visors for community medical staff and donated spare PPE.

Science

We are looking longer term, creating a £1 million fund for STEM education.

- Creating a special fund for local and regional science education programmes.
- Supporting the fight against COVID-19, future outbreaks, and other global challenges.
- Improving access to a quality science education, and supporting our vision for a cleaner and healthier world.

Chief Executive's statement

Guided by our values and supporting all our stakeholders in unprecedented times

Robert MacLeod
Chief Executive

Undoubtedly, the world is in a very different place today compared to 12 months ago. Throughout the year we have witnessed a shift in the urgency for action against climate change and net zero targets set by several countries around the world. Then, towards the end of the year, there has been the emergence of COVID-19.

This has brought unprecedented challenges to individuals and to all businesses but I am pleased at the way JM has stepped up to those challenges. In the early part of 2020, we started to see the spread of the virus in China. The actions we put in place there to look after our people and manage our operations in line with customer demand stood us in good stead as the virus took hold across the rest of the world during March. Our priority has been, and continues to be, the health and safety of our people, customers, suppliers and communities where we operate, and I would like to say a heartfelt thank you to all our employees for their dedication and efforts over the past few months.

We are playing our part to combat this pandemic, supplying crucial, but often hidden, components into many of the value chains providing vital products in the health, food or energy sectors. In addition, our people around the world have applied their initiative in numerous ways, from manufacturing goggles and visors and offering them to healthcare professionals, to lending unused gas storage tanks to hospitals for storing oxygen. JM and its people are also providing financial support and volunteering their time to help charity partners and communities as we work together through COVID-19.

It goes without saying that we have not experienced anything quite like this in our lifetime. However, we have been fortunate in being able to draw on our strong set of company values to guide our decisions, and ensure we consider our response and commitments to all our stakeholder groups.

+ Read more: Our COVID-19 commitments on page 9

We have taken immediate and decisive action to protect our long term financial health

Our immediate response to COVID-19 was to assess the risks and take decisive action to maintain good liquidity and a strong balance sheet. These measures, which included cost reduction, tightly managing our operations to optimise working capital and postponing non-strategic capex, also positively impacted our cash flow. In mid-March, we concluded the refinancing of £1 billion of our bank facilities.

We acted quickly, temporarily stopping production at our Clean Air plants, managing our raw materials purchases across the group and controlling intakes into our pgm refineries, all of which preserved our cash position. The effects of COVID-19 did, however, affect our performance towards the end of the year, adversely impacting our underlying operating profit by about £60 million overall.

Following the temporary closure of numerous automotive original equipment manufacturer (OEM) production plants due to government mandated closures and lower consumer demand, our Clean Air plants are now gradually resuming production across all regions. Across the remainder of our business, the vast majority of our plants are operational and we have adopted new working practices in line with local guidelines. Alongside maintaining our operations where it is safe to do so, we are balancing obligations to our stakeholders through maintaining payment terms with suppliers and offering support to small suppliers who may be facing hardship.

Accelerating our strategy to drive efficiency

These are challenging times, but we are well positioned in an uncertain world. We have a resilient and diverse portfolio, serving a range of end markets and geographies. As you would expect, we continue to assess the potential impacts and future scenarios in the wake of COVID-19 – we give more details on this on pages 65 and 66. This is a huge shock to the global system rather than a new structural challenge for our business. We expect that our markets will recover and we are continuing with our strategic investments, but a sustained economic slowdown is likely, and the way we navigate through this period will be critical to keeping JM healthy and in good shape.

We are also building on our recent investments to drive efficiency across our manufacturing footprint and our operations, accelerating areas of our strategy to drive further efficiency and strengthen our business. There are two areas of particular focus:

Consolidating Clean Air footprint

In Clean Air, we have been investing in new world class plants in Europe and Asia. These plants are identical and highly flexible, allowing us to drive efficiency and increase agility across our global footprint by consolidating some of our existing older capacity in Europe into this new capacity.

Driving organisational efficiency

In recent years we have been investing into our corporate functions. For example, we are rolling out our single global ERP (enterprise resource planning) system, and have invested into our global procurement and IT functions to increase our capability and standardise our processes. This is allowing us to review our group operating model to remove duplication of activities between the corporate centre and the sectors, and reduce complexity across the organisation. A simplified organisation will enable faster decision making and reduce costs.

We know, from our recent employee opinion survey, that this duplication can sometimes stifle their ability to do their jobs. By bringing forward this work to make the way we operate clearer and simpler, we hope to remove barriers for our people and create more fulfilling roles.

We are taking a coordinated approach to these initiatives to manage the risk and drive delivery of the change.

r Business transition risk on page 74

In total, the acceleration of our strategic initiatives will deliver annualised savings of at least £80 million over the next three years of which at least £30 million will benefit 2020/21. We go into more detail on the breakdown of the savings, along with the associated costs, on pages 61 and 62.

Pushing forward with our strategy – global trends remain firmly in place as drivers for growth

These developments do not change the global trends that will drive our longer term growth. Addressing climate change remains a priority and commitments to net zero are gathering pace across the world. The impact of the rising global population, increasing longevity and natural resource challenges also remain top of national and international agendas. With our continued investment in strategic growth projects and leading sustainable technologies, we remain uniquely positioned to address these key global trends, delivering significant value for our shareholders and society.

r Future growth risk on page 71

We made progress in the year against our strategic plans and are well placed in the medium term

The group made good progress in 2019/20 and excluding the effects of COVID-19 we delivered operating performance slightly ahead of market expectations.

In Clean Air, we continued to benefit from tightening light duty legislation, especially in Europe and Asia, maintained our strong market shares in our key segments and continued to invest in our new, highly efficient world class plants. However, operating profit was down, primarily driven by a weak global heavy duty market, the impact of COVID-19, and inefficiencies within our manufacturing footprint due to phasing of the completion of our new plant in Poland. As COVID-19 spread, many of our OEM customers ceased production which had a knock on impact on our business at the end of the year. Although they are gradually ramping up their plants, visibility on the path of recovery remains low.

Efficient Natural Resources, boosted by both strong pgm prices and success in developing and commercialising new technologies, posted higher sales with significant growth in operating profit. However, the stronger pgm prices presented us with the challenge of managing high metal working capital. Thanks to a fantastic cross-JM team, we made strong progress in reducing the volume of precious metal working capital in our pgm refineries while ensuring continued supply to our Clean Air business and external customers.

Our Health Sector had a tough year overall because of a temporary disruption in the opioid addiction therapy market, although we are well placed for recovery thanks to new multi-year supply agreements with generic partners. We made further progress towards delivering an additional circa £100 million of operating profit from our pipeline of generic and innovator APIs by 2025, albeit subject to timing of individual drug launches. During the year we took the decision to deprioritise certain generic molecules and refocus our resources on the most attractive opportunities. Just after year end, we got the great news one of our customers received regulatory approval for its therapy for triple negative breast cancer which contains a drug linker manufactured by JM.

In New Markets, the Battery Materials team made significant progress with the development and commercialisation of eLNO, our portfolio of leading ultra high energy density cathode materials. We moved to full cell testing with two global automotive and two non-automotive customers, collaborating more intensively with them, which gives us further confidence that we have the materials our customers seek. We also broke ground on our first commercial plant in Konin, Poland, which is expected to be on stream in 2022 and supplying platforms in production in 2024. As part of the commercialisation process, we are also securing sources of renewable energy for the site in Poland. To further support development of eLNO, and our customers, we are also refocusing our business in lithium iron phosphate (LFP) battery cathode materials to concentrate on the high value segment of that market.

It is not only our technologies for battery powered vehicles that gathered pace this year. There is increasing momentum around the significant role that hydrogen will play in enabling the energy transition to a clean, net zero economy. Stemming from our science, we have a unique competitive advantage for this transition, with a number of market leading solutions across the hydrogen value chain including hydrogen production technologies and fuel cells.

We have developed a new, market leading process to produce low carbon hydrogen (LCH) or 'blue' hydrogen and we are already starting to commercialise this technology. We are collaborating on one of the UK's leading low carbon hydrogen projects which will use our LCH technology in a refinery for the first time.

Strategic Report

Chief Executive's statement continued

Fuel cell technologies will also play a key role in decarbonisation of transportation, or other power hungry applications, and it is an area we have built up considerable expertise over many years. Today, we supply fuel cells for non-automotive and automotive applications, including commercial vehicles in China, and we are working with a number of customers, including major automotive OEMs, on a variety of applications as this market develops. Not only did we see sales in our fuel cells business increase this year, we continue to invest in our technology and have committed £15 million to double our manufacturing capacity across the UK and China.

We are actively engaging with industry groups in the hydrogen space, contributing our unique expertise and experience to the decisions that are shaping this evolving market.

+ Read more: Our operational performance in 2019/20 on pages 53 to 60

+ Read more about JM and hydrogen on page 33

We stayed focused on safety and sustainable business

Health and safety are the bedrock of our licence to do business. An improved performance this year – equivalent to over 1,000 fewer lost days due to injuries and incidents – signals progress in our work to embed a culture of working safely and making sure we look after personal wellbeing across JM. Through our efforts on process safety we have continued to reduce the risks across our business arising from the hazardous processes we operate.

More broadly, our sustainable business framework and its six goals have continued to keep us true to our vision for a cleaner, healthier world. This year almost 86% of our sales came from products and technologies that make a positive contribution to the United Nations Sustainable Development Goals (UN SDGs).

+ Read more: Our sustainability performance in Responsible business on pages 38 to 52

+ Read more: Our sustainable business framework on pages 24 to 27

In the leadership team, we said goodbye to some colleagues and welcomed new ones

At the end of the year, JM said farewell and best wishes for retirement to the two longest serving members of my leadership team. John Walker, Sector Chief Executive, Clean Air retired after 36 years at JM, including a decade successfully leading our Clean Air Sector. Simon Farrant, General Counsel and Company Secretary also retired after 26 years' service. Under his leadership, JM's reputation for integrity has been upheld and remains a source of competitive advantage. I'd like to thank both John and Simon, on behalf of everyone in JM, for their huge contributions to the company over many years.

During the year we welcomed three new members to the JM team; Joan Braca as our Sector Chief Executive for Clean Air, Christian Günther, Chief Executive of Battery Materials and Maurits van Tol as Chief Technology Officer. We are already benefiting from their individual strengths and a stronger collective leadership team. Each has brought a refreshing new and diverse perspective and dynamic to the Group Management Committee (GMC) which is proving invaluable, especially as we navigate the current climate.

And we continued to listen and respond to what our people say so we can build a culture for success

As Patrick has already highlighted, we have moved further forward in shaping our culture for success, engaging our people at all levels in conversations about the behaviours and actions we need to dial up in order to deliver our strategy and achieve our vision. We have a clear view now of what that looks like – more emphasis on our purposeful vision, really driving and shaping the markets of the future and relentlessly driving for better performance. And we will use our strategy acceleration actions as a way to exemplify the culture that we are aiming for.

+ Read more: Our culture for success on page 41

We have continued to do even more this year to help our people achieve personal success through their work at JM. Much of what we do is shaped by the feedback they give us, including through our company-wide survey and in our pulse check this year, we got a clear steer on what people feel good about and where we need to focus next. People told us they were more engaged than before, which is a positive step. On the other hand, it was clear that people still feel there are barriers preventing them from doing their best work and our enablement score was flat. As I have already mentioned, our work on the group operating model is targeting precisely this and so I hope that people experience a positive shift as a result of those changes.

As we continue to move through the phases of our strategy, and in particular this period of accelerated change, the leadership team and I know that it will be unsettling for people in many parts of JM. Regrettably, we believe the impact of these changes will be fewer jobs across JM and we will be consulting with employee groups regarding estimated reductions of around 2,500 jobs globally over the next three years. The decisions we will take are the right ones for the future success of JM. I recognise it is difficult for our people and I give them my assurance that we will be transparent and open about our plans and we will act in line with our values.

Outlook for 2020/21 and priorities for the year

As I write to you towards mid-June, given the ongoing uncertainty, we are unable to provide financial guidance for the year ending 31st March 2021. Looking at each of our sectors:

Clean Air has a direct link to consumer demand. Following automotive OEM shutdowns earlier in the year, we are now seeing our customers gradually reopen their plants. Production in China is recovering towards prior year levels, and Europe and the US are now also gradually ramping up. However, visibility on the path of recovery remains low. This significant uncertainty has led to a wide range of forecasts for automotive and truck production for the coming year. External data currently suggests a decline of circa 25% in light duty for Europe and the US, but better in Asia, while for heavy duty the declines are slightly more. Although the actual outcomes could be materially different. We have a flexible cost base in Clean Air, enabling us to manage different levels of activity, with circa 75% of costs before mitigation being variable.

Efficient Natural Resources serves a diverse range of end markets and is subject to a broader range of variables. It is later cycle than Clean Air, so while we have seen little impact so far on the business from macroeconomic weakness, we expect this will come through as lower demand begins to affect the industries it serves and because of volatile feedstock dynamics.

Pgm prices will also influence operating performance. Operating leverage is greater here as the sector operates with a larger number of sites and higher fixed costs.

Health is relatively unaffected by changes in the macroeconomic environment. We expect to benefit from new supply agreements for APIs used in generic opioid addiction therapies as well as our continued work with innovator customers.

In **New Markets**, in our Battery Materials business, commercialisation of eLNO remains on track.

Our newly announced efficiency initiatives will deliver additional annualised savings of at least £80 million by 2022/23 for a cash cost of circa £80 million, with initial savings of at least £30 million supporting operating performance in 2020/21. We have a strong balance sheet and liquidity position and expect to generate further cash through precious metal working capital improvements as we continue to reduce refinery backlogs. We remain committed to our investment in our strategic growth projects which will support our medium term growth.

Building on the board's priorities outlined by Patrick on page 81, our strategic priorities for 2020/21 are to:

1. **Navigate COVID-19, maintaining focus on financial strength**
   - Maintain a strong balance sheet and liquidity position.
   - Generate further cash through precious metal working capital improvements.
2. **Accelerate our strategy to drive efficiency**
   - Finalise plans and commence consolidation of our Clean Air footprint.
   - Review our group operating model to remove duplication and reduce complexity across the organisation.
3. **Continue to invest in strategic projects for medium term growth, including growth driven by climate change**
   - Invest and build new growth opportunities to plan, prioritising Battery Materials, Health new product pipeline and Hydrogen.

In addition, we will continue to support our people, and in particular our leaders. We will enable them to manage business and cultural change and deliver our process safety improvement plans to further reduce risk in our hazardous processes.

So, to conclude

We have navigated the immediate impact of COVID-19, acting quickly and decisively to protect our stakeholders and our business.

At the same time, we continue to execute against our strategy and are accelerating this to take Johnson Matthey to the next stage of its evolution, creating a simpler organisation and enabling a greater focus on driving growth.

In an uncertain world, our science remains at the heart of JM and we are well positioned for future success with our leading sustainable technologies. As we drive towards our vision to create a cleaner, healthier world, I remain confident in the future.

R J MacLeod

Robert MacLeod
Chief Executive

Group Management Committee (GMC)

Joan Braca, Sector Chief Executive, Clean Air

Joined the GMC: October 2019

Joan joined JM in October 2019 to lead our Clean Air Sector. Having joined from Tate & Lyle, and with previous experience in the speciality chemicals industry with Dow Chemical and the Rohm & Haas Company, Joan is now directing our strategy to deliver sustained growth in our largest business sector.

Christian Günther, Chief Executive, Battery Materials

Joined the GMC: November 2019

Christian joined the company in November 2019 to lead our Battery Materials business having previously been at Tasnee in Saudi Arabia, and before that at McKinsey & Company. Christian leads the business' strategy for breakout growth through the commercialisation of JM's leading battery cathode materials technology.

Annette Kelleher, Chief HR Officer

Joined the GMC: May 2013

Annette is our Chief HR Officer, leading the group's people strategy. Joining from Pilkington Glass in May 2013, Annette is responsible for the programmes to build talent and capabilities across JM in line with our group strategy.

Robert MacLeod, Chief Executive

Joined the GMC and the board: June 2009

Having joined JM as Group Finance Director in 2009, Robert has been leading JM since June 2014 when he became Chief Executive. Robert also has executive level responsibility for environment, health and safety and our sustainable business framework. Currently, our Health Sector is reporting to Robert while we are in the process of recruiting a Sector Chief Executive in this area.

Anna Manz, Chief Financial Officer

Joined the GMC and the board: October 2016

Anna joined JM as Chief Financial Officer in October 2016 to lead the group's finance activities, risks and controls. Joining from Diageo, Anna also leads the group's corporate development activities, Procurement and IT functions.

Jane Toogood, Sector Chief Executive, Efficient Natural Resources

Joined the GMC: March 2016

Jane joined JM from Borealis in March 2016 and leads the Efficient Natural Resources Sector, directing the strategy to deliver market leading growth. Jane also has responsibility for security across JM and chairs the Brexit working group.

Maurits van Tol, Chief Technology Officer

Joined the GMC: October 2019

Maurits joined JM in October 2019 and is responsible for R&D and innovation. Previously at Borealis and DSM, Maurits has a strong background combining science with business. Maurits leads strategy development to deliver value from our science and protect the value of our investment in R&D through intellectual property.

Markets and opportunities

We serve markets where our inspiring science can have the greatest impact in solving our customers' complex challenges.

As a result, we create leading technology positions, often in niches within larger markets. These markets aggregate into four main global economic segments through which our science can enable a cleaner, healthier world. They are:

- **Transport** (principally automotive, with some marine and aerospace).
- **Energy** (fuels and electricity generation).
- **Chemicals** (including agrochemicals, food and beverage).
- **Healthcare** (both pharmaceuticals and medical).

+ Read more about our business model to use our science to create value on pages 22 and 23

The four main economic segments we serve are undergoing major change as a result of global sustainability trends: The journey to pollution free roads; a growing and ageing population; the need for a secure supply of clean energy; and the continued demand for 'more', which is challenging the supply of natural resources.

The world is an increasingly uncertain place, even more so in light of COVID-19. But even against this backdrop, these trends are continuing at pace, alongside the opportunities they represent for JM.

With the discussion about climate change intensifying, external support continues to rise for zero emission vehicles and the technology and infrastructure that will enable cleaner energy generation and storage, as well as the sustainable sourcing of the critical raw materials to drive change. And the world has never been more awake to the necessity of supporting and protecting an aging population.

The impact of COVID-19

The COVID-19 outbreak will have a significant impact on economies globally and, as for all companies, this is inevitably having a knock on effect for JM and its end markets. This is likely to be most pronounced in transport, where many automotive operations slowed or stopped due to government mandated closures and as consumer demand weakened.

Our immediate response was to take decisive action to maintain our strong balance sheet and strengthen our liquidity through cost reduction, tightly managing our operations to optimise working capital, deferring non-strategic capex, and optimising working capital by reacting quickly and temporarily stopping production at our Clean Air plants. We are now gradually resuming production in Clean Air across all regions.

Future scenarios are uncertain, but JM is well positioned with a resilient and diverse business portfolio which is exposed to a range of end markets and geographies and our flexible cost base, particularly in Clean Air where circa 75% of our costs are variable, enables us to adapt quickly to changes in demand, reduce our costs and preserve cash.

Across the group, we have been investing to drive efficiency across our manufacturing footprint and our operations. We are now able to accelerate to a number of these initiatives. We are consolidating our Clean Air footprint and optimising our group operating model to create further organisational efficiency across the group. We are confident in our ability to manage the business through this difficult time and deliver on our strategy to achieve sustained growth and value creation.

Transport

JM sectors

- Clean Air
- New Markets

Key scientific capabilities

- Catalysis
- Electrochemistry

Outlook

In the short term, the impact of COVID-19 means sales will be lower in 2020, with demand likely to be uncertain for some years to come.

Following automotive original equipment manufacturers (OEM) shutdowns, we are now seeing our customers gradually reopen their plants. Production in China is recovering towards prior year levels, and Europe and the US are now also gradually ramping up. However, visibility on the path of recovery remains low. This significant uncertainty has led to a wide range of forecasts for automotive and truck production for the coming year.

+ Read more: Going concern on page 65

Longer term, the automotive industry will continue its once in a lifetime transition to zero emission powertrains, driven by the commitments made by many countries to reach net zero and tightening legislation, particularly in Asia and Europe, with mobility one of the key areas where full decarbonisation is possible. To get there, there will be a balance of hybrid, full battery electric and fuel cell powertrains, and in the medium term internal combustion engine options will remain, particularly for heavy duty applications. For JM, this mix plays to our strengths.

Opportunity for JM

JM is at the very forefront of science that is enabling lower and zero emission vehicles. And we've translated that science into the broadest range of solutions for automotive industry customers.

- Extending our technology leadership and manufacturing capacity in emission control catalysts for cars, buses and trucks.
- Consolidating our Clean Air footprint to drive efficiency and increase agility.
- Innovating and commercialising eLNO, our portfolio of ultra high energy density battery cathode materials.
- Ramping up production of fuel cell technologies in Europe and beyond.

Energy

JM sectors

- Efficient Natural Resources
- Clean Air
- New Markets

Key scientific capabilities

- Catalysis
- Electrochemistry
- Process design

Outlook

In the short term, the impact of COVID-19 has driven a fall in energy consumption and demand. In light of the economic uncertainty, and the resulting pressures on public and corporate finances, investment activity may be volatile for two to three years. But when markets begin to recover, and with zero carbon commitments still in place, the world will continue its drive to find solutions for the energy trilemma – the need for a secure supply of clean, affordable and universally accessible energy.

There is increasing recognition that hydrogen will be an important energy vector, but to unlock its potential the market must find ways of deploying the technology at scale to support the shift to a hydrogen economy – an area of opportunity for JM.

Opportunity for JM

JM is putting its science at the heart of solutions that support a cost effective transition to a secure and environmentally sustainable energy system.

- An established portfolio of market leading technologies for hydrogen production.
- A new, market leading process (the LCH process) to produce low carbon or 'blue' hydrogen, which makes carbon capture and storage easier and cheaper.
- Scale up of fuel cell technologies that enable hydrogen to be directly converted to electricity with water as the only by product.

Chemicals

JM sectors

- Efficient Natural Resources
- New Markets

Key scientific capabilities

- Catalysis
- Pgms and specialist metallurgy
- Process optimisation

Outlook

Economic uncertainty caused by COVID-19, alongside the continued weakness in oil prices, will have an effect on demand and throughput in the chemicals industry.

However, the long term drive towards sustainable and renewable solutions, alternative feedstocks and methods to achieve more with fewer natural resources will continue.

For JM, this means the development of alternative routes from feedstock to end product, new process technology, ongoing catalytic development and the opportunity to licence and support the buildout of new plants and equipment.

Opportunity for JM

With our scientific expertise, we are helping our customers transform, purify, recycle and use key natural resources such as oil, gas, biomass and platinum group metals (pgms) into materials that build and fuel the modern world, while reducing the impact of this activity on the environment.

- Catalysts and process technologies that drive efficiency in chemicals production.
- Innovating and investing to enable the shift to biobased feedstocks and renewables.
- Commercialising Fischer Tropsch (FT) technology to convert municipal waste into jet fuel, securing both process licence and catalyst sales income.

Healthcare

JM sectors

- Health
- New Markets

Key scientific capabilities

- Catalysis
- Process design
- Product formulation

Outlook

Healthcare demand will continue to rise alongside the world's population, the increase in average age in many countries and higher consumer expectations. And with people feeling the impact of COVID-19 across the world, there is a fresh understanding of the importance of healthcare and especially care for the elderly or those with chronic and underlying health conditions.

Unlike our other end markets, healthcare is not as directly impacted by economic shifts. For JM, this means a relatively stable customer base, disconnected from our other markets, and a potential source of growth.

Opportunity for JM

JM is a go-to partner for both innovator and generic pharmaceutical companies. We don't specialise in solutions for specific treatments, and we come into our own when tasked with complex API development. We can work at all stages of the drug development cycle, from conception right through to scale up and commercial manufacture.

- Continuing to invest in our product pipeline to bring new APIs to market.
- Advanced catalysts to the pharmaceutical and agricultural chemicals markets.

Critical raw materials

JM sectors

- Efficient Natural Resources

Key scientific capabilities

- Pgms and specialist metallurgy
- Process optimisation

Outlook

Despite a short term decrease in material demand following COVID-19, in the longer term population growth and increased consumer expectations will continue to put pressure on our natural resources.

Consumers are increasingly looking for sustainable solutions, while at the same time demand for all kinds of products is increasing.

The balance of what materials are in demand will change, influenced by demand in other end markets. For example, increased adoption of battery electric vehicles will inevitably squeeze the supply of cobalt, while platinum will continue to be needed for a range of applications, including in hydrogen fuel cells.

Organisations are focused on finding new ways to do more with 'more with less', and create circular economies so more materials can be recycled and reused – an area of strength for JM.

Opportunity for JM

As a company with many years of experience in the efficient use and transformation of natural resources, JM is well positioned to support organisations looking to achieve more with less. The company already helped create one of the world's earliest circular economies in the use, reclaiming, refining and reuse of platinum.

- Applying our expertise in recycling and efficient transformations to create solutions to new challenges.
- Investing in our pgm recycling capability.

Our strategy

For sustained growth and value creation

Driven by key global sustainability trends, our strategy is to use our world class science to solve customers' complex problems. This creates long term value for our shareholders and a cleaner, healthier planet for everyone.

Our vision

A cleaner, healthier world today and for future generations

Our drivers

Global trends – climate change, energy transition, population and longevity, resource scarcity

Our strategy

Use our world class science to solve customers' complex problems

Delivered through four global sectors

Clean Air

See page 56 for more information

Efficient Natural Resources

See page 57 for more information

Health

See page 58 for more information

New Markets

See page 60 for more information

Underpinned by

Being safe, more sustainable and doing the right thing

The outcomes:

- Enhanced technology leadership in our targeted markets.
- Three substantial, growing sectors with sizeable new opportunities realised through our New Markets Sector.
- Efficiency and excellence in everything we do.

Driving attractive returns over the longer term:

- Expanding return on invested capital (ROIC) to 20%.
- Mid to high single digit EPS CAGR.
- Progressive dividend.

Have made the world a cleaner and healthier place

Strategy progress 2019/20

Group

Good strategic progress and operating performance slightly ahead of market expectations excluding the effects of COVID-19.

- Adverse impact on underlying operating profit of around £60 million by year end reflecting lower demand in Clean Air, higher trade debtor provisions across the group and delayed sales due to logistical challenges in our other businesses.

More effective management of precious metal working capital across our businesses, reduced backlogs and reviewed commercial terms.

- Reduced precious metal working capital volumes by year end – equivalent to £345 million reduction at constant metal prices.

Efficiency initiatives – delivered £116 million of savings to date from previously announced global restructuring programme, procurement and the closure of Health Sector's Riverside plant.

- On track to deliver £145 million by end of 2022/23 (see page 19 for details of further savings from accelerating our strategic initiatives).
- Continued investment into corporate functions.
  - Continued roll out of single ERP (enterprise resource planning) system, increase capability and standardise our processes in procurement and IT.

Delivered action plans for future new growth opportunities in hydrogen and fuel cells.

Made progress towards three of our six sustainable business goals.

- 85.9% of sales from products that contributed to UN SDGs.
- Improved health and safety performance.
- Improved employee engagement by four points.
- Increased employee volunteering.
- Our goals relating to employee enablement, greenhouse gas reduction and responsible sourcing were broadly unchanged.

Took immediate and decisive action in response to COVID-19 to maintain balance sheet and strengthen liquidity.

- Cost reduction, tight management of operations to optimise working capital, deferred non-strategic capex.
  - Cost reduction measures included adjusting working patterns, reducing contractor spend and restricting travel costs.
- Balanced obligations to our stakeholders through maintaining payment terms with suppliers and offering support to small suppliers who may be facing hardship.
- As a result, at 31st March 2020 we had achieved:
  - Net debt to EBITDA[1] of 1.6 (at the bottom end of our target range of 1.5 to 2.0).
  - Material headroom in relation to debt covenants of 3.5 times[2] net debt to EBITDA[1].

Sectors

Clean Air

We continued to benefit from tightening legislation globally, especially in Europe and Asia. Strong market shares were maintained in our key light duty diesel and heavy duty segments. With the construction of our new plants in Europe and Asia largely complete, our global, efficient and flexible manufacturing footprint is enabling us to drive efficiencies across the sector.

+ Read more: Clean Air operating results on page 56

Efficient Natural Resources

We continued to focus our resource on selected, higher growth segments; target our R&D investment for future growth and drive operational efficiency. Our refinery upgrade programme, which will ensure our assets operate effectively and reliably, is progressing well. We made good progress in developing and commercialising new technologies, which includes our mono ethylene glycol technology, and business development projects, including battery materials recycling, to support longer term growth.

+ Read more: Efficient Natural Resources operating results on page 57

Health

We have agreed new multi-year supply agreements with generic partners for the supply of APIs used in generic opioid addiction therapies. On the innovator side, we saw recent success as our customer received regulatory approval for production of an immuno-oncology treatment for triple negative breast cancer and is now increasing their volumes in support of the commercial launch. We made further progress towards delivering an additional circa £100 million operating profit from our pipeline of generic and innovators APIs by 2025 although it may be delayed a year given the inherent uncertainty around the timing of individual drug launches. During the year we decided to deprioritise certain generic molecules and refocus our resources on the most attractive opportunities.

+ Read more: Health operating results on page 58

New Markets – Battery Materials

We are making significant progress in commercialising eLNO, our portfolio of leading ultra high energy density cathode materials, which will suit a broad range of applications, particularly in enabling greater adoption of long range, pure battery electric vehicles.

Feedback from testing with customers remains positive and in the year, we moved to full cell testing with two global automotive and two non-automotive customers.

In addition, we broke ground on our first commercial plant in Konin, Poland. We are also refocusing our lithium iron phosphate (LFP) business to the higher value segment of the market. This will better support eLNO customers and development of this business.

+ Read more: New Markets operating results on page 60

1. For definition, see note 35 on page 198.
2. The majority of our facilities contain a net debt to EBITDA covenant of 3.5 times. Two legacy loans (£41 million and £148 million maturing after 31st March 2021) contain a 3.0 times covenant and are expected to be amended. Our headroom assumes repayment of these legacy loans.

Strategic Report

Our strategy continued

Strategic update and focus for 2020/21

The COVID-19 pandemic has led to significant challenges across the world. We continue to work hard to respond to these unprecedented circumstances and actively manage the ongoing risks to our people, operations and customers.

+ Read more: Risks and uncertainties on pages 67 to 74

1. **Resilient business portfolio with a strong balance sheet**
2. **Accelerating our strategy to drive efficiency**
3. **Continue to invest in strategic projects for medium term growth, including growth driven by addressing climate change**

1 Resilient business portfolio with a strong balance sheet

The good progress made during 2019/20 and decisive actions taken in response to COVID-19 mean we are well positioned in an uncertain world. We have a resilient and diverse business portfolio which is exposed to a range of end markets and geographies and our flexible cost base, particularly in Clean Air where circa 75% of our costs are variable, enables us to adapt quickly to changes in demand, reduce our costs and preserve cash. When the macroeconomic environment weakens, our business model provides a natural hedge which strengthens our balance sheet and liquidity as we have significant precious metal working capital inflows when demand is lower.

We have a strong balance sheet with good access to liquidity of circa £1.3 billion. This includes a £1 billion five year sustainability linked revolving credit facility, which was concluded during 2019/20. In line with the group's vision, this facility contains sustainable performance targets linked to the group's environment, social and governance (ESG) objectives. More recently, in April 2020, we issued an additional US$300 million of private placement notes to add further liquidity and increase our maturity profile.

+ Read more: Our sustainable business framework on pages 24 to 27

+ Read more: Responsible business on pages 38 to 52

~75%
variable costs in Clean Air

~£1.3bn
available liquidity

£1bn
sustainability linked finance

2 Accelerating our strategy to drive efficiency

Across the group, we have been investing to drive efficiency across our manufacturing footprint and operations. We are now able to accelerate a number of these initiatives. We are consolidating our Clean Air footprint and optimising our group operating model to create further organisational efficiency across the group.

In total, the acceleration of our strategic initiatives will deliver annualised savings of at least £80 million over the next three years of which at least £30 million will benefit 2020/21. Together with the £145 million of cost savings previously announced (of which we have already delivered £116 million), this will take total annualised cost savings to circa £225 million by the end of 2022/23. There will be associated one-off costs of circa £240 million related to these new savings which will be taken outside of underlying operating profit, of which the cash element will be circa £80 million.

r Business transition risk on page 74

+ Read more: Financial review on pages 61 to 64

~£225m
total annualised cost savings by end 2022/23

~£30m
benefit in 2020/21

~£240m
associated one-off costs

The key actions include:

Consolidating Clean Air footprint

In Clean Air, we have been investing in new world class plants in Europe and Asia. These plants are identical and highly flexible, allowing us to drive efficiency and increase agility across our global footprint by consolidating some of our existing older capacity in Europe into this new capacity. This will deliver circa £30 million of annualised cost benefits by the end of 2022/23.

Driving organisational efficiency

In recent years we have been investing into our corporate functions. For example, we are rolling out our single global ERP system, and have invested in our global procurement and IT functions to increase our capability and standardise our processes. This is allowing us to review our group operating model to remove duplication of activities between the corporate centre and the sectors and reduce complexity across the organisation. A simplified organisation will enable faster decision making and reduce costs. Overall, these measures are expected to deliver £50 million of annualised cost benefits by the end of 2022/23.

3 Continue to invest in strategic projects for medium term growth, including growth driven by addressing climate change

Through our leading positions in high margin, technology driven growth markets, we will deliver growth over the medium term. To support this growth, we continue to invest for the future in R&D and in our strategic growth projects including:

- Completion of our new world class Clean Air plants in Asia.
- Upgrading our platinum group metal refineries.
- Developing and commercialising new technologies, such as our Fischer Tropsch waste to aviation fuel technology.
- Delivering our Health new product pipeline.

Battery Materials

We will continue to develop and commercialise eLNO. Alongside our full cell testing with customers, we continue to work in the validation phase with a number of global automotive original equipment manufacturers (OEMs) and cell manufacturers. Work on our first commercial plant in Poland continues. The plant is expected to be on stream in 2022 and supplying automotive OEM platforms in production in 2024. Our total investment to first commercial production will amount to circa £350 million, although we are seeing some upward pressure as we finalise the design and build in more flexibility to meet our customers' requirements. Beyond this, scale up is likely to be phased as we match capacity to market demand.

Hydrogen economy

There is increasing momentum around the significant role that hydrogen will play in enabling the energy transition to a clean, low carbon economy. We have a unique competitive advantage for this transition, with our established portfolio of market leading solutions across the hydrogen value chain including hydrogen production technologies and fuel cells.

r Future growth risk on page 71

~£350m
total expected investment in eLNO commercialisation

£15m
committed investment in fuel cells technology to double manufacturing capacity

up to
£400m
expected capital expenditure across JM in 2020/21

Our science in action

Science and technology, and our ability to translate them into solutions for our customers, are our competitive advantage

We focus on the complex and the difficult. We understand what is happening at the atomic level, so we can address complex problems on a global scale. And we win based on our technology. Our scientific capabilities provide the opportunities for us to drive growth.

We have over 1,500 dedicated scientists in Johnson Matthey with wide ranging expertise who give us a diverse perspective on the problems we tackle.

Small pore zeolite development for clean diesel

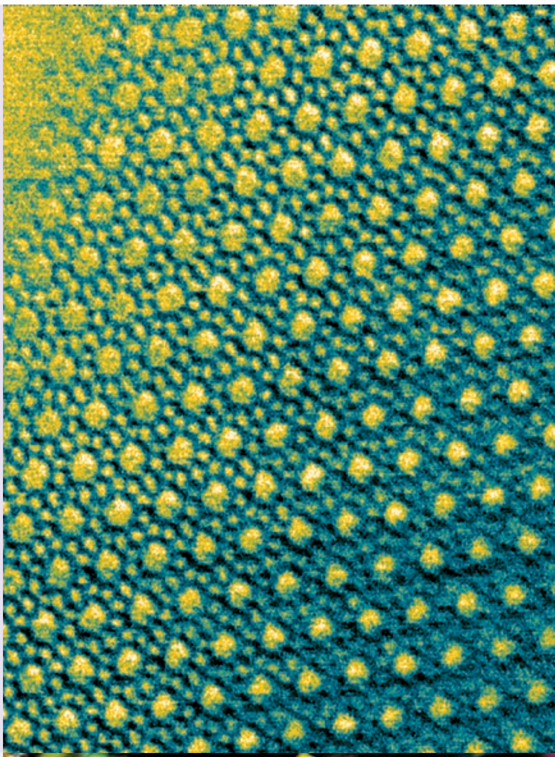
Johnson Matthey has been pioneering emission control catalysts for over 40 years. Our scientists apply their catalysis expertise to meet ever tightening emissions legislation. Recently, we turned our focus to the design and application of a new generation of selective catalytic reduction (SCR) catalyst for use on diesel vehicles. This new catalyst is even more effective at removing nitrogen oxides (NOx) emissions whether in slow speed city conditions or for high speed motorway driving.

SCR catalysts are manufactured using zeolites. These materials have a cage structure with a metal catalytic site and it is within these cages that the NOx emissions are reacted with ammonia to form harmless nitrogen.

Our researchers discovered it was the small pore nature of zeolites that gave the unique activity, thermal stability and poison tolerance compared with larger pore SCR zeolite catalysts.

Through extensive screening and modelling, we discovered a new, small pore metal zeolite catalyst with remarkable activity even when exposed to very high temperatures. We applied our innovative chemistry and engineering processing expertise to scale up from laboratory to mass production while using raw materials more efficiently and reducing water needs.

This catalyst is now being used in our flow-through SCR catalyst, and owing to its excellent durability, it is also incorporated within a diesel soot filter, called the selective catalytic reduction filter (SCRF), where very high temperatures are encountered. This SCRF can then be located close to the engine to remove both soot and NOx in the most energy efficient way.

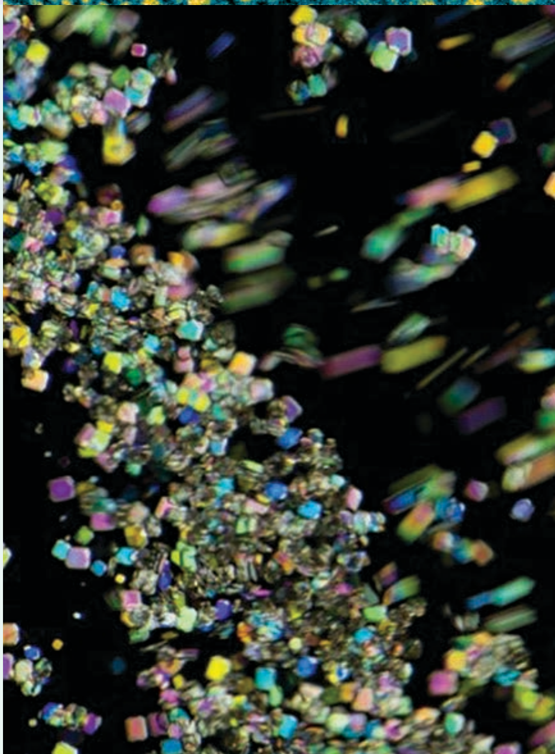


Enhancing capabilities in particle engineering for pharmaceuticals

Johnson Matthey develops and makes active pharmaceutical ingredients (APIs) to treat a wide range of conditions, from severe pain to muscular dystrophy. But there is more to API development than just making a molecule. We apply our expertise in particle engineering to develop effective and reliable ingredients with the right solubility, consistency, and uniformity.

Particle engineering starts with identifying the right crystalline 'solid form' of the API molecule. Different forms can exhibit quite different solubility, stability and bioavailability (the amount of a dose that reaches the bloodstream) characteristics. We screen to identify and characterise them and select a preferred crystal form for the drug in question.

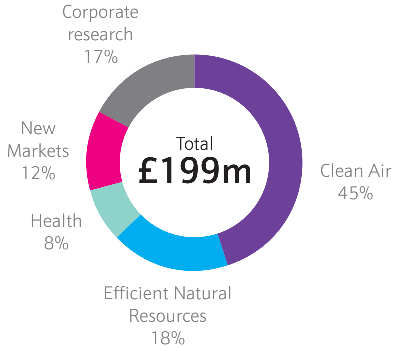
Once selected, particles must be produced with a defined shape, size, composition, structure and with desired surface characteristics. Sometimes, the solubility and bioavailability of a crystalline pharmaceutical compound is not enough to produce an effective drug product in the initial form. This can be improved by crystallizing or milling to achieve a small particle size, or dispersion and stabilisation. By a variety of particle engineering techniques, we can generate an API product of the desired particle size and uniformity, produced by a robust process, ready for formulation by our customers. Modelling plays an important role in our API development, and means we can be more efficient, deliver more robust processes, be confident in the scale up to manufacture and reduce the amount of API required for particle engineering development.



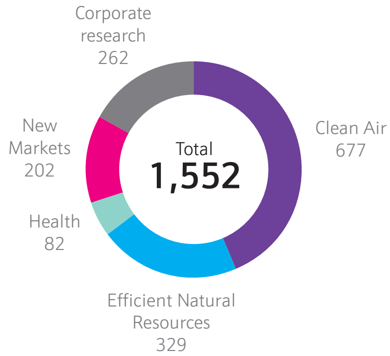
In 2019/20 we invested £199 million in R&D, including £23 million of capitalised R&D, which represents around 5% of our annual sales (2018/19: £190 million, including £19 million of capitalised R&D, representing around 5% of annual sales).

We increased our investment this year and we continued to invest in a more efficient and targeted way, and in alignment with our strategic aims.

R&D spend



R&D employees



Alternative feedstocks for a sustainable future

The world is calling out for sustainable manufacturing and new ways to produce the chemicals and fuels we need. Our expertise in the generation, purification and chemical modification of syngas opens the door to renewable feedstocks, efficient manufacturing and low carbon technologies.

Syngas is a mixture of hydrogen, carbon monoxide and carbon dioxide, produced by converting any carbon containing material into a gaseous form. JM technology is used to turn these gasified feedstocks into a wide range of useful materials such as ammonia, methanol, methane and waxes. JM has been doing this for years and has a bounty of expertise in the catalysts and processes.

Syngas traditionally comes from coal or natural gas, but now things like municipal solid waste or renewable biomass can be used to make syngas.

Through our partnership with BP, we introduced a process based on Fischer Tropsch (FT) technology to economically convert synthesis gas generated from such feedstocks into waxes suitable for the production of diesel and jet fuel.

Its modular design enables low risk scale up and simple operation, while the catalyst gives high productivity and selectivity. The unique design of stacked catalyst carriers cleverly manages heat transfer and pressure drop. Compared with conventional fixed bed tubular reactors, the new system reduces capital expenditure by around 50% and enables the FT process to be economically scaled down to a size suitable for waste and / or biomass gasification.

Batteries – a market enabled by technology

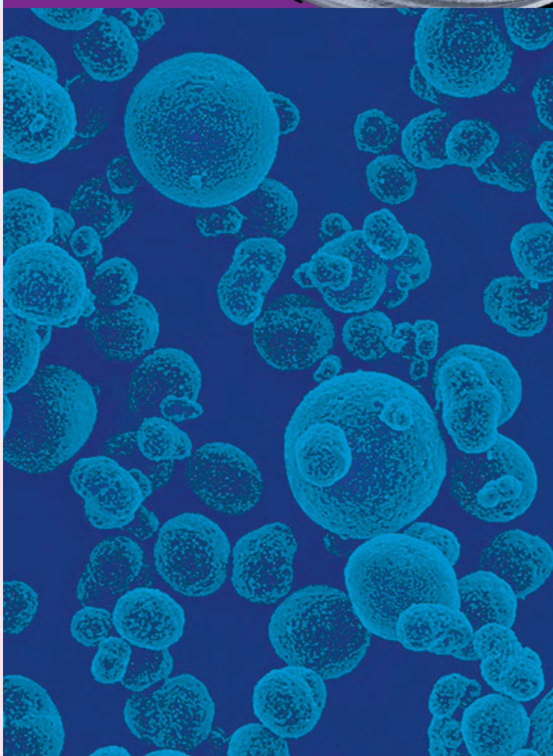
A battery might look simple, but inside complex reactions and electrochemistry are taking place. Electric vehicle (EV) batteries must have high energy, fast charging, long life, high reliability and be safe. Designing and engineering materials is one of JM's key capabilities. That's why we are developing innovative battery materials that will deliver all the key criteria required for battery electric vehicles.

We are using our expertise in materials design and engineering to develop our portfolio of high nickel cathode materials for lithium ion applications, eLNO, which offers advanced energy density, and performance demanded by battery electric vehicles.

Through understanding how materials work at an atomic level, how they behave in use, and how they interact with other materials, we design in and customise the properties needed for the performance, range and recharging demanded by customers.

Recently, we have acquired silicon based anode material intellectual property from 3M. JM is in a uniquely strong position to maximise the benefits of silicon technology by combining it with our leading cathode materials. Thanks to JM scientists' deep understanding of the electrochemistry interaction, we can bring out the best of the both worlds and develop optimised solutions for our customers.

Our leadership comes from our ability to customise materials with the right 'ingredients' and proprietary 'recipe' to deliver the specific characteristics that matter most to our customers. Building from the experience we have with our automotive customers in emission control technology, we know that OEMs have different performance requirements, so we use our expertise to tailor our materials – delivering what our customers need.



Our business model

Creating long term value for our shareholders and for society

Our resources and relationships

Knowhow and intellectual capital
JM's competitive advantage is our science and technology. We use our industry leading capabilities across our sectors to create sustainable solutions. We own patents covering our science, technology and processes.

Financial
We invest for growth using equity from our shareholders, debt finance and cash flow delivered by our sectors.

Customer relationships
We draw on our deep relationships with customers to understand how best to apply our science to solve their problems.

Natural resources
We source raw materials responsibly and use them as efficiently as possible. We also recycle platinum group metals (pgms).

Manufacturing operations
We have a global network of manufacturing plants, application centres and laboratories.

People
Our ~15,350 people share a passion for creating a cleaner, healthier world. They bring the talent, expertise and innovative thinking needed to drive growth and efficiency in JM.

How we use them

Our world class **science and technology** gives us a competitive advantage

- Characterisation and modelling
- Chemical synthesis
- Material design and engineering
- Product formulation
- Process optimisation
- Surface chemistry and coatings
- Pgm chemistry and metallurgy
- Catalysis and advanced materials
- Electrochemistry

we scale and apply it in the most **effective** way

- Innovation
- Sustainable business
- Efficiency and excellence
- Values driven culture

to solve our customers' complex problems in these **key markets**

- Automotive
- Chemicals
- Pharmaceutical and medical
- Oil and gas
- Agrochemicals and fertilisers
- Food and beverage
- Energy generation and storage
- Other industrial

Underpinned by our values

Our values provide the strong foundation, driving behaviours, guiding our decisions and helping to shape the right culture to deliver our strategy.

Protecting people and the planet

Acting with integrity

We create sustained value and growth through the effective use of our resources and our relationships.

We act in line with our company values which, together with our focus on building a more sustainable business, drive us towards our vision for a cleaner, healthier world.

+ Read more: Markets and opportunities on pages 14 and 15

+ Read more: Our strategy to use our world class science to solve customers' complex problems on pages 16 to 19

k Key performance indicators on pages 34 to 36

+ Read more: Risks and uncertainties on pages 67 to 74

+ Read more: Viability on page 75

+ Read more: Sustainability of business model on page 84 of the Corporate Governance Report

How we create and share value

while creating value to be shared across all our **stakeholders**.

- Customers and innovation partners
- Our people
- Investors
- Governments and trade associations
- Suppliers
- Communities

For society

Value we create and share
- Cleaner, healthier world.

Key performance indicators

Operational carbon footprint
3.2 tonnes CO_2 eq
per tonnes of output

Positive impact of JM's products
85.9%
sales from products contributing to UN SDGs

For shareholders and other stakeholders

Value we create and share
- Attractive returns.
- Taxes paid to authorities.

Key performance indicators

Sales
-2% to £4.2bn

ROIC
13.3%

Underlying operating profit margin
12.9%

Average working capital (excluding precious metals)
63 days

Underlying earnings per share
199.2p

For our people

Value we create and share
- Strong culture.
- Employment and opportunities.

Key performance indicators

Health and safety lost time injury and illness rate (LTIIR) of
0.35

Employee engagement score of
63

For our company

Value we create and share
- Cash to reinvest in our science, infrastructure and people.

Key performance indicators

Technology leadership through R&D investment
£199m

Working together | **Innovating and improving** | **Owning what we do**

Our sustainability framework

The path to our vision

Through leading edge science and technology.

The route to a more sustainable future brings many challenges that must be tackled – challenges driven by global megatrends such as climate change, energy transition, population growth, and natural resource constraints. In setting our vision for a cleaner, healthier world, we have made it our business to use our leading edge science to create sustainable technologies that address these challenges.

Sustainability is therefore an integral part of our company, our strategy, and the decisions we take. It is at the heart of our brand and our employee promise. It is engrained in our company values and our culture ambition.

We have six goals to 2025 which we use to measure our progress towards our vision. Our goals drive sustainability through our whole value chain; they align with the material issues faced by our broader stakeholders and are oriented with the United Nations Sustainable Development Goals (UN SDGs) – a collection of 17 global goals to 2030 set by the United Nations General Assembly in 2015.

The awareness and demand for more sustainable products is increasing and we believe the sustainability credentials associated with our science-led solutions will become more and more attractive to customers and consumers. It also ensures our focus reaches beyond our operations and products and into the whole of our value chain.

Our sustainable business framework embeds our vision for a cleaner, healthier world through all aspects of our key business processes and supply chains so that as we execute our strategy, we do so with a full understanding of the impact on people and planet.

+ Summary of our performance towards our six sustainable business goals on page 38

+ Read more: Responsible business section on pages 38 to 52

+ Read more: Climate change and Task Force on Climate-related Financial Disclosures on pages 46 to 49

Our six sustainable business goals

JM goal

Health and safety
1

For health and safety, aspire to zero harm.

+ Read more on pages 39 to 40

k Page 36

Our people
2

Ensure JM is a truly inclusive organisation that fosters employee engagement and development within a diverse and global workforce.

+ Read more on pages 41 to 45

k Page 36

Low carbon operations
3

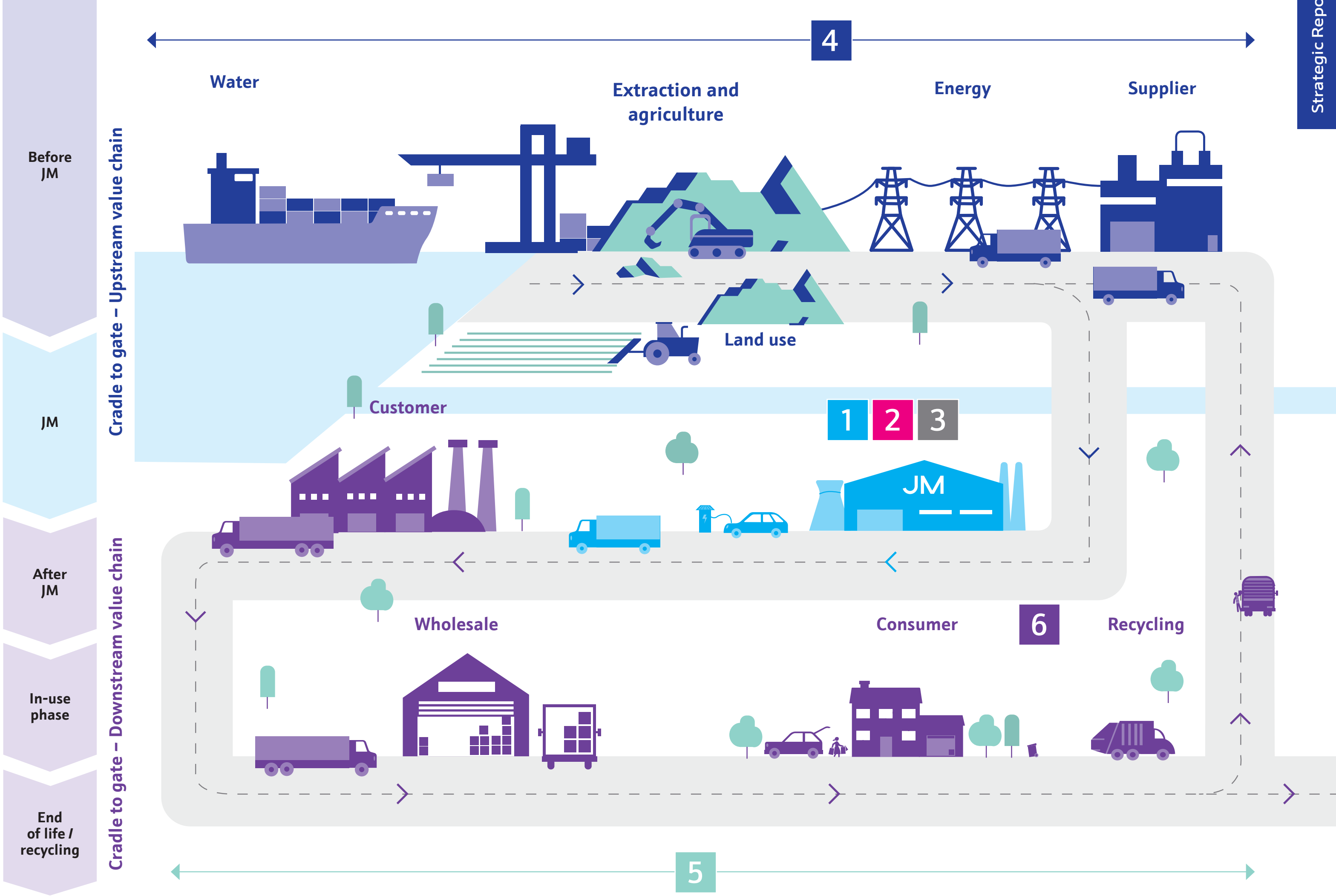
Reduce our greenhouse gas (GHG) emissions per unit of production output by 25%.

+ Read more on pages 46 to 50

k Page 35

UN SDG

Our six goals address our whole value chain



Responsible sourcing
4

Improve sustainable business practices in our supply chains and, through collaboration, ensure full compliance with our minimum standards from strategic suppliers.

+ Read more on pages 49 to 50
k Page 36

Sustainable products
5

Double the positive impact that JM's products, services and technologies make to a cleaner, healthier world.

+ Read more on pages 50 to 51
k Page 35

Community engagement
6

Increase the use of volunteer days to support our community and charity partners through the JM employee volunteering programme.

+ Read more on page 52
k Page 36

Strategic Report

Our sustainability framework continued

Sustainable technologies with impact

Our contribution to the UN SDGs.

JM's purpose is to use its science and technology capabilities to create products and services that are vital to making the world cleaner and healthier; today and for future generations. In doing this we are taking action on climate change, providing clean air for all, shaping a new era of clean energy, achieving more from less, and helping people live longer, healthier lives.

We are immensely proud of what we do and the impact we make. We track our progress towards our vision for a cleaner, healthier world by measuring the percentage of our sales that come from products that make a positive contribution to the UN SDGs.

The 17 UN SDGs, together with the 169 sub targets they contain, cover social and economic development issues including poverty, hunger, health, education, global warming, gender equality, water, sanitation, energy, urbanisation, environment and social justice.

In 2019/20, 85.9% of our sales (2018/19: 87.3%) came from products and services that positively contributed to the UN SDGs. Our sustainable business goal 5 is to increase this to >90% by 2025.

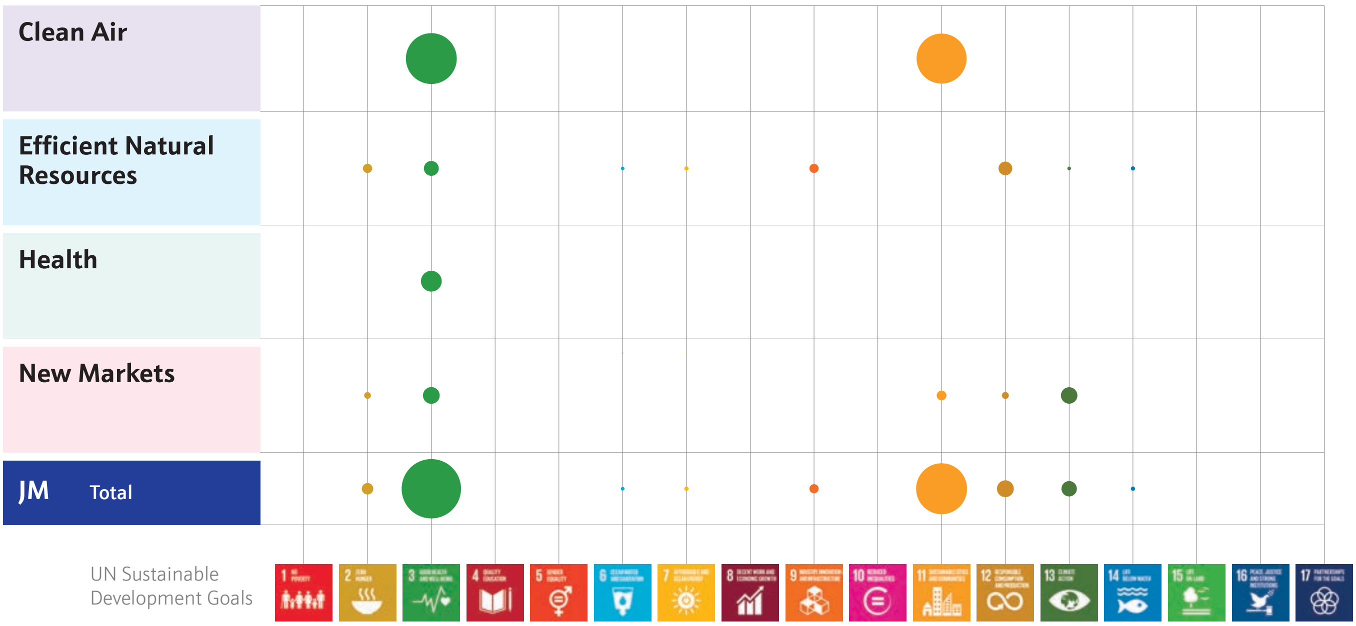
k Page 35

+ Read more about our progress towards goal 5 on pages 50 and 51

How JM products and services are contributing to the UN SDGs

The chart below shows the breakdown of JM's sales across its businesses in 2019/20 and their relative contribution to each of the UN SDGs. The larger the coloured circle, the greater the sales value.

Sustainable products 5



In addition, our products and technologies have had a major positive impact on people and the planet over the last 12 months.

+ Read more on pages 51 and 52

Clean air for all

2.96 million tonnes

of pollutants removed by JM's emission control catalysts in 2019/20.

Shaping a new era of clean energy

9.8 million tonnes

(CO_2 equivalent) of greenhouse gases removed in 2019/20 using JM's nitrous oxide abatement technologies.

Achieving more from less

225,000 tonnes

(CO_2 equivalent) of greenhouse gases avoided in 2019/20 using JM's battery materials and fuel cell technologies.

Longer, healthier lives

323,000 lives

positively impacted in 2019/20 as a result of recently launched drugs containing JM's APIs.

Meeting stakeholders' expectations

Our regular materiality assessment helps us to focus on the areas that matter most to our stakeholders and where we make the greatest positive or negative contribution to society. We are in regular dialogue with external stakeholders – customers, investors, employees, non-governmental organisations and other groups, about what is important for them. We actively participate and support third party benchmarking activities to compare ourselves with our peers and see where we are different. Periodically, we conduct more formal interviews with key stakeholders. This builds a picture of material issues which we review against our current strategy and action plans, and we adjust those plans when necessary.

What matters most

Through talking to stakeholders, JM has identified the topics that are 'material' to them. Our goals align with those topics.

+ Read more on pages 222 and 223 (GRI Standard Content Index)

With our products and technologies contributing so clearly to a cleaner, healthier future, it is natural that we maintain high expectations on our whole sustainability agenda, and we see it as a driver for growth in the business. Our stakeholders also highlight leadership in sustainability among the sustainability themes that they consider material for JM. Therefore, it is important we hold ourselves to high standards of sustainability, using our sustainability framework.

Materiality map

The map below highlights the areas of environmental, social and governance (ESG) focus for JM which we have identified as key to our business and most important to our stakeholders. It shows how we have aligned these to our six sustainable business goals.

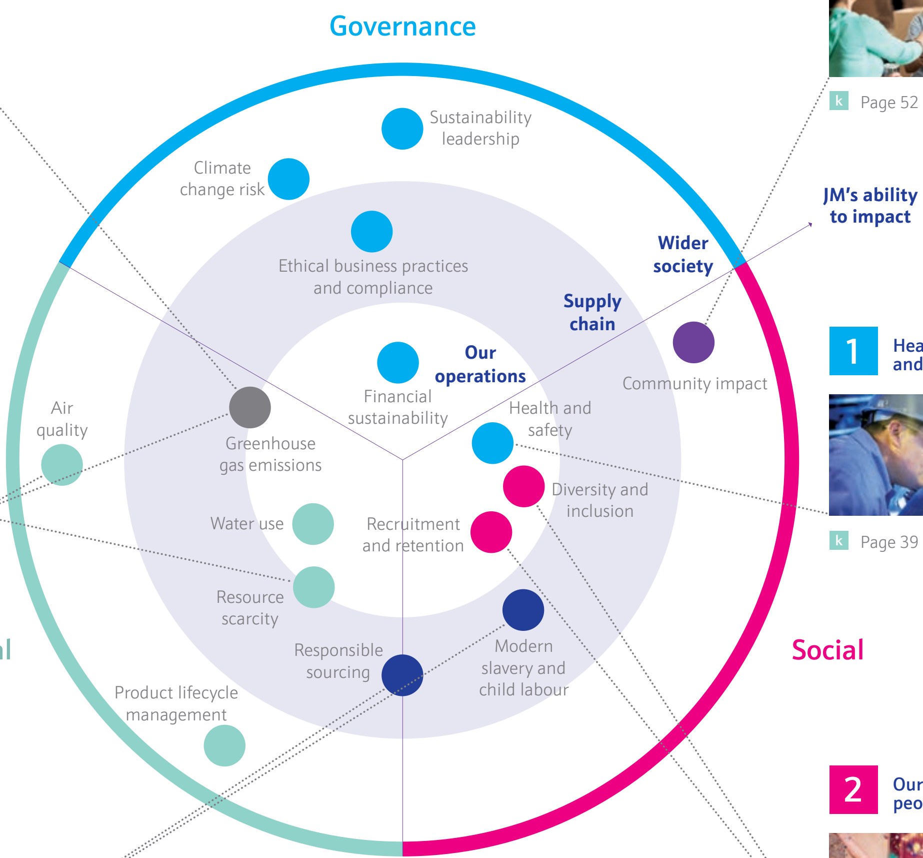
Each area of focus is identified by a coloured circle. The coloured circles closest to the centre of the map are focus areas which JM has the ability to impact most directly. Our ability to impact decreases from the centre of the map outwards.

3 Low carbon operations

k Page 46

6 Community engagement

k Page 52



5 Sustainable products

k Page 50

1 Health and safety

k Page 39

4 Responsible sourcing

k Page 49

2 Our people

k Page 41

Our stakeholders

Working together to achieve our collective goals

We believe stakeholder engagement is important in maximising shared value and in securing our success and sustainability as we deliver on our vision, strategy and operational goals.

We proactively engage with and listen to our stakeholders to understand what's important to them. We tailor our engagement in different ways for our different stakeholders to make it as effective as we can. That way, we can factor their views into our business and boardroom discussions, consider the potential impact on each stakeholder group and consider their needs and concerns in pursuit of positive outcomes for all.

Our stakeholders	How we engage
Customers and innovation partners k KPI – customer satisfaction on page 35 + Science in action case studies on pages 20 and 21 + Strategy on pages 16 to 19 r Competitive advantage risk on page 71 r Future growth risk on page 71	• Our teams work collaboratively in the development and application of new technology. • We organise, attend and speak at conferences and industry events, including virtual events. • Prior to current restrictions due to COVID-19, we would host customers at our manufacturing sites and our R&D centres. • We carry out regular satisfaction surveys with our customers. • We engage with science experts in industry and academia to further our technical expertise and support university research. • We produce industry leading reports on the platinum group metal (pgm) market.
Our people k KPI – employee engagement on page 36 + Sustainable business goal 2 on pages 41 to 45 + Our COVID-19 commitments on page 9 + Speak up Policy on page 45 + Strategy on pages 16 to 19 r People risk on page 72	• We publish global news via email and on our intranet and have discussions on Yammer (internal social network). • The Chief Executive hosts town hall meetings which we broadcast to all staff. • Annual JM Awards programme celebrates employees' successes. • Employee resource groups (ERGs) to champion the D&I agenda. • We have town halls, webinars, cascades, works councils and corporate social responsibility (CSR) committees within our sectors and sites. • We run regular opinion surveys and listening groups on key topics. • We have country engagement groups with which the board are directly involved.

The COVID-19 pandemic has led us to adapt our methods of engagement with stakeholders over the past few months with virtual meeting technologies taking the place of face to face interactions. From holding our annual internal R&D conference online, to supporting our customers by remotely overseeing an important reloading of catalyst, we are maintaining engagement and keeping JM and its stakeholders safe.

JM has, over many years, built valuable and trusting relationships with many stakeholders and stakeholder groups. This year, we have reviewed our engagement mechanisms with key stakeholder groups to check their effectiveness. We put particular emphasis on how effective they are in ensuring the board is able to consider the interests of our stakeholders when making decisions.

+ Read more: Read this stakeholder section in conjunction with our Section 172 statement on pages 32 and 33

+ Read more: Corporate Governance Report – stakeholder engagement and the board on page 85

Stakeholders' key interests

- How JM's science can provide the best solution to their complex problems.
- Understanding of JM's latest innovations and developments.
- Opportunities to partner in development of new sustainable technologies.
- That JM's products are manufactured in an effective and sustainable way.
- JM's leading market insight, such as the pgm market.

2019/20 outcomes and highlights

- Customer satisfaction score of 8.0 above industry norm of 7.6.
- Further progress on commercialisation of Fischer Tropsch technology (which turns municipal waste into aviation fuel) in partnership with BP.
- New collaborations on innovation with Greentown Laboratories (US) and ESIL Technologies (Israel).

Stakeholders' key interests

- Opportunities for development and career progression.
- Opportunities to collaborate, innovate and make a positive contribution to a cleaner, healthier world.
- Health, safety and wellbeing, particularly during COVID-19.
- An open and ethical culture.
- Diversity and inclusion.

2019/20 outcomes and highlights

- Voluntary employee turnover of 9.3%.
- 33% of roles filled by internal candidates.
- New online learning portal launched and accessed by over 45% of employees in the year.
- Engagement score up 4 points to 63; enablement score flat at 63.
- UK gender pay gap reduced from 8.5% to 6.0% (vs national average of 17.3%)
- Disability employee resource group launched.
- 186 entries to JM Awards, 16% more than last year.

Images from top to bottom

JM joins Greentown Labs as gigawatt partner, February 2020.

JM's Battery Materials Pilot Plant opening, July 2019.

Strategic Report

Our stakeholders continued

Our stakeholders	How we engage
Investors Corporate Governance Report on pages 82 to 91 Shareholder engagement on pages 28 to 31 Dividend on page 64 Responsible business on pages 38 to 52 Group financial objectives on pages 34 and 35 Strategy on pages 16 to 19	• We attend investor events, host results presentations and capital market days. • We hold one-on-one and small group meetings with investors, including meetings hosted by the directors. • We keep investors up to date through our website, annual report and AGM.
Governments and trade associations Responsible sourcing on pages 49 and 50 Strategy on pages 16 to 19 Environment, health and safety risk on page 71	• We actively contribute, at a senior level, with key national and international trade associations. • We attend meetings with governments to inform and contribute to debate, mostly in areas where our science and technology expertise can have a positive impact.
Suppliers Our COVID-19 commitments on page 9 Responsible sourcing on pages 49 and 50 4 Responsible sourcing Supply failure risk on page 72	• We have strong partnerships with suppliers. • We engage with suppliers through our Supplier Code of Conduct to ensure responsible behaviours. • We work with suppliers through external initiatives such as CDP.
Communities Our COVID-19 commitments on page 9 Community and social impact on page 52 Strategy on pages 16 to 19 6 Volunteering Failure of operations risk on page 73	• We have CSR committees at many sites and these are active in their local communities. • Open days held at major sites. • We support science education programmes and have links with local schools. • Community ambassadors at each site facilitate volunteering in local communities and all staff have two days paid volunteering leave per year. • We engage with local government and the community on specific topics, such as potential investments in new plants.

Stakeholders' key interests	2019/20 outcomes and highlights
• Effective governance. • Liquidity and balance sheet. • Strategy, performance and future growth prospects. • Dividends. • Remuneration policy. • Sustainability credentials and environment, social and governance (ESG) performance.	• Met with shareholders representing around 65% of issued share capital. • Final dividend of 31.125 pence proposed – balancing interests of stakeholders and uncertainty created by COVID-19. • Strong balance sheet with net debt of £1.1 billion; net debt to EBITDA of 1.6 times at 31st March 2020. • Votes from shareholders representing 78% of share capital at 2019 AGM. • Constituent of FTSE4Good and CDP scores of B (Climate Change), B- (Water) and D (Supply Chain).
• Open and transparent dialogue. • Opportunities for creating shared value for trade association partners. • Proactivity and compliance with regulations. • Insight on what is technically possible in areas such as emissions legislation. • Understanding how JM's technology can enable achievement of net zero targets.	• Became a member of the Global Battery Alliance. • JM appointed to the board of the Hydrogen Council. • Received £13 million of UK government funding for Hynet project to develop low carbon hydrogen technology.
• Long term partnerships. • Collaborative approach. • Fair payment terms, particularly as they navigate COVID-19.	• Maintained our payment terms to support all our suppliers through COVID-19 and promised early payment for any small supplier suffering hardship until June 2020 at least. • Updated Supplier Code of Conduct due to launch in 2020, together with a more robust supplier due diligence programme. • On-site audits (performed by our third party partner) of several prospective Tier 1 suppliers of cobalt and nickel for our eLNO battery materials as part of our pre-qualification process.
• That operations are managed safely and responsibly. • That JM is a good employer and responsible neighbour. • Understanding of and openness about business developments. • Community involvement, partnerships and support that create positive impact and outcomes for society.	• £940,000 of charitable donations made by JM. • 2,682 volunteering days taken by JM employees. • Development of social impact strategy and creation of £1 million fund to support science education.

Images from top to bottom

JM's Capital Market's Day, September 2019.

Kwasi Kwarteng, Minister of State at the Department of Business, Energy and Industrial Strategy, visits JM's Chilton site, January 2019.

JM's inaugural Procurement Conference, June 2019.

Employees in Malaysia help out in their local community, October 2019.

Section 172 statement

For sustained growth and value creation

The directors consider that they have acted, in good faith, in a way that is most likely to promote the long term success of the company for the benefit of its members as a whole.

In doing so, the board considers the interests of a range of stakeholders (as identified on pages 28 to 31) impacted by the business, as well as its duties as set out in law.

In their decision-making, the directors consider a number of factors, including:

- the likely consequences of any decision in the long term;
- the risks to the company and our stakeholders, including EHS, compliance and financial risk;
- the interests and wellbeing of our people;
- relationships with customers, suppliers and others with whom we do business;
- the views of governments and trade associations relevant to our operations;
- the importance of our reputation for high standards and business conduct; and
- the impact of our operations on the environment and on the communities where we are present.

Effective engagement starts with having the right channels in place to ensure the board can properly consider stakeholders' views. During the year the board reviewed its key stakeholders and how these relationships are managed. Further information about how we engage with our stakeholders and their key interests can be found on pages 28 to 31. The directors are mindful that some decisions can adversely affect one or more stakeholder group and therefore, when making such decisions, they seek to ensure the long term sustainable success of the company and endeavour to treat those impacted fairly.

Examples of how the directors have considered the views of various stakeholders in their decision making are shown in the case studies below. Further details on how the directors have had regard to the matters set out in section 172 of the Companies Act 2006, are also contained within the Governance Report on pages 83 and 85.

Approving construction of the first commercial scale battery materials manufacturing plant

In March 2019, JM announced the location of our first commercial scale eLNO battery cathode materials manufacturing plant. The site in Konin, Poland, around 200 km west of Warsaw, has the potential to expand JM's eLNO manufacturing capacity up to 100,000 MT per annum.

The board believed that the market for cathode materials was attractive and played to JM's core capabilities. In addition, the construction of the new manufacturing plant would further enable JM to scale up its operations in line with anticipated customer demand for eLNO. To ensure that the site would be beneficial in the long term, sustainability was considered in the building design and as part of supply chain discussions to ensure responsible sourcing.

As a significant investment for JM, the board reviewed in detail the overall business strategy, the learnings from other JM capital projects and the risks inherent with the investment. As a number of contractors and JM colleagues would be involved in the construction of the Konin plant, the board ensured strong controls were put in place for safe working practices.

In making its decision to approve construction, the board considered stakeholders' views provided by the Battery Materials business. The input came from the business' engagement with local government representatives and the local community in Konin. Engagement included an event hosted by JM in Konin which was attended by around 50 people. In that group meeting, we introduced JM, the battery electric vehicle market, our plans for the plant and how it would support the local economy. Attendees were supportive of JM's ambitions and we have been granted the relevant planning and permit approvals to date.

Since board approval of the construction, JM has continued to engage with government and business stakeholders in Poland, particularly in relation to the development of a clean energy infrastructure as most energy is currently derived from coal. JM will power our eLNO plant using renewable energy and, through working with Polish stakeholders to secure this for our own operations, we are supporting a shift to a lower carbon economy in Poland.

Supporting our stakeholders in challenging times

Our clear vision and strong values are the principles we are using to ensure we successfully navigate COVID-19 in the interests of our stakeholders and society.

We announced in April 2020 our plans to support our stakeholders and our COVID-19 commitments. The board discussed the importance of ensuring that our colleagues remain healthy and secure so that we can continue to serve the needs of our customers safely alongside supporting the local communities in which we operate.

The board considered the actions needed to preserve cash and strengthen our financial position to ensure the long term success of the business for all of our stakeholders. The board and the GMC continue to closely monitor developments in the COVID-19 pandemic to ensure we take the appropriate steps.

In addition, the Audit Committee reviewed the company's control and assurance process to ensure it was appropriate for the new working environment. Read more on page 101 about the challenges in finalising and auditing the full year accounts and the measures put in place to provide assurance to the board and audit committee.

Every day we are putting our inspiring science to work to enhance lives, creating vital products and services for our customers that help to support the healthcare sector and keep our economy going. Our commitment to helping our stakeholders goes beyond business and we are determined to help in every way we can.

In recognition of the circumstances affecting many of JM's employees, customers, suppliers and communities, the board made a donation equal to 20% of their salaries and fees for the first quarter of 2020/21 to provide support to the company's special fund for science education.

+ Further information about our response to COVID-19 can be found on page 9 and on our website www.matthey.com

Enabling the transition to a net zero economy with hydrogen production technologies and fuel cells

In its review of future growth opportunities, the board discussed the role that JM could play in enabling the global shift to net zero through solving the problems of generating clean hydrogen and enhancing the efficiency of its applications in use. The board considered further ways to develop JM's position across the hydrogen value chain by demonstrating ways in which the company's hydrogen production and fuel cells technologies could be used.

The board reviewed the strategy of the Fuel Cells business, discussed in detail the fuel cells roadmap and the planned additional investment in our operations in the UK and China. The board heard about the benefits of the investments, including the impact on the wider stakeholder groups.

The board agreed that an operational presence in China with manufacturing capability alongside expanded production capability in the UK would ultimately benefit the company's customers, employees and shareholders.

The board also heard more about JM's hydrogen production technologies and how we are engaging with many stakeholder groups including customers, development partners, governments and trade associations.

In February 2020, the UK Government awarded £13 million to JM and our collaboration partners to fund two world-first hydrogen projects led by the HyNet consortium in the North West of England. The first is the UK's leading low carbon hydrogen project, involving JM as technology provider. The second project involves conducting live trials of hydrogen fuelling.

JM's innovative low carbon hydrogen process applies technology that we use in other applications to enable the cost-effective deployment of large-scale efficient hydrogen production. The projects aim to demonstrate that hydrogen can be used as a substitute fuel for natural gas in manufacturing processes. This will help the transition to a low carbon future and lead the way for others to follow, making an important contribution to a cleaner, healthier world.

+ Read more about JM's role in enabling a hydrogen economy on page 19

Defining JM's culture ambition

During the year, the board considered JM's culture ambition and how our vision and values connect to our culture. The board reviewed the company's current culture and considered information and feedback from engagement sessions with employees at all levels in the organisation. As a result, the board recognised that defining JM's culture ambition would help to differentiate JM and unlock business performance and, with the right culture JM could further improve employee engagement and be better placed to execute on strategy.

All levels of the organisation helped shape a culture ambition that aligns with the JM brand:

- **Passionately purpose driven;** Working together to make the world cleaner and healthier, being innovative and curious to create value from our science, learning and growing from what we do so JM can continue to evolve.
- **Creating shared value;** Courageously facing outwards we lead and shape markets, collaborating as one JM across boundaries to create great solutions for our customers and constantly finding smarter ways to achieve our goals.
- **Boldly drive performance;** Embracing change with a real sense of pace and focus, together we go the extra mile to deliver results. Because we care, we are open, honest, hold ourselves and others to account.

The board also spent time discussing how best to embed JM's culture ambition and how best to equip our senior leaders so that they can engage their teams in the day to day changes. Recognising the complexity of delivering cultural change, the board also reviewed the metrics that will measure progress.

+ Read more about workforce engagement and culture on pages 41 to 42 and 82

Strategic Report

Our KPIs

How we measure performance

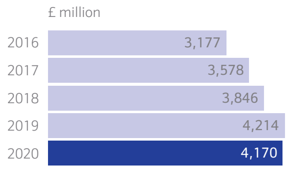
We have 13 key performance indicators (KPIs) which we use to measure our financial and non-financial performance. Our KPIs measure progress against our strategy. Our performance against our KPIs is explained below.

Group financial objectives

Growth in sales excluding precious metals (sales)

Monitoring sales growth at constant currency is a measure of the growth of the business. In many cases, variations in the value of the precious metals contained within our products are passed directly on to our customers. Therefore to measure the growth of the group, we use sales excluding the value of precious metals.

£4,170m



Performance in 2019/20

In 2019/20, sales at constant currency declined by 2% to £4,170 million (2018/19: increased 10%). The decline was driven by Clean Air and Health, partly offset by higher sales in Efficient Natural Resources and New Markets.

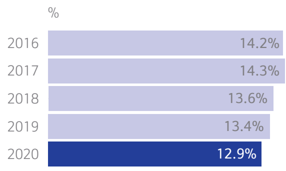
+ Pages 53 to 60

r Future growth risk on page 71

Underlying operating profit margin

Underlying operating profit margin is a measure of how we convert our sales into underlying operating profit and a measure of efficiency in our business. We aim to increase our operating margin year on year as we improve our efficiency to take costs out, improve our effectiveness as we focus on higher value added products for our customers, and as we introduce new products through innovation to serve our customers' changing needs.

12.9%



Performance in 2019/20

In 2019/20, underlying operating margin was lower at 12.9% (2018/19: 13.4%) driven by a circa £60 million impact to underlying operating profit related to COVID-19.

+ Pages 53 to 60

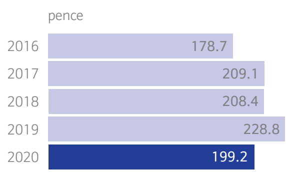
r Future growth risk on page 71

Underlying earnings per share

Underlying earnings per share is the principal measure used to assess the overall profitability of the group. The following items are excluded from underlying earnings as they do not allow for a consistent comparison of performance between financial years:

- Profit or loss on disposal of businesses.
- Gain or loss on significant legal proceedings together with associated legal costs.
- Amortisation and impairment of intangible assets arising on acquisition of businesses (acquired intangibles).
- Major impairment and restructuring charges.
- Tax on the above and major tax items arising from changes in legislation.

199.2p



Performance in 2019/20

This year, underlying earnings per share declined 13% to 199.2 pence reflecting lower underlying operating profit and increased net finance charges to fund higher average levels of precious metal working capital in the year. A reconciliation from underlying profit for the year to profit for the year is given on page 61.

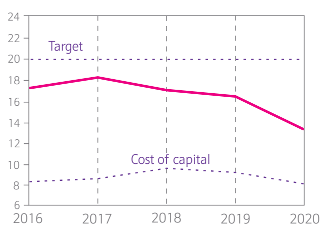
+ Pages 53 to 60

r Future growth risk on page 71

Return on invested capital (ROIC)*

JM's business model of applying world class science efficiently to solve customers' complex problems generates high returns. We define ROIC as underlying operating profit divided by the monthly average of equity, excluding post tax pension net assets, plus net debt for the same period. ROIC for individual sectors is calculated using average monthly segmental net assets as the denominator.

13.3%



Performance in 2019/20

The group's ROIC decreased from 16.4% to 13.3%, mainly due to increased capital expenditure, higher average precious metal working capital through the year and lower underlying operating profit.

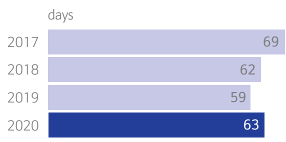
+ Page 64

r Future growth risk on page 71

Average working capital (excluding precious metals)

Average working capital days (as defined on page 198) is a measure of efficiency in the business with lower days driving higher returns and a healthier liquidity position for the group. We exclude precious metals as our precious metal working capital is a function of our customers' choices and therefore not fully under our control. It can have a material effect on the group's working capital days.

63 days



Performance in 2019/20

Our average working capital days (excluding precious metal) increased by 4 days. We are targeting an improvement in average non-precious metal working capital to between 50 and 60 days over the medium term.

+ Page 64

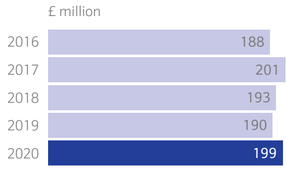
r Existing market outlook risk on page 70

Group non-financial objectives

Gross research and development expenditure

Johnson Matthey's strategy delivers sustainable growth through applying science and technology to meet the global challenges and opportunities from clean air, improved health and efficient use of natural resources. To maintain our competitive advantage and enable future growth, we invest in research and development.

£199m



Performance in 2019/20

The group's research and development expenditure was £199 million, including £23 million of capitalised R&D, around 5% of sales. Spend increased 5% as we invested in next generation technologies in Clean Air, the efficiency and resilience of our refineries in Efficient Natural Resources, our Health API product pipeline and our eLNO battery cathode material.

+ Page 61

r Future growth risk on page 71

r Competitive advantage risk on page 71

r Intellectual property management risk on page 73

Customer satisfaction

Applying our world class science efficiently to solve our customers' complex problems creates leading market positions for JM. We track customer satisfaction as a measure of how we are maintaining our competitive advantage and to understand the health of our future business.

We use an external supplier to ensure a consistent and independent survey. We receive high quality analytics and feedback which is used to drive clear actions in the business.

Customer satisfaction (out of 10)

8.0

Performance in 2019/20

We continued to roll out our standardised satisfaction survey with customers. This year we engaged with customers across all four sectors representing around 75% of group sales. Our combined score of 8.0 out of 10 is above the industry norm of 7.6. We use the insight and feedback on how our customers view our offer and the strength of our relationships to agree and implement changes.

r Competitive advantage risk on page 71

Positive impact of JM's products

JM uses its science and technology expertise to create products that have a positive impact on the planet. We track progress towards our vision for a cleaner, healthier world by measuring the percentage of our sales that come from products that make a positive contribution to the UN's sustainable development goals (UN SDGs). A detailed definition of this KPI is provided on pages 26 and 27.

5

% sales from products contributing to UN SDGs

85.9%

Performance in 2019/20

In 2019/20 the percentage of sales from products that positively contributed to the UN SDGs was 85.9%, slightly down from 87.3% last year. This is mainly due to a lower contribution from our Clean Air and Health sectors and an increased contribution from business activities which make a limited contribution to the UN SDGs, such as some areas within our PGM Services business. Our sustainable business goal is to increase this to >90% by 2025.

+ Pages 50 and 51

r Future growth risk on page 71

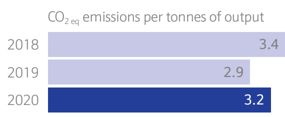
r Competitive advantage risk on page 71

Operational carbon footprint per unit of production output

Our operational carbon footprint, reported in tonnes of carbon dioxide equivalent ($CO_{2\ eq}$), includes Scope 1 and Scope 2 emissions. It is a measure of the carbon intensity of our operations. We normalise our carbon emissions based on production output which we define as 'tonnes of manufactured product sold externally'. Only sold products manufactured on JM premises are included. A detailed definition of this KPI is provided on pages 46 to 49.

3

3.2 tonnes $CO_{2\ (eq)}$



Performance in 2019/20

This year the group's operational carbon footprint per unit of production output increased from 2.9 to 3.2 tonnes CO_2 equivalent per tonnes of output. Production output was lower but the need to keep certain energy intensive assets running for operational efficiency and safety reasons meant that our carbon intensity increased.

+ Pages 46 to 49

r Competitive advantage risk on page 71

r Environment, health and safety risk on page 71

Strategic Report

Our KPIs continued

Group non-financial objectives

Responsible sourcing – strategic suppliers assessed and in compliance with JM Supplier Code of Conduct

We seek to ensure sustainable and responsible business practices in our supply chains through measuring the percentage of our Tier 1 strategic suppliers assessed and compliant with JM's Supplier Code of Conduct. A detailed definition of this KPI is given on page 49.

4

% strategic suppliers assessed since 1st April 2017

17%

% in compliance with JM Supplier Code of Conduct

76%

Performance in 2019/20

We plan to launch a revised Supplier Code of Conduct in 2020 and with it a broader, more robust supplier due diligence programme. In preparation, we have temporarily paused our existing supplier due diligence programme, with the exception of our work with suppliers of critical and conflict minerals to support the strategy of our Battery Materials business.

As a result, under the definition of our goal 4 framework no further current suppliers were audited during 2019/20.

+ Page 49

r Supply failure risk on page 72

r Ethics and compliance risk on page 73

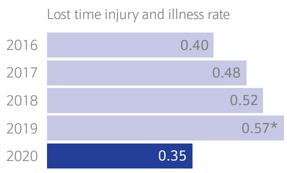
Health and safety

Making sure our people go home in the same, or better, state than when they came to work is everyone's responsibility in JM. That's why we place huge emphasis on health and safety. We drive the right behaviours through our values and through health and safety programmes across the group. Rigorous health and safety systems apply across all facilities and we actively manage our safety performance through monitoring the incidence and causes of accidents that result in lost time.

Lost time injury and illness rate (LTIIR) is defined as the number of lost workday cases per 200,000 hours worked in a rolling year. A detailed definition of this KPI is provided on page 39.

1

LTIIR of 0.35



* Restated, see page 40.

Performance in 2019/20

The group's LTIIR reduced by 39% to 0.35. This improvement reflects our continued focus on driving a strong behavioral safety culture. Our leading indicators of performance have also continued to improve.

+ Pages 39 and 40

r Environment, health and safety risk on page 71

Employee engagement

An engaged workforce is a key driver of performance. Our global yourSay survey, carried out in full every two years and as a shorter 'pulse' survey more regularly, looks at the key drivers of employee engagement. Further details are provided on page 42.

We use employee engagement as a measure of how committed and motivated our people are to give their best to Johnson Matthey.

A detailed definition of this KPI is provided on page 42.

2

63

Performance in 2019/20

Our employee engagement score in November 2019 was 63 (September 2018: 59) as we delivered the action plans put in place last year. We continue to focus on improving the effectiveness of our employee engagement activities with the aim of increasing our employee engagement score to 73 by 2025, which is in line with the highest performing companies.

+ Pages 41 to 45: Further details of what we've been doing to engage our people over the last year

r People risk on page 72

Volunteering in the community

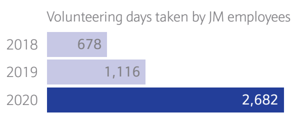
Caring for others in our communities is part of our culture and is reflected in our values. That's why we support employee volunteering and allow our people two days of paid volunteering leave each year. We measure the number of volunteering days taken by JM's employees per year.

This is part of our wider target of achieving a cumulative total of 50,000 days between 1st April 2017 and 31st March 2025. A detailed definition of this KPI is given on page 52.

6

Volunteering days taken by JM employees

2,682



Performance in 2019/20

In 2019/20 JM employees took 2,682 volunteering days (2018/19: 1,116 days). This increase reflects our efforts to raise awareness of the benefits of volunteering during the year. A particular focus was the globally recognised International Volunteer Day in December during which employees across 23 countries volunteered over 500 days of their time to volunteer in support of worthy causes.

When combined with the days taken since 1st April 2017, JM employees have taken 4,476 days of paid volunteering leave.

+ Page 52

r People risk on page 72

Non-financial information statement

JM has a range of different policies and standards in place to manage our principal risks, and which form part of our internal control framework. These are referenced throughout the Strategic Report. The table below shows how we meet the non-financial reporting requirements contained in sections 414CA and 414CB of the Companies Act 2006. It summarises the material policies identified in line with these reporting requirements and is intended to help our stakeholders understand our position on non-financial matters.

Reporting requirement	Policies and standards that govern our approach and controls	Relevant principal risk	Page reference
Environmental matters	• Task Force on Climate-related Financial Disclosures (TCFD) statement	4 5 10	47
	• Environment, Health and Safety Policy*		39
	• Policy on animal testing*		51
	• Ethical and Sustainable Procurement Policy*		49
	• Supplier Code of Conduct*		49
Employees	• Code of Ethics*	4 10	44
	• Equal Opportunities and Training and Development of People Policies*		44
	• Global Flexible Working Policy		44
	• Board Diversity Policy*		94
	• Speak up process		45, 101
	• Environment, Health and Safety Policy*		39
	• Eight lifesaving policies		39
	• Working Together Policy		41
	• Global Parental Leave Policy		44
	• Mental wellbeing commitment		44
	• Investigations Policy		44
	• Corporate Governance Framework		86-87
Social matters	• Employee Volunteering Policy	6	52
Respect for human rights	• Modern Slavery Statement*	5 10	45
	• Code of Ethics*		44
	• Data Protection Policy and Employee Privacy Notice		44
	• Ethical and Sustainable Procurement Policy*		49
	• Supplier Code of Conduct*		49
Anti-corruption and anti-bribery matters	• Anti-Bribery and Corruption Policy	10	45
	• Code of Ethics*		44
	• Trade and Export Controls Policy		44
	• Investigations Policy		44
	• Financial Crime Policy		44
	• Tax strategy		62
	• Conflict of Interests Policy		44
	• Competition Law Policy		44
Business model	–	1 2 3 4 5 6 7 8 9 10 11 12 13	22-23
Non-financial key performance indicators	–	2 3 4 5 6 10	35-36 216-218
Description of principal risks	–		67-74

* Available on our website

Responsible business

JM has long contributed to the sustainability of key global industries

Our vision of a cleaner, healthier world, today and for future generations, ensures sustainable business is embedded explicitly in what we bring to the world as well as how we conduct ourselves while making that contribution. The JM values, which we use to guide our actions, align with the UN SDGs.

Our sustainability framework embeds our vision in all that we do, and ensures we deliver on our strategy in a way that is best for our planet and those we share it with.

Its six goals are the indicators of progress in sustainability topics that are material to JM and these are summarised in the table below.

	Sustainable business goal	Sustainable business KPIs	Baseline measure	Baseline	2019/20	2025 target	More information
Health and safety 1	For health and safety, aspire to zero harm	Annual TRIIR	TRIIR in 2016/17	1.00	0.78	0.6	Page 40
		Annual LTIIR	LTIIR in 2016/17	0.48	0.35	0.2	Page 40
		Annual OSHA severity rate	Rate in 2016/17	18.5	18.5	6.0	Page 40
Our people 2	Ensure JM is truly inclusive, fostering employee engagement and development within a diverse global workforce	Employee engagement index score	2016/17	62	63	73	Page 42
		Employee enablement index score	2016/17	63	63	72	Page 42
		Diversity and inclusion plan implementation (%)	Refinitiv Diversity & Inclusion score in 2018	57	60.5	78	Page 44
Low carbon operations 3	Reduce our greenhouse gas (GHG) emissions per unit of production output by 25%	Tonnes annual GHG emissions (Scope 1+2) / tonnes manufactured product sold	$CO_{2\ eq}$ emissions intensity for 2016/17	3.8	3.2	2.8	Pages 48 and 49
	Source 60% of our global electricity demand from renewable sources	% electricity from certified renewable sources	% electricity from renewable sources in 2018/19	24%	26%	60%	Pages 48 and 49
Responsible sourcing 4	Improve sustainable business practices in our supply chains	% Tier 1 strategic suppliers assessed in the last 3 years and compliant with Supplier Code of Conduct	% of Tier 1 strategic suppliers assessed in 2017/18	11%	17%	100%	Page 49
			% of these compliant with the code	73%	76%	100%	Page 49
Sustainable products 5	Double the positive impact that JM's products make on a cleaner, healthier world	% annual sales giving contribution to UN SDGs	2017/18 sales data against UN SDG indicators (% of group sales)	86.9	85.9%	>90%	Pages 26 and 50
		Annual aggregation of product sustainability benefits in key areas	2017/18 data relating to: Million tonnes of pollutants removed	3.59*	2.96	7.18*	Pages 50 and 51
			Number of lives positively impacted	138,000	323,000	920,000	Pages 50 and 51
			Million tonnes of GHGs removed ($CO_{2\ eq}$)	10.6	9.8	21.2	Pages 50 and 51
			Tonnes of GHGs avoided ($CO_{2\ eq}$)	213,000	225,000	426,000	Pages 50 and 51
Community engagement 6	Increase our volunteer work within our local communities	Cumulative number of volunteer days across JM	Number of employee volunteer days across JM in 2017/18	678	4,476 (cumulative total)	50,000	Page 52

* Restated due to adjustment in scope of vehicles included in certain small markets.

+ Read more: Our KPIs on pages 35 and 36

+ Read more: Additional non-financial performance information is provided on pages 220 and 221

Health and safety
1

For health and safety, aspire to zero harm.

Health and safety

9 GRI 403

We are committed to conducting all our activities in ways that achieve high standards of health and safety for all employees and those affected by our operations.

In 2019/20 we continued to focus on process safety, which is about how we safely manage our most hazardous processes, and occupational health and safety, which is about incidents that happen more frequently but are usually less severe, like slips, trips, falls, cuts and sprains.

During the year we made good progress against our targets to reduce significant risk in our major hazard processes and on improving overall health and safety performance.

We have introduced personal safety action plans for leaders at all levels – from GMC to those at the front line. These plans include practical activities to promote a proactive safety culture by demonstrating more visible, higher quality safety leadership, leading to greater employee engagement and, in turn, improved health and safety performance. We have also increased the regularity and quality of our health and safety communications with targeted and measurable campaigns to drive awareness, engagement and personal ownership.

Health and safety is everybody's responsibility. Across JM, everyone is required to follow five clear and simple safety principles and, with a health and safety element a key requirement of all employees' performance reviews, we ensure it remains firmly on everyone's radar and that they are clear about what is expected from them.

Our Group Environmental, Health and Safety (EHS) Policy is supported by a core group of eight health and safety policies which we call 'lifesaving policies'. These policies are available in local languages and cover high risk topics, where policy breaches could endanger life or lead to serious injury. We have continued to provide guidance to our sites on how to implement them and monitor compliance through EH&S audits.

All sites have action plans for implementing our lifesaving policies and good progress is being made against those plans.

+ Read more: Governance processes relating to health and safety on page 46

r Environment, health and safety risk on page 71

Process safety

We use an industry-standard framework to manage our process safety risks. We have created a working infrastructure, with a group process safety team, subcommittees with defined responsibilities, and selected site process safety champions. We provide JM specific process safety training at all levels from senior executives to process operators and around 1,500 of our site-based staff completed the training in 2019/20.

By conducting site surveys, we have identified sites with process safety hazards and ranked these as high, medium or low to enable us to target our process safety efforts. All these sites with process safety risks have carried out maximum credible event (MCE) studies which identified the highest risks and put in place actions to mitigate the level of risk. Around 90% of all actions from these studies have now been completed which has resulted in significant reduction of risk and the remaining actions are on track.

Our Process Safety Risk Management audit programme continued this year using a revised set of risk-based audit protocols. All but one of our high hazard sites have now completed an audit. We maintained our programme of training and communications too, which included a four day global process safety conference in May 2019, attended by around 80 of our process safety champions.

At certain sites, we are investing in renewing and replacing older plant assets to address major risks. For those risks which are common across JM we take a more collaborative approach of developing and sharing best practice, such as for the use of chlorine where a working group is now in place to develop and maintain JM policy and guidance on the design and operation of chlorine systems.

We have made good progress on our journey to identify and continuously improve process safety risks. Our key lagging indicator, which is the industry standard ICCA (International Council of Chemical Associations) process safety incident severity rate, has reduced from 2.1 in March 2018 to 1.0 in March 2020.

However, positive metrics aside, there have been some process safety incidents in 2019/20 where the outcome could easily have been more severe. Although none of these incidents resulted in personal injury, there was damage to equipment. In all these incidents we quickly assessed the cause to prevent recurrence and learnings have been shared globally across JM. For example, following one particular incident we developed and launched specific guidance on the assessment of dust hazards and completed a gap analysis on 15 sites that were judged to be high hazard.

We will continue to reinforce our strong focus on implementing our process safety strategy, particularly in light of our experiences in 2019/20. We have recognised that our sites need time, support and resources to implement these changes and as a result we have launched new risk-based guidance and provided additional support to ensure that these improvements and the other elements of our process safety programme become fully embedded.

Occupational health and safety

Our sustained focus on behavioural safety has continued and after a few years where performance was flat, 2019/20 has shown improvements in both our leading and lagging indicators.

We have continued to reinforce reporting of learning events where we look at near misses, unsafe conditions and unsafe acts – or injuries that had only just been avoided. This year we again reported a greater number of learning events (up by 26%). These continue to provide valuable lessons and are helping us to successfully reduce our injury rates.

We have also continued to drive a positive safety culture and personal ownership at all levels of the organisation. At a leadership level, our EHS Leadership Committee assists the company in meeting its EHS responsibilities and in creating a positive safety culture across the whole of JM. Site visits, which include making safety observations, safety conversations, personal safety messages and reviews of EHS actions, highlight the visible involvement of leadership.

For the first time last year, leaders from the GMC down, set and shared their own personal safety action plans with their site leadership teams. These plans, prepared by the individual leaders, set out the activities they will undertake to show more visible safety leadership and promote a proactive safety culture.

Strategic Report

Responsible business continued

We have now integrated EHS leadership training into our leadership programmes at all levels and a global EHS induction programme for leaders and managers will launch this year as we embed health and safety culture from the start with new joiners. We also continued with our programme of regional EHS conferences with site operations staff.

We have a groupwide occupational health policy in place and provide guidance to sites for the management of chemical exposure.

The number of occupational illnesses reported each year across JM remains relatively low, reducing to 14 this year and a rate of 0.09 per 200,000 working hours in a rolling year (2018/19: 21 illnesses and a rate of 0.16). Following the introduction of mental wellbeing programmes and services globally during the year (see page 44), we are encouraged that the number of work related stress cases has reduced this year. However, ergonomic related injuries represented 22% of all our injuries over the last year. To address this, we have been rolling out a specific tool to help effectively assess ergonomic risk and held an ergonomics forum for all sites to provide support and understanding of correct ergonomic practices at work.

This year, our performance has improved. We have:

- Reduced our lost time injury and illness rate (LTIIR) by 39% from 0.57[1] to 0.35 vs our 2025 target of 0.2.
- Reduced our total recordable injury and illness rate (TRIIR) by 23% from 1.01[1] to 0.78 vs our 2025 target of 0.6.
- Reduced our severity rate[2] by 40% to 18.5 (at end of March 2020 compared with the 12 months to March 2020) vs our 2025 target of 6.0.
- Reduced the number of lost and restricted days during the last 12 months by 1,091 days.

There were no employee or contractor fatalities in the year.

1 Data for 2018/19 has been restated due to injuries and illnesses that were reported or reclassified after the year end.

2 Severity rate (as defined by the US Occupational Safety and Health Administration, OSHA) measures the average number of lost or restricted work days per injury event in the workplace.

With a number of major capital investment projects underway at the moment, we have a higher than usual number of contractors on our sites.

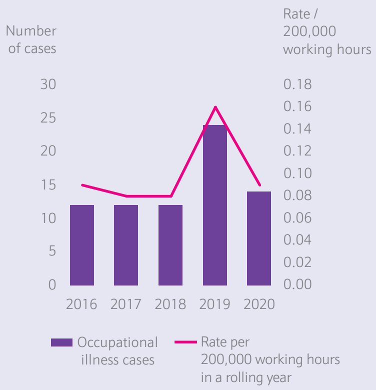
By clearly setting out our EHS expectations and monitoring them regularly with our capital construction partners, we have maintained our high standards and seen a reduction in our contractor lost time injury rate over the last 12 months.

+ Read more: Contractor lost time injury and illness rates on page 221

Response to COVID-19

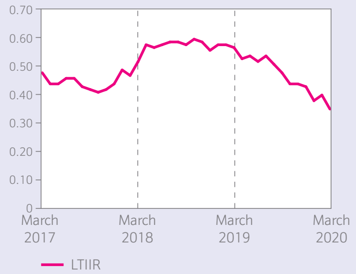
Protecting our people as the COVID-19 pandemic has developed has been a major priority and we acted quickly based on our learnings from our sites in China to put in place guidance globally on the implementation of the necessary controls that met local state and government requirements and JM standards. These included increased hygiene practices, social distancing, reduced workplace density and temperature monitoring before entry into site. We are continuing to develop and add to the guidance as the situation evolves. We are also making sure that there is strong reinforcement of health and safety culture as people return to work to help prevent any dips in performance. We know that the impact of COVID-19 on people's daily lives may also take its toll on their personal wellbeing and have been providing employees with more regular communications, tips and resources to support them through these more challenging times.

Occupational illness cases



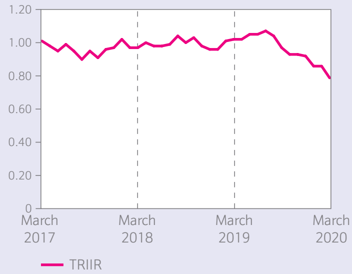
Lost time injury and illness rate (LTIIR)[1]

per 200,000 working hours in a rolling year



Total recordable injury and illness rate (TRIIR)[1]

per 200,000 working hours in a rolling year



1 Data for 2018/19 has been restated due to injuries and illnesses that were reported or reclassified after the year end.

Our people
2

Ensure JM is a truly inclusive organisation that fosters employee engagement and development within a diverse and global workforce.

People

GRI 404

Our people are at the heart of JM's business strategy. For us to deliver solutions from our world class science and realise our vision, we are developing our culture further, where our people can be successful; a culture which attracts, retains and develops the very best talent.

Like many organisations, what JM needs from its people and what they demand from JM is being significantly impacted by the pace at which markets are moving as well as new business challenges. As JM executes its strategy, we are driving a period of transformative change to build an organisation which is more market focused, lean and agile, and a fulfilling place for our employees to work. Our people investments over the past few years have laid the foundations and we are now in a strong position to leverage these to accelerate change and reshape the way we work, in line with our strategy and vision.

People risk on page 72

Our culture ambition

Passionately purpose driven
Working together to make the world cleaner and healthier, being innovative and curious to create value from our science, learning and growing from what we do so JM can continue to evolve.

Creating shared value
Courageously facing outwards, we lead and shape markets, collaborating as one JM across boundaries to create great solutions for our customers and constantly find smarter ways to achieve our goals.

Boldly drive performance
Embracing change with a real sense of pace and focus, together we go the extra mile to deliver results. Because we care, we are open, honest, and hold ourselves and others to account.

A culture for success

Achieving our strategy requires us to have a culture in place that enables, engages and energises our employees. We recognise that to successfully transform as a company some elements of our culture need to change.

Our culture is an outcome of the way we work and the behaviours our people demonstrate. With the appropriate culture we can accelerate the change required to execute our strategy. Over the past 18 months we have engaged all levels of our organisation and external stakeholders to shape our culture ambition, aligning it to our vision and values and setting ourselves up for the future.

We will be embedding our culture ambition through everything we do at JM; it will support the way we work with one another and our customers, and the way we support our people to succeed.

Our culture ambition will be brought to life in our change programmes and by all our leaders who role model required behaviours and ways of working. We will monitor progress through employee perception, customer feedback and the successful execution of transformation.

Our values are aligned to the needs of our long term strategy and are embedded throughout our people processes.

A great place to work

Our ambition is to make JM an even greater place to work, where safety is a priority, diversity and inclusion are valued and development encouraged so that we deliver our results by effectively executing our JM strategy.

Our values

Protecting people and the planet
We practise the highest standards of health and safety, promote wellbeing for people both inside and outside of work, and seek to safeguard our planet.

Acting with integrity
We do the right thing, for people and for the world. We do what we say we'll do, expect the same of each other and speak up when there's a problem. We place importance on relationships internally and externally, treating others with respect and care.

Working together
We encourage collaboration inside JM and out, sharing and embracing diverse viewpoints. We tackle problems together, put our ideas into practice and take pride in combining our contributions to create something better for JM and our customers.

Innovating and improving
We adapt and embrace new ideas to make us stronger and our world cleaner and healthier. We are confident and resilient through change, growing and developing ourselves and JM, to ensure we are a leader in our chosen markets.

Owning what we do
We take accountability for our own work, and know we are also part of something bigger. We take the initiative, seek clarity and demand high standards from ourselves and our colleagues.

Strategic Report

Responsible business continued

This ambition is enabled by our key people aims which are to:

- Attract and retain the best and most suitable talents.
- Develop employees to achieve the highest levels of performance and achieve their career potential.
- Create an environment where employees are recognised and rewarded for their overall contributions.
- Foster a culture of success, where our values matter and are used as a guide for people to do the right thing.
- Support employees through an evolution of change and transformation.

We have implemented progressive, global people policies and practices, aligned to our vision, going beyond statutory requirements to recognise best practice. We review our people policies and risks in accordance with our governance framework, with the board being responsible for overseeing the overall people strategy. The Nomination Committee oversees talent and succession plans and decisions. The Remuneration Committee is responsible for overseeing and ensuring the Remuneration Policy is adhered to.

Attracting and retaining the best

Over the last year our overall headcount has increased (see table on page 43). Females make up 28% of our overall workforce in JM and 33% of new hires. While we continue to make progress on gender balance, we have lower proportions of females in our science and engineering roles. To address this, we have introduced gender balance objectives as part of our diversity and inclusion aspirations for 2025.

Building a robust talent pipeline for the future is important for us and we continue to hire graduates into science, operations and commercial disciplines. A new cohort of 33 graduates are set to join JM in the UK, US and China this year, 57% of whom are female.

Our voluntary employee turnover has reduced this year to 9.0%. Total employee turnover, including restructuring programmes and retirements, was 11.8% this year (2018/19: 13.2%).

Reward and recognition

We continue to ensure that our rewards are competitive and aligned with local markets. We have looked creatively at different ways that we can add benefits beyond purely monetary rewards.

We have enhanced our employee recognition schemes and this has had a positive impact on employee engagement scores. We celebrate our employees' achievements with the annual JM global awards. We also have an informal 'Say thanks' programme, which recognises individuals and teams by way of an e-card and awards that can be redeemed in the form of small gifts. In addition, we are also celebrating the loyalty our employees have shown to us through long service awards.

Talent and career management

A refreshed approach to talent management has been implemented at all manager levels over the last 18 months which will help us identify and accelerate a more diverse leadership talent pipeline in line with our business needs. It has revealed untapped potential in our mid-career pipeline and we plan to target development to accelerate talent and reduce our succession risk. We are delighted to have identified relatively higher numbers of females with development potential, which will support our 2025 gender balance aspirations.

Employee feedback highlighted the difficulties that some people experience in advancing their careers in JM. In response we have launched our career portal 'MyCareer'. This year we also ran a global JM careers week at all major locations, which many of our employees greatly appreciated. These events combined seminars, toolkits and speakers to highlight the rich and varied opportunities we have in JM and provide simple tools to help our people build personal career plans.

We have focused on reducing our reliance on external recruitment and our efforts are starting to have an impact. The percentage of internal vs external hires rose to 33% from 27% last year. Our transformation will require a workforce with multi-faceted skills and experiences and we will continue to focus on talent and career management this coming year.

Employee engagement

We continue to value and act on the feedback from our people about how engaged they feel working at JM. From our 2016 baseline scores of 61 for engagement and 62 for enablement, we set a goal to achieve respective scores of 73 and 72 by 2025, aligned with high performing companies. These targets form part of goal 2 of our sustainable business framework.

Following a mixed outcome when we remeasured in 2018 (59 for engagement and 63 for enablement), we have invested significant energy to start to address the key issues.

Our most recent 2019 pulse survey shows significant improvement on engagement (up 4 points to 63) with step change improvements in trust in leadership and pride in the organisation. We have also seen engagement of our longer serving employees increase significantly. Our efforts to cascade clear priorities, recognise employees' efforts, prioritise wellbeing and maintain efforts on career and personal development conversations have all had a positive impact. However, enablement in our 2019 survey remained flat at 63. While the survey reveals that employees feel their work is more challenging, stimulating and fulfilling, there are employees at some of our sites who feel barriers are getting in the way of their productivity. This is valuable feedback that we are factoring into how we organise our operating models, aiming for a leaner and less complex organisation.

As part of the recent changes to the UK Corporate Governance Code, boards are expected to engage more fully with employees and understand the issues on the ground. The JM board already has several mechanisms to meet and talk to staff to build on. Following a review of options and a discussion on how best to achieve this, the JM board decided to implement country engagement focus groups as the mechanism through which to have two-way dialogue with the workforce.

Focus groups comprising a diverse mix of employees, chaired by senior members of the leadership team, were run in the US and China during November 2019. Feedback from these pilot sessions was consolidated with results of the employee opinion survey and a set of recommendations presented to the board including; improving prioritisation, line manager communications and raising the visibility of our diversity and inclusion (D&I) strategy. The board supported recommendations and asked to accelerate two-way dialogue in JM. As part of the response, country engagement forums will be run regularly in the UK, China, US and Germany and members of the board will be directly involved.

Learning and development

g GRI 404-2

Realising our growth ambitions by unlocking performance and creating a more agile organisation requires us to strengthen leadership capability.

GRI 102-8 and GRI 401-1

Number of staff* as of 31st March

	Permanent employees		Temporary employees		Total (excluding agency staff)		Agency staff		Total	
	2020	2019	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	2019
Europe	**7,445**	6,714	**316**	397	**7,761**	7,111	**1,056**	1,185	**8,817**	8,296
North America	**3,099**	3,105	**34**	13	**3,133**	3,118	**33**	51	**3,166**	3,169
Asia	**2,423**	2,376	**96**	73	**2,519**	2,449	**110**	159	**2,629**	2,608
Rest of World	**665**	662	**74**	59	**739**	721	**1**	1	**740**	722
Total group	**13,632**	12,857	**520**	542	**14,152**	13,399	**1,200**	1,396	**15,352**	14,795

* For definitions see page 216.

Employees by gender and region as at 31st March 2020

	Permanent employees		Temporary employees		Total (excluding agency staff)	
	Male	Female	Male	Female	Male	Female
Europe	69%	31%	66%	34%	69%	31%
North America	76%	24%	50%	50%	76%	24%
Asia	81%	19%	74%	26%	81%	19%
Rest of World	66%	34%	55%	45%	65%	35%
Total group	**73%**	**27%**	**65%**	**35%**	**72%**	**28%**

Employee turnover by region

	Voluntary employee turnover 2020	Voluntary employee turnover 2019	**Total employee turnover 2020**	Total employee turnover 2019
Europe	**8.3%**	8.7%	**10.0%**	10.7%
North America	**10.4%**	12.5%	**15.1%**	18.3%
Asia	**10.6%**	13.1%	**14.2%**	14.7%
Rest of World	**4.1%**	8.4%	**8.6%**	9.8%
Total group	**9.0%**	10.4%	**11.8%**	13.2%

Gender diversity statistics

The table below shows the gender breakdown of the group's employees as at 31st March 2020.

As at 31st March 2020	Male	Female	Total	% male	% female
Board	7	3	10	70%	30%
GMC	5	4	9	56%	44%
Subsidiary directors	118	15	133	89%	11%
Senior managers*	47	16	63	75%	25%
New recruits	1,392	690	2,082	67%	33%
Total group	**10,252**	**3,900**	**14,152**	**72%**	**28%**

* Senior managers are defined as the direct reports of the GMC. For the purposes of the UK Corporate Governance Code 2018 disclosure, Senior managers are defined as the GMC and Company Secretary. This disclosure is stated within the GMC statistics above and their direct reports are included within this Senior managers disclosure. Some individuals are included in more than one category.

New joiners by gender and region

	Total joiners	**Joiners male**	**Joiners female**
Europe	**1,215**	**63%**	**37%**
North America	**411**	**71%**	**29%**
Asia	**417**	**74%**	**26%**
Rest of World	**39**	**67%**	**33%**
Total group	**2,082**	**67%**	**33%**

Trade union representation

	Average number of employees represented*	% represented
Europe	2,359	32%
North America	538	18%
Asia	192	8%
Rest of World	415	63%
Total group	**3,504**	**26%**

[1] Average number of employees who were covered by collective bargaining arrangements and represented by trade unions.

Strategic Report

Responsible business continued

We have now launched four of our five 'Aspire' leadership development programmes. Attended by a total of 486 line managers to date, these programmes provide consistent skills and behavioural development for our first line leaders right through to our executives. We recognise the impact coaching can have on employee engagement, productivity and enabling change. We plan to invest in developing coaching capability by implementing a new skills framework and high quality external coaching for our leaders at all levels.

Our online learning, available on our iLearn portal, has been accessed by more than 45% of employees in the last year. We have also seen significant increases in the take up of online learning during COVID-19. We see this increase as positive and plan to build on this further for the future.

Diversity and inclusion (D&I)

GRI 405

D&I is seen as a critical driver of business performance and we have set an ambition and roadmap to ensure D&I is embedded into our culture. As a part of goal 2 of our sustainable business framework, we have a target to achieve a ranking within the top 100 employers globally for D&I (within the Refinitiv, formally Thomas Reuters, index) and a gender balance target to have 40% of roles at mid-senior levels occupied by females by end 2025 from a base of 25%.

In line with our Equal Opportunities Policy, we recruit, train and develop employees who are the best suited to the requirements of the job role, regardless of gender, ethnic origin, age, religion or belief, marriage or civil partnership, pregnancy or maternity, sexual orientation, gender identity or disability.

People with disabilities can often be denied a fair chance at work because of misconceptions about their capabilities, and we work to enhance their opportunities by attempting, wherever possible, to overcome the obstacles. This might mean modifying equipment, restructuring jobs or improving access to premises, provided such action does not compromise health and safety standards. This is set out in our policy, which extends to employees who have become disabled during their employment and who will be offered employment opportunities consistent with their capabilities. We would also look to make reasonable adjustments for new recruits.

We have seen progress against our D&I ambition this year. We now have five employee resource groups (Pride, Gender, Disability, Black Employees and Early Careers) with whom we are working to actively drive our D&I agenda and we have joined the Valuable 500 network of global organisations committed to raising awareness of disability. Our global flexible working policies (including arrangements for parental and bereavement leave) introduced in 2018/19 marked a significant step forward in how we look after our employees and their families. These appear to be having a positive impact and part time working among our male and female colleagues has increased slightly. We were able to improve our Refinitiv Index score by 3.5 points to take us to 60.5. Gender balance at mid-senior levels has increased to 27% and we have seen increases in our Equileap ranking to #23 (up from #75).

Read more: Gender diversity statistics table on page 43

Gender pay gap

GRI 405-2

Johnson Matthey's combined UK gender pay gap has reduced from 8.5% to 6.0% and continues to be well placed against the national average gender pay gap of 17.3%. A full copy of our report can be found on our website.

matthey.com/gender-pay-19

Supporting employee wellbeing, including through COVID-19

Ongoing transformative change requires our workforce to be healthy and resilient and we are committed to the wellbeing of our employees. In response to increased numbers of stress cases last year, our focus in 2019/20 was mental wellbeing. Our core campaign, 'Time to talk', launched a global wellbeing platform giving all JM employees access to a wide range of wellbeing resources and our global employee assistance programme. We also marked World Mental Health Day on 10th October 2019 with events across the organisation. These efforts have shown positive signs with a reduced number of reported stress cases compared with the prior year (see page 40).

COVID-19 has required us to rapidly change the way we work and we recognise that it has presented a whole range of different challenges for our people. Alongside our focus on keeping people safe, we have worked hard to enable them to work effectively, whether that is remotely or on site.

Staying connected has been really important and our teams have come up with a whole host of ways to support each other. We continue to support employees' mental wellbeing, particularly in light of the impact of COVID-19, and are increasing our activities to support physical wellbeing. Underpinning all of this is our fantastic network of over 100 wellbeing ambassadors, who continue to support our wellbeing strategy locally.

Ethics and compliance

GRI 102-16

Our value of acting with integrity helps shape a strong ethical culture of 'doing the right thing' which is critical to delivering our strategy and vision. We aim to make our reputation for doing the right thing a strategic advantage for our business.

We set our standards for ethics and compliance globally, supported by our overarching 'Code of Ethics', and our approach has two pillars:

(i) promoting an ethical culture across the company; and

(ii) implementing a compliance programme underpinned by a framework applied to each risk area.

Matthey.com/code-of-ethics

The programme is underpinned by a framework of policies, standards and our Code, all of which are aligned to each risk area and supported by training. The risk areas include bribery and corruption, data protection, export controls and sanctions, conflicts of interest, competition / anti-trust, financial crime (including the corporate criminal offence of failing to prevent the facilitation of tax evasion), and modern slavery (see page 45). The programme brings together how we approach risk management, internal controls and promoting an ethical culture across the company.

Ethics and compliance risk on page 73

We continually evaluate our ethics and compliance programme in relation to changes in legislation and to understand any gaps or weaknesses that require more attention. During the year we focused on further embedding the programme in China as a result of our understanding of some of the difficulties faced in doing business there. China is becoming an increasingly important market for us across all sectors and we held several workshops and training for our Chinese teams to address specific risks presented by this market.

We have also recently launched a new policy which sets a global standard on the use of third parties in some of our higher risk jurisdictions. Targeted training for those roles most impacted is planned for 2020/21 and we will also refresh our procedures for onboarding third party intermediaries to ensure alignment across all jurisdictions.

Creating a culture of doing the right thing

GRI 102-17

In April 2019 we retrained our employees on our refreshed Code of Ethics. All employees are required to take a code of ethics module annually, reinforcing the basics and taking a deeper dive into a selection of topics covered. Additional targeted training is provided to people whose roles expose them to specific risk areas.

Our growing global network of approximately 125 ethics ambassadors continue to drive our culture for doing the right thing and acting as a sounding board for employees and providing guidance on where to go for help or to raise a concern. This year, they played an important role in our first ever 'Ethics Week', celebrating Global Ethics Day on 16th October and World Values Day the day after.

We encourage our employees and anyone we do business with to speak up when they have a concern or are unsure about something, and they can do this through local management, their ethics ambassador, HR or the legal function.

We also provide employees (and third parties) with an independently run 'speak up' helpline (also available online) to raise concerns anonymously, where local law permits.

An Ethics Panel made up of senior leaders meets monthly to provide oversight of investigations into all speak ups received. The panel reports three times a year to the board, with a particular focus on identifying themes and opportunities to improve the way we do things.

Read more: Speak up reports on page 221

Anti-bribery and corruption risks

GRI 205

We believe the most significant compliance risk that JM faces is bribery and corruption based on JM's business activities and global reach. In February 2020 we launched our refreshed policy on Anti-Bribery and Corruption and a separate Gifts, Hospitality and Charitable Donations policy. These global policies reflect JM's continued zero tolerance approach to bribery and corruption and provide key guidance that reflects the bribery and corruption risks we encounter at JM today. Further policy training and role specific guidance, including additional focus work in China, continues to be rolled out.

JM uses third party intermediaries (TPIs) to support our business and customers and has policies and processes in place to manage the risks, especially in the area of bribery and corruption.

Human rights

We support the principles set out in the UN Universal Declaration of Human Rights and the International Labour Organisation Core Conventions, including the conventions on child labour, forced labour, non-discrimination, freedom of association and collective bargaining. We also support the principles endorsed under the UN Global Compact and the UN Guiding Principles on Business and Human Rights (the 'Ruggie' Principles).

We are working to embed them throughout our operations and whenever we enter into business in a new territory, make an acquisition or enter a joint venture. There were no human rights grievance reports made against Johnson Matthey during the year.

Modern slavery

GRI 408

In line with the UK Modern Slavery Act 2015, we make an annual public statement, which is posted on our website, describing the steps we have taken during the year to ensure that slavery and human trafficking are not taking place, either in our businesses or our supply chains.

These steps include public policies and codes (including our Code of Ethics and Supplier Code of Conduct), our supply chain due diligence programme and an independent confidential 'speak up' line available to all stakeholders to report concerns and grievances.

matthey.com/modern-slavery

After completing their online training, all staff are required to complete an online code acknowledgment confirming that they will work in accordance with the commitments in the code. In 2019/20, 66% employees completed this online code acknowledgment (2018/19: 62%). In addition, particularly for employees working in our manufacturing plants, we provide classroom training on the code and record code acknowledgment completion locally. We are putting in place mechanisms to enable us to centrally capture this information in future.

Celebrating Ethics Week at JM

This year we celebrated our first ever Ethics Week at JM. The week was an opportunity to get everyone at JM to think about ethics and the importance of doing the right thing.

Our global network of ethics ambassadors took the lead and organised a range of fun and engaging activities to ensure the ethics message reached everyone across JM sites. From quizzes and games to lunch and learns, the activities encouraged employees to consider what doing the right thing means in their role at JM.

We heard first hand from our sector chief executives, who provided insights on topics including leadership values, organisational reputation, good decision making and speaking out as well as speaking up. Employees also got the opportunity to ask questions of JM's senior leaders via a live yam jam.

This truly global effort helped to shine a spotlight on ethics across JM and employee feedback was very positive. So much so, Ethics Week is now a firm fixture in JM's annual calendar of events.

Strategic Report

Responsible business continued

Low carbon operations
3

Reduce our greenhouse gas (GHG) emissions per unit of production output by 25%.

Environment

JM's products and services have an overwhelmingly positive impact on the environment when they are used.

We reinforce the positive impact of the products we sell with a responsible approach to environmental management.

JM's manufacturing processes generate greenhouse gases (GHGs) through the burning of fossil fuels to generate the elevated temperatures required. Some of our processes also produce emissions that could, if not managed effectively, affect the local environment. These gases include nitric oxides and volatile organic chemicals.

JM consumes water for a variety of reasons, whether as a raw material in the production process, or for heating or cooling operations. In addition, certain operations generate waste, some of which can be hazardous and requires specialist treatment by external companies. Wherever possible we recover and recycle waste materials containing platinum group metals.

+ Read more: Full details of our environmental performance in these areas is included in the Additional non-financial performance information section on pages 220 and 221

Managing environmental performance

We have group policies, processes and systems which, together with our environmental strategy, ensure that our environmental performance is managed to a high standard. A total of 85% of JM manufacturing sites operate environmental management systems that meet the ISO14001:2014 standard. There are corporate standards set out in five key areas of environmental performance which are assessed during regular EHS audits. Our EHS Leadership Committee is responsible for agreeing the group's approach to carbon, GHG reduction strategy and reviewing environmental performance.

Many of JM's operations are covered by environmental permit or licence. JM, as a minimum standard, ensures it complies with all conditions placed on its businesses by the regulatory bodies.

JM measures key environmental indicators using an electronic reporting system and this data is used internally to drive performance improvements. This data is externally assured.

+ Read more: Independent greenhouse gas and health & safety assurance statement on page 219

Climate change

Addressing climate change requires a transition to a low carbon world, in the energy and mobility sectors, and also across other industries. JM fully recognises the Intergovernmental Panel on Climate Change (IPCC) science on climate change, is a signatory of the Paris Climate Pledge to keep global temperature rise below 2°C and is committed to the United Nations Sustainable Development Goals (UN SDGs). We have identified six of the UN SDGs for our particular focus, including SDG13 (Climate Action). We are proud of the contribution many of our products make to directly enable the transition to a low carbon economy (read more on pages 50 and 51).

This year we have taken the first steps to aligning our reporting to the Task Force on Climate-related Financial Disclosures (TCFD) framework and we are committed to implementing these voluntary recommendations in full by 2021.

Governance

Our governance processes cover the breadth of matters relating to environment, health and safety, including climate change.

The board is responsible for oversight of our strategic direction and progress against our strategic priorities to ensure we are positioned to deliver long term sustainable business performance. During discussions on strategy, the board considers the market drivers we are exposed to in our diverse business portfolio, including market responses to climate change, the resulting opportunities and challenges that can impact our business strategies and how we are responding. The board also reviews our sustainability and environmental risks and performance (and also risks and performance relating to health and safety) against our targets.

The Audit Committee supports the board and the Group Management Committee (GMC) by conducting regular reviews of our risk processes, and controls against our principal risks.

The GMC champions strategy development and risk management in line with the board's expectations on risk appetite, supported by individual sector management teams for review and execution, and addressing sector-specific dynamics.

Our diverse business portfolio means we consider climate change impacts predominantly via market responses and an environmental sustainability lens. We are further analysing the validity of an independent risk for climate change.

Strategy – Markets

Climate change results in different impacts on our diverse business portfolio. Our products, such as battery materials, fuel cells and hydrogen production technologies, represent opportunities as the mobility and energy markets respond to climate change by moving away from fossil fuels to more diverse power sources. Other areas, such as our Health Sector, are less directly exposed to climate change dynamics. Other markets are at risk of declining over time, such as the demand for our automotive emission control catalysts, if the mobility sector transitions heavily into electrified powertrains.

The rate and extent of change of our key markets in response to climate change is the subject of extensive ongoing scenario planning. For example, we have framed our scenario planning for the mobility sector to include different climate change scenarios, the impact of vehicle emission regulations and other market factors such as car sharing and urbanisation.

The diversity of our business portfolio and the strength of our science, operations and commercial activities builds resilience and positions us strongly to serve future demands.

Strategy – Operations

Regulations: Conducting the transition to a low carbon economy at pace may continue to drive additional regulatory requirements, both nationally and internationally. We monitor developments in this area and manage our activities to remain in compliance.

Energy: We actively monitor our energy use and implement energy efficiency programmes across all of our operating sites. Energy costs are included in budget planning cycles. During 2020/21 we are extending energy forecasting to include GHG forecasting, including energy procurement strategies and options into the forecast, to better plan mitigating actions.

GRI 201-2

TCFD-related references

Governance: Disclose the organisation's governance around climate-related risks and opportunities	
Describe the board's oversight of climate-related risks and opportunities.	Page 46: Climate change Pages 86 and 87: Board committees Pages 90 and 91: Board risk oversight
Describe management's role in assessing and managing risks and opportunities.	Page 46: Climate change Page 13: Group Management Committee Pages 16 to 19: Our strategy
Strategy: Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning where such information is material	
Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term.	Page 46: Climate change Pages 67 to 74: Risks and uncertainties
Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning.	Page 46: Climate change Pages 16 to 19: Our strategy Pages 67 to 74: Risks and uncertainties
Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	Page 46: Climate change Pages 16 to 19: Our strategy Pages 67 to 74: Risks and uncertainties
Risk: Disclose how the organisation identifies, assesses, and manages climate-related risks	
Describe the organisation's processes for identifying and assessing climate-related risks.	Page 46: Climate change Pages 16 to 19: Our strategy Pages 67 and 68: Risk management approach
Describe the organisation's processes for managing climate-related risks.	Pages 46: Climate change Pages 67 and 68: Risk management approach
Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	Page 46: Climate change Pages 67 and 68: Risk management approach
Metrics and targets: Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material	
Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	Page 46: Climate change Pages 24 and 25: Sustainable business framework goals to 2025
Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	Page 48: Greenhouse gas reduction Page 48: Greenhouse gas disclosure
Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	Page 46: Climate change Pages 24 and 25: Sustainable business framework goals to 2025

During 2019/20 we took a strategic decision to maximise the amount of renewable energy sourced for our first commercial battery cathode materials manufacturing plant located in Konin, Poland. The use of low carbon energy to manufacture key components is beneficial to the whole lifecycle carbon footprint of an electric vehicle and ensures our business grows with minimal carbon impact.

Physical impacts: Climate change increases the risk of extreme weather events which can impact our operations or supply chains. We manage this disruption via our business continuity plans, which detail actions and alternate supply routes for various situations. Where there is an exposure to extreme weather events, such as hurricanes on the eastern seaboard of the USA, we have designated shelter areas for employees.

The impact of climate change on water availability is also important. We periodically assess our sites for water risks and manage our water use responsibly.

Risks

Climate change is incorporated into our risk management process as a driver of certain principal risks, especially 'Future growth', 'Environment, health and safety' and 'Failure of operations' and is considered when building those risks. We are also considering the validity of an independent risk for climate change. We recognise that effective management of climate change risks are crucial to deliver our growth strategy and inspire confidence in our stakeholders.

Future growth risk on page 71, Environment, health and safety risk on page 71 and Failure of operations risk on page 73

Metrics and targets

We follow the Greenhouse Gas Protocol when calculating our GHG emissions, dividing them into three scopes. Our Scope 1 emissions are from the burning of natural gas and other fuels as an energy source for our processes and facilities. Some of our processes also generate GHGs, and these are also included in Scope 1. Scope 2 emissions relate to our electricity purchases. Scope 3 emissions cover the different elements of our value chain.

Goal 3 of our sustainable business framework includes a target for our Scope 1 and 2 emissions intensity of 2.8 tonnes CO_2 equivalent per tonne of manufactured product sold by 2025. In 2019/20 our emissions intensity was 3.2. Using an intensity metric allows us to focus on the efficiency of our GHG footprint even in the face of changing product mix and demand. We remain on track to meet the goal.

Strategic Report

Responsible business continued

During 2019/20 we also set a renewable energy target, where 60% of our electricity must be certified renewable by 2025.

Greenhouse gas reduction

GRI 305

We lower our own contribution to GHG emissions with a combination of energy efficiency initiatives and low carbon / renewable electricity purchases.

In addition to our sustainable business goal 3 (see above and page 35), we also recognise that our absolute emissions of GHGs are an important metric. Since the launch of our sustainable business framework in 2017, we have achieved:

- 16% reduction in absolute Scope 1 and 2 emissions.
- 12% reduction in absolute Scope 1 emissions.
- 20% reduction in absolute Scope 2 (market based method) emissions.

This rate of reduction of our GHG emission intensity and our absolute Scope 1 and 2 emissions are key parts of fulfilling our Paris Pledge for Action commitment.

We are currently assessing possible approaches to limit our value chain (Scope 3) emissions.

Renewable energy

We aim to source 60% of our electricity demand globally from renewable sources by 2025, and we continue to identify cost effective renewable electricity supply contracts. Since 1st April 2019, all our UK sites have been operating on grid-connected certified renewable electricity. Across JM globally in 2019/20, 26% of our electricity came from certified renewable sources where the energy source has a Renewable Energy Guarantee of Origin (REGO) certificate, the highest form of renewable energy validation (2018/19 restated*: 24%).

* Restated following review and reclassification of data submitted by some sites after the year end.

A total of 1.2% of our electricity came from local solar power facilities that are not grid connected.

Where we are not using renewable electricity, we actively manage our electricity purchasing to minimise the carbon footprint. Competitive electricity markets for the supply of grid electricity are operational at 72% of our sites. At 69% of these sites, the carbon intensity of electricity we purchased was lower than the national or regional average.

We are investigating the potential of power purchase agreements to help accelerate our access to renewable electricity, particularly in geographies with lower availability of renewable power over the existing grid. We have committed to maximising the amount of renewable energy for our first battery materials plant, currently under construction in Poland, from start up in 2022.

We disclose our environment, social and governance (ESG) performance through the Carbon Disclosure Project (CDP) climate change programme which looks at risks and opportunities of climate from the world's largest companies on behalf of institutional investors.

matthey.com/cdp-investor

Greenhouse gas disclosure – Operational carbon footprint

	2019/20			2018/19			
	Global	UK only	Global (excl UK)	Global	UK only	Global (excl UK)	% change (global)
Scope 1 (tonnes $CO_{2\ eq}$)	199,125	59,669	139,456	220,317*	58,907	161,410	-10%
Scope 2 – market based method (tonnes $CO_{2\ eq}$)	192,334	3,761	188,572	202,813*	11,049	191,764	-5%
Scope 2 – location based method (tonnes $CO_{2\ eq}$)	252,757	40,407	212,350	277,861*	50,898	226,963	-9%
Total operational carbon footprint – Scope 1 and 2 market based method (tonnes $CO_{2\ eq}$)	**391,459**	**63,430**	**328,028**	**423,123***	**69,956**	**353,174**	**-7%**
Total operational carbon footprint – Scope 1 and 2 location based method (tonnes $CO_{2\ eq}$)	451,882	100,076	351,806	498,178*	109,805	388,373	-9%
Total Scope 1 and 2 carbon intensity – market based (tonnes $CO_{2\ eq}$/tonnes sales)	3.2	2.6	3.3	3.0	Not measured	Not measured	+8%
Scope 3 – electricity transmission and distribution losses (tonnes $CO_{2\ eq}$)	20,461	2,879	17,582	22,183*	3,818	18,365	-8%
Scope 3 – business travel (tonnes $CO_{2\ eq}$)	9,015	4,613	4,401	Not measured	Not measured	Not measured	

Energy efficiency and consumption

GRI 302

	2019/20			2018/19			
	Global	**UK only**	**Global (excl UK)**	Global	UK only	Global (excl UK)	% change (global)
Total energy consumption (GJ)	**4,879,064**	**1,519,125**	**3,359,939**	5,201,603*	1,542,040	3,659,563	-6%
Total energy efficiency (GJ/tonne)	**39.6**	**62.0**	**34.0**	36.8*	Not measured	Not measured	+10%

* Restated following review and reclassification of data submitted by some sites after the year end.

Efficient use of energy is a key lever to minimise our GHG impact and lower costs. Where we are sourcing renewable / low carbon energy, we also recognise that using less of what is generated makes it more available for use by others, further helping the transition to a low carbon economy.

We spent £68 million on energy in 2019/20 (2018/19: £72 million*, restated). Energy use within our facilities decreased by 6%, with electricity use across the group decreasing by 6% and gas usage by 5%. This was due partly to the Riverside, US site closure during 2018/19, and due to lower use at our Clitheroe, UK site which did not run its generator for four months due to maintenance, and partly due to lower production output at some sites.

Our energy efficiency declined by 10% this year. Total mass of product produced in 2019/20 was lower than the prior year, but despite the lower output, some of our energy intensive assets – such as furnaces – had to be kept running for operational efficiency and safety reasons.

We have also progressed various projects around the world that directly benefit energy efficiency. These include installing high efficiency compressors in Japan and Brimsdown, UK, improved efficiency of a gas oven in Shanghai, China, and better drying equipment management in Mexico. We restarted our combined heat and power unit in Royston, UK, which resulted in less grid electricity being procured. Going forward, the recent introduction of an automated meter reading system there will also help identify additional energy saving opportunities.

+ Read more: Energy generation and consumption on page 221

Responsible sourcing
4

Improve sustainable business practices in our supply chains and, through collaboration, ensure full compliance with our minimum standards from strategic suppliers.

Responsible sourcing

The value chain for the commodities that go into our products comprises our suppliers, and we have policies and processes in place to manage our key relationships and risks within both our Procurement function and as part of our ethics and compliance framework (see pages 44 and 45).

Due to the varied nature of JM's businesses, the principal risks in our supply chains depend on the nature of the business. However, JM's supply chains include metals identified as conflict minerals and other materials, containing minerals such as cobalt, which originate in parts of the world where there are well documented reports of serious human rights abuses, including modern slavery (see page 45) and conflict minerals (see below). Consequently, we place particular emphasis on how we manage and mitigate them.

Supplier sustainability assessment

g GRI 308 and GRI 414

We procure goods and services globally and our supply chains are multi-tiered. Supply failure is a principal risk and monitoring and understanding the risk is challenging but essential. Some of our strategic raw materials are available from only a limited number of countries.

r Supply failure risk on page 72

Our JM Supplier Code of Conduct is available in multiple languages on our website. We expect all our suppliers to comply with this code as a condition of contracting. During the year we have updated our Supplier Code of Conduct to incorporate more aspects of sustainability, particularly GHG management, material provenance and global data protection.

We plan to launch this revised code during 2020 and, with it, a broader, more robust supplier due diligence programme. In preparation for this, we have temporarily paused our existing programme, except for our work with suppliers of critical metals to support the strategy of our Battery Materials business and conflict minerals as detailed below. As a result, under the definition of our goal 4 framework, no further current suppliers were audited during 2019/20.

matthey.com/supplier-code-of-conduct

Conflict minerals

The term 'conflict minerals' refers to tin, tungsten, tantalum and gold (3TG) which originate from the Democratic Republic of Congo (DRC) and surrounding countries, in particular from areas of military conflict where most mining is artisanal and linked to serious human rights abuses.

Our conflict minerals due diligence process is based on the Organization for Economic Co-operation and Development (OECD) Guidelines and includes keeping records that enable us to track the suppliers of all the raw materials we use and identify which smelter the conflict minerals came from.

We are working towards being compliant with the new European Union Conflict Mineral Regulation, which was enacted in July 2017, ahead of the January 2021 deadline.

We only use material from refiners and smelters which conform to the Responsible Minerals Assurance Process (RMAP) assessment protocols and are listed on the Responsible Minerals Initiative (RMI) database. We have identified over 150 3TG smelters across all tiers of our supply chain and 100% are currently listed as conformant with the RMAP process.

We also use our in-house database to respond to customer requests for information on conflict minerals in our products and to provide them with a tailored answer to any query they have. This year we have responded to 104 customer requests for information, an increase of 21% on the previous year.

matthey.com/conflict-minerals

Critical metals for battery materials

We are committed to using only raw materials that have been ethically sourced in our cathode products. At present, the DRC holds about 50% of the global reserves of cobalt and although there are some mining companies which are operating ethically in the country, there is a significant amount of illegal artisanal mining in uncontrolled conditions, leading to serious human rights abuses.

In 2018 we partnered with third party experts RCS Global to develop and implement a world leading due diligence programme which ensures that we have full transparency 'back to mine' for all our raw materials that contain lithium, cobalt and nickel. During 2019 RCS Global performed on-site audits of several prospective Tier 1 suppliers of cobalt and nickel for our eLNO portfolio of battery materials as part of our pre-qualification process. We have also rolled out the due diligence programme to our suppliers of critical raw materials for our lithium iron phosphate (LFP) family of battery materials.

Our critical minerals supplier audit programme conforms to the standard laid out in the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (third edition) and provides assurance against the standards laid out in our Supplier Code of Conduct. All on-site audits of our suppliers are completed by RCS Global to the ISO 19011 standard.

To further our commitment to transparency in the battery materials supply chain, in early 2020 we joined the Global Battery Alliance (GBA).

Strategic Report

Responsible business continued

Together with 41 other global organisations, we agreed to ten guiding principles for a creation of sustainable battery value chains globally by 2030. Further details are set out GBA's 'A Vision for a Sustainable Battery Value Chain in 2030'.

We also joined the Cobalt Institute and will align our corporate reporting framework and policies with the Cobalt Industry Responsible Assessment Framework (CIRAF) guidance during 2020/21.

www.rcsglobal.com

Platinum group metals

Johnson Matthey Plc and Johnson Matthey Inc are accredited as good delivery refiners on the London Platinum and Palladium Markets (LPPM). We have implemented their responsible platinum and palladium guidance for all material handled through our UK and US refineries. During the year we have partnered with third party experts to ensure our pgm due diligence programme complies fully with the standard.

Our Platinum and Palladium Supply Chain Policy Statement, which is available on our website, sets out our commitments and the steps that we take to fulfil them.

https://matthey.com/platinum-and-palladium-supply-chain

In addition to following LPPM's guidance, we work collaboratively with customers through the International Platinum Group Metals Association (IPA) to ensure that the pgms we source globally are obtained ethically and responsibly.

Sustainable products 5

Double the positive impact that JM's products, services and technologies make to a cleaner, healthier world.

Sustainable products

Our business strategy is to use our science and technology capabilities to create products and services to solve our customers' complex problems that are vital to making the world cleaner and healthier; today and for future generations.

Goal 5 of our sustainable business framework measures our impact and in 2019/20, 85.9% of our sales came from products and services that positively contributed to the UN SDGs (2018/19: 87.3%). Our sustainable business goal 5 is to increase this to >90% by 2025.

This year, sales of products that have a direct impact on the UN SDGs made up a lower proportion of group sales, in particular as a result of lower sales of emission control catalysts and active pharmaceutical ingredients. Parts of the business with limited contribution to the UN SDGs, such as some areas within our PGM Services business and also our formaldehyde technologies, contributed a greater proportion to total group sales.

We also measure the positive impact that our key products have had on people and the planet over the last 12 months (see table opposite).

Across our portfolio, through our investments in new opportunities, there are new products, services and technologies in the pipeline that we expect will make a positive contribution to the UN SDGs in future years.

Product stewardship and toxicology

The products we sell to our customers often form an important part of the end product supplied to the user – a JM emission control catalyst being an important part of a car, for example. And while we do not manufacture the end product itself, we are concerned with the whole life of the JM product within it, with our responsibilities extending far downstream of our own operations.

This 'whole life' responsibility is what we call product lifecycle management. We set ourselves high standards; customers want to see evidence that we understand any hazards inherent in our products and that, through understanding their uses, we can, in turn, help them manage any consequent risks. Equally, our other external stakeholders want assurance that the potential impacts – on the environment, our employees and downstream users – are well managed.

Effective product lifecycle management is essential to our business to identify and mitigate any risk to our portfolio. Our social licence to operate depends on our compliance with chemicals regulations and on our voluntary stewardship of our products all the way down the value chain.

We aim to design-in green chemistries at the start of a product's life and we are increasingly integrating product stewardship into new product innovation and development.

We have well established systems to ensure the effective management of our products throughout their lifecycle. Our groupwide policies and guidance are aligned with the global framework set by the Strategic Approach to International Chemicals Management (SAICM) to promote chemical safety around the world.

We have procedures in place at group and sector level to identify regulatory obligations, both future and current, and create the documentation necessary to ensure compliance. Our internal committees assess hazard and exposure data to identify opportunities for risk reduction in our operations. Finally, business compliance with lifecycle management policies forms part of our EHS audits.

Safe use of substances

g GRI 416

We seek to replace 'high hazard' substances – chemicals with significant potential, if poorly managed, to harm human health or the environment – where safer and economic alternatives are available. When replacement is not possible, through detailed risk assessment backed by extensive data packages, we ensure robust risk management measures are in place. We also work actively with other companies to provide regulators with the best available information on industry practice such that any regulatory restrictions can be properly evidence based.

Potential new products are assessed at an early stage of their development against safety and regulatory criteria. Higher hazard chemistries are subject to more detailed risk assessments and senior level review to potentially grant time-limited approvals for their use. Our policies, especially on new product innovation, emphasise the need to investigate whether safer alternatives are available.

We use or manufacture only a very limited number of substances considered regulated[1], or of international concern[2]. As a proportion of our portfolio, approximately 5% of products consist of, or use in their production, such substances.

1 e.g. SVHCs (substances of very high concern) under REACH, RoHS or California Prop 65 listed substances.

2 e.g. controlled by the Montreal Protocol, Stockholm and Rotterdam Conventions, GHS category 1A/1B carcinogens, mutagens or reprotoxins, etc.

Clean air for all

2.96 million tonnes

of pollutants removed

(2018/19: 3.35 million tonnes*)
2025 target 7.18 million tonnes

The total tonnes of air pollutants (oxides of nitrogen, carbon monoxide, hydrocarbons and particulate matter) removed by our emission control catalyst products fell this year as fewer vehicles were produced globally.

Of the tonnes of pollutants removed, particulate matter represents only a small amount because of its low mass. However, the sheer number of small particulates produced by vehicles is cause for substantial public health concern and has been the target of tightening legislation globally.

Over the past year, we estimate that our products removed almost double the mass of particulate matter from gasoline direct injection vehicles compared with the prior year as the number of our particulate filter products sold increased.

Tightening emission legislation in Europe and Asia over the coming years is likely to increase demand for particulate filter products.

* Restated due to adjustment in scope of vehicles included in certain small markets.

Shaping a new era of clean energy

9.8 million tonnes

(CO_2 equivalent) removed

(2018/19: 10.1 million)
2025 target 21.2 million tonnes

The quantity of greenhouse gases (GHGs) removed by our products (CO_2 equivalent) was slightly reduced due to a lower contribution from our technologies that are used by customers to abate nitrous oxide, a highly potent GHG, from their chemical manufacturing plants.

Two of the customer plants we supply were shut down in the year. This was partially offset by two new installations, but these were only in partial operation for the year.

Achieving more from less

225,000 tonnes

(CO_2 equivalent) of GHGs avoided

(2018/19: 216,000 tonnes)
2025 target 426,000 tonnes

The quantity of GHGs avoided (CO_2 equivalent) by our products increased this year due to greater demand for our fuel cell technologies, reflecting the ongoing transition to cleaner power generation choices. In addition, we have supplied our lithium iron phosphate battery cathode materials to new automotive applications during the year.

Ongoing investments in both our next generation ultra high energy density battery cathode materials, eLNO, and our fuel cell components for automotive applications will continue to drive our contribution in this area.

Longer, healthier lives

323,000 lives

positively impacted

(2018/19: 154,000*)
2025 target 920,000 lives

The number of lives impacted by our recently launched pharmaceutical products increased this year as we benefited from a further expanded therapy base. New therapies containing our APIs included an extended release treatment for Attention Deficit Hyperactive Disorder (ADHD) and an exclusive treatment for Duchenne Muscular Dystrophy.

We continue to work with our partners and invest in R&D to develop and manufacture target molecules efficiently at scale, which will continue to increase our contribution to people's health.

* Restated to reflect updated market data.

Product regulatory compliance

During the year we put in place preparations to manage regulatory compliance in the event of the UK taking a hard / no-deal exit from the EU, based on our best understanding of the regulatory frameworks that would be in place at that time. We also actively liaised with representatives in UK government providing our industry perspective and expertise to inform their decision making. It increasingly appears that the UK will have its own REACH-like regulation and JM is advocating for a pragmatic approach to data requirements and regulatory deadlines to ensure our industry can comply in an efficient manner.

Internally, we are assessing the financial, operational and supply chain implications of compliance with a UK-REACH regulation and continue to provide support to UK government departments in their preparations for the post-transition period.

We work within trade associations and consortia as an effective way to support the application of best scientific methods to increase the understanding of our chemistries and products, and to communicate this within our supply chains. During the year we joined two new voluntary European Industry initiatives, one led by Cefic and one jointly led by Eurometaux and the European Chemicals Agency, to further improve the quality of the hazard, risk assessment and risk management information submitted in REACH registrations.

Regulations continue to be amended and new regulations are proposed that impact our operations and supply chains. We monitor and assess the impacts to ensure JM is well prepared. Efforts are ongoing to track, prepare and comply with developing legislative requirements in China, Russia and India, for example.

We use a systematic product responsibility reporting scheme to monitor the performance of our operations and maintain surveillance of the company's products and services. In 2019/20, there were no notifications of significant end user health effects involving our products. We did not identify any non-compliance with regulations or voluntary codes concerning health and safety impacts of products and services or product and service information, labelling and marketing communications.

Policy on animal testing: matthey.com/stewardship-testing

Strategic Report

Responsible business continued

Community engagement 6

Increase the use of volunteer days to support our community and charity partners through the JM employee volunteering programme.

Community and social impact

At Johnson Matthey we have a long tradition of supporting our local communities. Our initiatives are designed to empower our employees to achieve JM's vision through means beyond the reach of their jobs.

Goal 6 of our sustainable business framework aims to increase their reach even further through volunteering.

Our global volunteering policy grants employees two days each year to volunteer in their community with organisations they care about. We also double funds that our employees raise for charities of their choice through our match giving programme (up to £1,000 per employee per year).

This year our employees volunteered 2,682 days – well over double the previous year (2018/19: 1,116 days). This is thanks to a new global network of community investment ambassadors who have successfully mobilised volunteering, creating forces of good within their communities. In December we celebrated International Volunteer Day and employees collectively volunteered over 500 days across 23 countries.

JM is also pleased to have donated £77,000 to match money raised by employees in 2019/20.

In the community, our people lead the way and we've been inspired by their contributions to science, technology and engineering education over the years. Increasingly, the world needs science to make it cleaner and healthier and while we continue to respond to this demand with our technology, we are now ready to respond further.

Our reformed approach to social impact, which we will roll out in 2020/21, will support learners, particularly those at a socioeconomic disadvantage, to access better science education. We'll do this by building stronger connections between people and science – tackling key areas like perceptions, careers and teaching – to open more eyes to the thrill and important impact of our world changing industry.

COVID-19 is just one of many global issues highlighting the role of science in society more generally.

There are shortages of specific skills in science which must be addressed and, through our outreach, we're committed to promoting the science jobs that lack supply, so that our industry is best positioned to tackle future challenges.

In the short term, to support our communities through COVID-19, we're listening to our employees again. Our people have been eager to aid relief by using their paid volunteer leave, which we've encouraged where safe. This has included supporting vulnerable neighbours, delivering safety leaflets and making safety masks for healthcare workers. To meet their efforts, JM has committed to match employees' personal donations to the small and frontline charities in their communities that are most in need of support. We have also announced our dedicated £1 million fund for science education aimed at improving access to science education for children and young people. This fund is being strengthened further by personal donations committed by our Board of Directors.

Community investment summary

	Investment in 2019/20 £'000	Investment in 2018/19 £'000	% change
Direct expenditure	**940**	**840**	+12%
Corporate donations to charities	305	331	-8%
Donations by sites to local charities and community projects	635	509	+25%
Indirect expenditure	**573**	**251***	**+128%**
Employee volunteering time	573	251*	+128%
Total group	**1,513**	**1,091***	**+39%**

* Restated to include updated data following year end.

New science labs in India

In May 2019, 25 of our people travelled to India for a leadership training module. During the trip they volunteered at a disadvantaged school in Gurgaon. The group taught lessons to 75 students, who in return delivered presentations about air pollution. More than £16,000 was donated to the school from JM, some of which was raised (and matched) by the JM team. These funds have been used to construct a new science lab and computer space. The school's first science exhibition took place thanks to the new room, and in March this year a second science lab was constructed in one of the other school buildings, benefiting 120 additional students.

Financial performance review

Group performance review

Reported results

		Year ended 31st March		
		2020	2019	% change
Revenue	£ million	**14,577**	10,745	+36
Operating profit	£ million	**388**	531	-27
Profit before tax (PBT)	£ million	**305**	488	-38
Earnings per share (EPS)	pence	**132.3**	215.2	-39
Ordinary dividend per share	pence	**55.625**	85.5	-35

Underlying performance[1]

		Year ended 31st March			
		2020	2019	% change	% change, constant rates[2]
Sales excluding precious metals (sales)[3]	£ million	**4,170**	4,214	-1	-2
Operating profit	£ million	**539**	566	-5	-6
Profit before tax	£ million	**455**	523	-13	-14
Earnings per share	pence	**199.2**	228.8	-13	

Notes

1 Underlying is before profit or loss on disposal of businesses, gain or loss on significant legal proceedings together with associated legal costs, amortisation of acquired intangibles, major impairment and restructuring charges and, where relevant, related tax effects. For definitions and reconciliations of other non-GAAP measures, see note 35 on page 198.

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 2018/19 results converted at 2019/20 average exchange rates.

3 Revenue excluding sales of precious metals to customers and the precious metal content of products sold to customers.

Summary

Reported results

- Reported revenue increased 36% driven by higher average precious metal prices.
- Reported operating profit declined 27% driven by a restructuring and impairment charge of £140 million and a circa £60 million impact related to COVID-19.
- Reported EPS declined 39%, reflecting lower operating profit and higher net finance charges.
- Cash inflow from operating activities was £598 million.

Underlying performance[1]

- Sales declined 2% driven by Clean Air and Health, partly offset by higher sales in Efficient Natural Resources and New Markets.
- Underlying operating profit declined 6% primarily driven by a circa £60 million impact related to COVID-19. Excluding COVID-19, underlying operating profit grew 5%.
- Of the circa £60 million, circa £30 million reflected lower demand in Clean Air, and the remainder was due to higher trade debtor provisions across the group and delayed sales due to logistical challenges in our other businesses.
- Underlying EPS declined 13% reflecting lower underlying operating profit and higher net finance charges. Net finance charges grew primarily driven by increased average precious metal borrowings due to higher precious metal prices, on which we pay higher interest on average than the rest of our borrowings.
- Strong balance sheet with net debt of £1.1 billion; net debt to EBITDA of 1.6 times.
- Return on invested capital (ROIC) decreased from 16.4% to 13.3% mainly due to increased capital expenditure, higher average precious metal working capital through the year and lower underlying operating profit.

Sector performance review

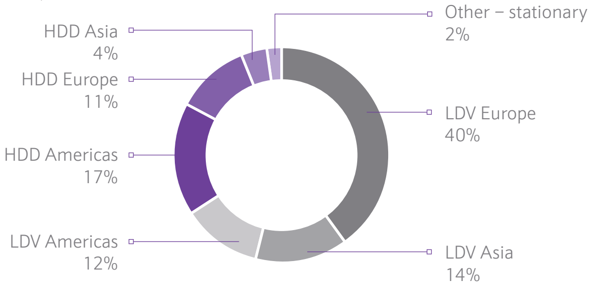
Overview of our sectors

Clean Air

£2,618m
Sales[1] **-4%**[2]

£295m
Operating profit[3] **-25%**[2]

Sales[1] by business



Heavy Duty Diesel (HDD) Catalysts **32%**

Light Duty Vehicles (LDV) Catalysts **66%**

A global leader providing catalysts to reduce harmful emissions from vehicles.

- **Light Duty Vehicles** – catalysts for gasoline and diesel light duty vehicles, including hybrids.
- **Heavy Duty Diesel** – catalyst systems for diesel powered trucks and buses and non-road machinery.
- **Other** – catalyst systems for stationary equipment.

13 manufacturing facilities and nine technical centres globally.

Customer profile

- Car companies.
- Heavy duty truck and engine manufacturers.
- Local Chinese producers.
- Global customer base.

Major competitors

- BASF
- Umicore
- Cataler

Margin 11.3%

Return on invested capital 18.4%

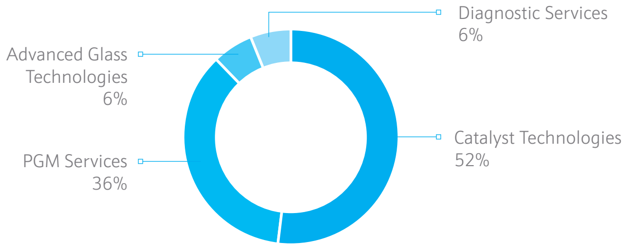
Employees 6,226

Efficient Natural Resources

£1,079m
Sales[1] **+8%**[2]

£256m
Operating profit[3] **+40%**[2]

Sales[1] by business



Creating value from efficient use and transformation of critical natural resources including oil, gas, biomass and platinum group metals (pgms).

- **Catalyst Technologies** – manufactures speciality catalysts and additives, licenses process technology and delivers services to the chemical and oil & gas industry.
- **PGM Services** – focused on platinum group metals. Activities cover recycling, refining, fabrication of end products and compounds, and trading.
- **Advanced Glass Technologies** – precious metal pastes and enamels primarily for the automotive industry.
- **Diagnostic Services** – for the oil and gas industry.

18 manufacturing facilities globally and six UK technical centres.

Customer profile

- JM businesses and their customers.
- Chemical companies.
- Engineering contractors.
- Oil and gas companies.
- Industrial pgm users.
- End of life autocatalyst collectors.
- Automotive industry suppliers.

Major competitors

- Haldor Topsøe
- Clariant
- BASF
- Albemarle
- Grace
- Heraeus
- Umicore
- Ferro

Margin 23.8%

Return on invested capital 17.2%

Employees 3,988

[1] Sales excluding precious metals.
[2] At constant rates (see note 2 on page 53).
[3] Underlying (see note 35 on page 198).

Health

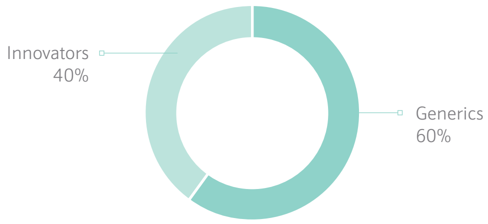
£223m

Sales[1] **-15%**[2]

£27m

Operating profit[3] **-38%**[2]

Sales[1] by business



Leading provider of solutions to the complex problems of both generic and innovator companies.

Develops and manufactures active pharmaceutical ingredients (APIs) for a variety of treatments.

Operates in the large and growing outsourced small molecule API market.

Four manufacturing facilities and three technical centres.

Customer profile

- Generic pharmaceutical companies.
- Innovator pharmaceutical companies.

Major competitors

- Noramco
- Francopia
- Siegfried
- Cambrex
- AMRI
- Alcami
- Hovione
- Almac

Margin 12.1%

Return on invested capital 5.3%

Employees 907

1 Sales excluding precious metals.

2 At constant rates (see note 2 on page 53).

3 Underlying (see note 35 on page 198).

New Markets

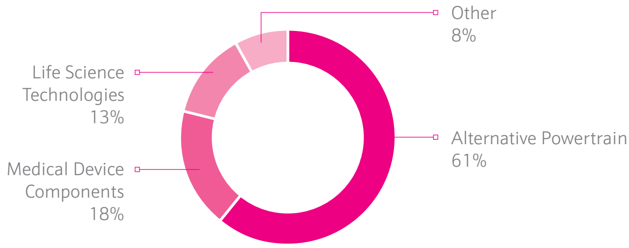
£389m

Sales[1] **+7%**[2]

£-1m

Operating loss[3] **n/a**[2]

Sales[1] by business



Accessing new areas of potential growth aligned to global priorities of cleaner air, improved health and more efficient use of natural resources.

- **Alternative Powertrain** – provides battery materials, including eLNO, our leading ultra high energy density cathode material, for automotive applications, battery systems for a range of applications and fuel cell technologies.
- **Medical Device Components** – leverages our science and technology to develop products found in devices used in medical procedures.
- **Life Science Technologies** – provides advanced catalysts to the pharmaceutical and agricultural chemicals markets.

Customer profile

- Automotive and heavy duty vehicle companies.
- Lithium-ion cell manufacturers.
- Fuel cell manufacturers.
- High performance cordless tool and niche transport manufacturers.
- Medical device companies.
- Pharmaceutical, fine chemical and agrochemical companies.

Major competitors

- Umicore
- BASF
- LG
- BMZ
- WL Gore
- 3M
- Heraeus
- Evonik

Margin -0.2%

Return on invested capital -0.3%

Employees 1,952

Strategic Report

Financial performance review continued

Operating results by sector

Clean Air

	Year ended 31st March 2020 £ million	2019 £ million	% change	% change, constant rates
Sales				
LDV Europe	**1,046**	1,031	+1	+2
LDV Asia	**381**	361	+5	+4
LDV Americas	**315**	346	-9	-11
Total Light Duty Vehicle Catalysts	**1,742**	1,738	–	–
HDD Americas	**443**	476	-7	-10
HDD Europe	**277**	334	-17	-16
HDD Asia	**111**	128	-13	-14
Total Heavy Duty Diesel Catalysts	**831**	938	-11	-13
Other – stationary	**45**	44	+1	–
Total sales	**2,618**	2,720	-4	-4
Underlying operating profit	**295**	393	-25	-25
Margin	**11.3%**	14.4%		
Return on invested capital (ROIC)	**18.4%**	30.0%		
Reported operating profit	**236**	390	-40	

Sales outperformed in a weak market

- In light duty, Europe sales grew 2% and Asia sales grew 4%, both well ahead of markets that declined, as we benefited from tightening legislation which increased the value per vehicle.
- Globally, heavy duty sales declined 13% which was broadly in line with the market.
- Strong market shares were maintained in our key light duty diesel and heavy duty segments.
- Operating profit was down as guided, primarily driven by a weak global heavy duty market, COVID-19 related costs, infrastructure investment and one-off costs in the first half associated with manufacturing inefficiencies.

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. Global sales were flat year on year, but well ahead of the decline in global light duty vehicle production of 10%, which was more pronounced in the second half as COVID-19 affected the global automotive market. Our customers first began to close their plants in China towards the end of January and then in Europe and the US from the middle of March.

In Europe, diesel accounts for around 80% of our LDV business. Sales of diesel catalysts were flat as we outperformed a market that declined, driven by the annualisation of our diesel market share gains. We maintained a market share of circa 65% in light duty diesel vehicles.

In Western Europe, diesel accounted for 31% of new passenger car sales in 2019/20, compared with 35% in the last financial year. Light duty commercial vehicles remain largely diesel today. When these are included, the overall share of diesel sales in Western Europe was 39% for 2019/20, compared with 42% in 2018/19.

Sales of gasoline catalysts were up in both Europe and Asia, significantly ahead of markets that declined 7% and 13% respectively. Growth was primarily driven by increased value per vehicle with the implementation of tighter legislative standards.

Americas LDV declined, driven by weaker performance in diesel largely due to the ramp down of a platform.

Heavy Duty Diesel (HDD) catalysts

In HDD catalysts, we provide catalysts for emission control after-treatment systems that reduce emissions for trucks, buses and non-road equipment. Global sales were down 13%, broadly in line with the decline in market production of 11%.

In Americas, the high value Class 8 truck cycle peaked in September, then declined sharply in the second half. Our Class 8 sales declined as expected, slightly behind the market due to product mix.

Our European and Asian HDD businesses also declined broadly in line with their respective markets. Over the medium term, tightening legislation in China and India will drive a significant uplift in value.

Consolidating Clean Air footprint

We have been investing in our world class plants in Europe and Asia and this is enabling us to drive further efficiency and agility across the sector by consolidating some of our existing older capacity in Europe into these new, more efficient plants. In the year, this gave rise to an impairment charge of £61 million on our older manufacturing assets, taken outside of underlying operating profit.

Underlying operating profit

Operating profit declined 25% and margin declined 3.1 percentage points. This was primarily driven by a weak global heavy duty market, circa £40 million of COVID-19 related costs (including circa £10 million higher trade debtor provisions) and higher costs of circa £20 million from investment in infrastructure and start up costs for new plants. There were also one-off costs of circa £15 million which included additional freight costs and inefficiencies within our manufacturing footprint due to phasing of the completion of our new plant in Poland.

ROIC

ROIC was down 11.6 percentage points to 18.4% reflecting lower operating profit and higher invested capital from our new plants which are not yet yielding returns.

Efficient Natural Resources

	Year ended 31st March			
	2020 £ million	2019 £ million	% change	% change, constant rates
Sales				
Catalyst Technologies	**556**	567	-2	-3
PGM Services	**389**	281	+38	+36
Advanced Glass Technologies	**70**	75	-7	-7
Diagnostic Services	**64**	68	-6	-7
Total sales	**1,079**	991	+9	+8
Underlying operating profit	**256**	181	+41	+40
Margin	**23.8%**	18.3%		
Return on invested capital (ROIC)	**17.2%**	12.6%		
Reported operating profit	**250**	175	+43	

Significant growth in operating profit and margin expansion

- Sales grew 8% primarily driven by strong performance in PGM Services.
- Significant operating profit growth and margin expanded 5.5 percentage points. This reflected higher average pgm prices and strength in our PGM Services trading business in a more volatile price environment, partly offset by higher refining operating costs and further investment in our refineries.

Catalyst Technologies

Our Catalyst Technologies business licenses key process technology and manufactures high value speciality catalysts and additives for the chemical and oil and gas industries. We saw a small impact from COVID-19 in the year, with the vast majority of our Catalyst Technology plants maintaining operations. Sales were slightly down driven by refill additives and copper zeolites to Clean Air, partly offset by strong growth in first fill catalysts and licensing.

Refill catalysts and additives sales were slightly lower

This is recurring business which makes up the majority of sales within Catalyst Technologies. Refill additives declined due to feedstock dynamics driving lower volumes. In refill catalysts, sales were stable. We saw good performance in ammonia and formaldehyde, ahead of the market. However, we saw lower sales in methanol following strong demand in the prior period and in hydrogen refill catalysts due to the lower oil price.

First fill catalysts almost doubled

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 year, we saw strong sales growth driven by methanol and ammonia catalysts with new plants in Asia coming onstream.

Licensing saw good growth

Our licensing business is dependent on new plant builds and revenue is recognised over the period of construction. We saw good performance in the period driven by formaldehyde and methanol following recent licence wins in these segments. We also began to recognise income from our newly developed mono ethylene glycol technology as we started work on the first project following the licence win last year. In the year, we signed four new licenses and are pleased with the progress we are making in developing and commercialising technologies.

Strategic Report

Financial performance review continued

PGM Services

PGM Services is the world's leading secondary refiner of platinum group metals 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. Towards the end of the year, our pgm refineries continued to operate albeit at lower capacity due to compliance with local guidelines and new working practices in light of COVID-19.

PGM Services sales grew strongly, up 36%

In the year, sales grew 36%. We saw strong growth in our refinery and trading businesses due to higher and more volatile average pgm prices. Average palladium and rhodium prices were up 56% and 137% respectively, whilst the platinum price increased 5%, compared with the same period last year. Sales of chemical products grew driven by Clean Air which uses pgm materials in its catalyst products. However, sales of industrial products containing pgms were down.

Refinery backlog volumes improved

Following unscheduled downtime in one of our pgm refineries in 2018/19 which resulted in higher precious metal working capital, we made strong progress this year in reducing the volume of precious metal working capital in our refineries whilst ensuring continued supply to our Clean Air business and external customers. Our progress has been faster than expected and, as a result of the work we have done to improve our precious metal working capital efficiency, we now expect to remove at least a further £300 million[1] of precious metal working capital volume from our backlogs by the end of 2020/21.

As previously announced, the £100 million investment in our new refinery is underway. This will further reduce precious metal working capital, ensure our assets operate effectively and reliably, and strengthen our position as a long term supplier to our customers.

Advanced Glass Technologies

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

Diagnostic Services

Diagnostic Services provides specialised detection, diagnostic and measurement solutions for our customers in the petroleum industry. Sales were down as we saw an impact from the declining oil price and COVID-19.

Underlying operating profit

Operating profit grew significantly, up 40%, and margin expanded 5.5 percentage points. This was primarily driven by a £47 million benefit from higher average pgm prices and strength in our PGM Services trading business in a more volatile price environment, partly offset by higher refinery operating costs as we continue to work down our backlogs and further investment in our refineries.

ROIC

ROIC increased 4.6 percentage points to 17.2% reflecting higher operating profit.

Notes:
1 Based on 31st March 2020 prices.

Health

	Year ended 31st March 2020 £ million	2019 £ million	% change	% change, constant rates
Sales				
Generics	**134**	171	-22	-23
Innovators	**89**	86	+5	+2
Total sales	**223**	257	-13	-15
Underlying operating profit	**27**	43	-37	-38
Margin	**12.1%**	16.7%		
Return on invested capital (ROIC)	**5.3%**	9.0%		
Reported operating profit	**10**	50	-80	

Performance affected by temporary disruption in the opioid addiction therapy market

- Generics declined as expected, affected by temporary disruption in the opioid addiction therapy market and lower sales of ADHD APIs. We have now agreed new multi-year supply agreements for opioid addiction therapies with generic partners from which we will begin to see the benefit in 2020/21.
- Innovators grew driven by a customer who received regulatory approval for a novel immuno-oncology treatment.
- Operating profit declined materially driven by weaker sales performance, partly offset by stock build to meet higher customer demand in 2020/21 and a net benefit from footprint optimisation.
- We made further progress towards delivering an additional circa £100 million of operating profit from our pipeline of generic and innovator APIs by 2025 although this may be delayed a year given the inherent uncertainty around the timing of individual drug launches.

Health

Given the nature of our Health business in providing critical products and services into the pharmaceutical sector, COVID-19 had limited impact in the year. We maintained the vast majority of our operations although we experienced some delays to shipment of orders following increased border controls.

Generics

Our Generics business develops and manufactures generic active pharmaceutical ingredients (APIs) for a variety of treatments. Sales were down significantly, with a mixed performance across the business.

Agreed new multi-year supply agreements for opioid addiction therapies

Sales of controlled APIs were lower. Speciality opiates were broadly flat in the year. Following a strong first half, sales declined in the second half due to developments in the opioid addiction therapy market which drove lower demand in the short term for APIs used in generic opioid addiction therapies. Although these developments affected our performance in the year, we have now agreed new multi-year supply agreements with generic partners and we will start to see the benefit from these in 2020/21. Sales of APIs for ADHD treatments declined as one of our customers moved to dual sourcing for some high margin APIs. Sales of bulk opiates in Europe were stable.

Our non-controlled APIs declined as expected. This primarily reflected a continued reduction in sales of dofetilide as new competitors for our customer entered the market.

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.

Recent regulatory approval for our customer's novel immuno-oncology treatment

Our Innovators business grew slightly. This was primarily driven by higher sales in relation to our strategic partnership with Immunomedics for the manufacture of a drug linker used in the production of an immuno-oncology treatment for triple negative breast cancer. Immunomedics has recently received approval for this therapy from the FDA (Food and Drug Administration) and is now increasing volumes to support commercial demand.

API product pipeline

In the year, we continued to develop our new product pipeline across both our Generics and Innovators businesses. We made further progress towards delivering an additional circa £100 million of operating profit from this by 2025 although it may be delayed a year given the inherent uncertainty around the timing of individual drug launches.

We recently undertook a strategic review of our new product introduction process. Following this review, we made organisational changes, improved the new product introduction process and took the decision to deprioritise 21 generic molecules and refocus our resources on the most attractive opportunities. This gave rise to an impairment charge of £20 million in relation to previously capitalised development expenditure, taken outside of underlying operating profit.

Overall, our pipeline now comprises 54 molecules which includes generic APIs, innovator APIs and new applications. This includes four launched molecules and eight generics which are awaiting regulatory approval.

Specifically within Innovators, at the start of the year, we had four projects in late stage testing programmes. Of these, two projects – including Immunomedics – have now been approved, one project did not receive approval and has been cancelled and the remaining opportunity is still in late stage testing.

Underlying operating profit

Operating profit declined 38% driven by weaker business performance including temporary disruption in the opioid addiction therapy market and lower ADHD sales. This was partly offset by stock build to meet higher demand from customers in 2020/21 which led to a greater absorption of fixed costs into inventory on the balance sheet and a net benefit from footprint optimisation.

ROIC

ROIC declined 3.7 percentage points to 5.3% mainly driven by lower operating profit.

Strategic Report

Financial performance review continued

New Markets

	Year ended 31st March			
	2020 £ million	2019 £ million	% change	% change, constant rates
Sales				
Alternative Powertrain	**237**	206	+15	+16
Medical Device Components	**72**	70	+2	-
Life Science Technologies	**50**	49	+1	-
Other	**30**	37	-19	-20
Total sales	**389**	362	+7	+7
Underlying operating (loss) / profit	**(1)**	2	n/a	n/a
Margin	**-0.2%**	0.7%		
Return on invested capital (ROIC)	**-0.3%**	1.1%		
Reported operating loss	**(62)**	(15)	n/a	

Strong sales growth and continued progress in commercialising eLNO

- Sales up 7% driven by strong demand for fuel cells and non-automotive battery systems.
- Operating profit declined as we invested in the development of our Battery Materials business and recognised an £8 million one-off impairment in the first half in relation to our demo plant.
- Significant progress in commercialising eLNO as we broke ground on our first commercial plant and now have four customers in full cell testing.

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 grew 16%, with continued momentum in Fuel Cells and Battery Systems for e-bikes.

Significant progress in commercialising eLNO

We are making significant progress with the development and commercialisation of our portfolio of eLNO materials, which will compete with future ultra high energy density materials such as NMC 811. Feedback from testing with customers remains positive, specifically our ability to provide tailored solutions. In the year, we moved to full cell testing with four customers – two global automotive original equipment manufacturers (OEMs) and two non-automotive customers. Alongside this full cell testing, we continue to work with a number of automotive OEMs and cell manufacturers in the validation phase.

We broke ground on our first commercial plant in Konin, Poland, which is expected to be on stream in 2022 and supplying platforms in production in 2024. Our total investment to first commercial production will amount to circa £350 million, although we are seeing some upward pressure as we finalise the design and build in more flexibility to meet our customers' requirements. Beyond this, scale up is likely to be phased as we match capacity to market demand. As part of the commercialisation process, we are also securing sources of renewable energy for the site in Poland.

Refocusing Lithium Iron Phosphate to support eLNO

We are focusing our science and innovative solutions on cathode materials that are truly market leading, principally eLNO our ultra-high energy density cathode material and our higher performing lithium iron phosphate (LFP). Sales of LFP grades for lower performance requirements declined in the year and we are now refocusing our LFP business to the high value segment and exiting the much larger lower value segment of the market, to better support our eLNO customers and the development of this business. These changes gave rise to an impairment charge of £57 million in the year, taken outside of underlying operating profit.

Fuel Cells saw significant growth in sales as we invest for growth

Sales in Fuel Cells grew 23% to £33 million and we delivered good operating profit growth driven by increased demand for both non-automotive and automotive applications in Asia. Today, our fuel cells are now powering several hundred commercial vehicles and buses in China. We continue to invest in line with market demand and have committed circa £15 million to double our capacity in the UK and China.

Medical Device Components

Our Medical Device Components business leverages our science and technology to develop products found in devices used in medical procedures. Sales were flat in the year. At the end of the year, we saw a small increase in sales as some of our products are vital components used within ventilators.

Life Science Technologies

Our Life Science Technologies business provides advanced catalysts to the pharmaceutical and agricultural chemicals markets. Sales were flat in the year.

Underlying operating profit

Operating profit declined as we invested in the development of our Battery Materials business and recognised an £8 million one-off impairment in the first half in relation to our demo plant.

ROIC

ROIC decreased to -0.3% reflecting the operating loss as we invest in Battery Materials.

Financial review

Resilient performance and accelerating strategic initiatives

Anna Manz
Chief Financial Officer

In the year, we delivered a resilient performance and remain well positioned with our strong balance sheet. We have a strong track record of delivering efficiency and are now accelerating our strategy to drive further efficiency across the business, building upon the investments we have made in new manufacturing facilities and in our systems and processes.

Corporate

Corporate costs in the period were £38 million, a decrease of £15 million from 2018/19 due to lower legal costs and share based payments.

Research and development (R&D)

We invested £199 million in R&D in the year, including £23 million of capitalised R&D, around 5% of sales. Spend increased 5% as we invested in next generation technologies in Clean Air, the efficiency and resilience of our refineries in Efficient Natural Resources, our Health API product pipeline and our eLNO cathode material.

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 85% of the non-sterling denominated underlying operating profit in the year ended 31st March 2020, were:

	Share of 2019/20 non-sterling denominated underlying operating profit	Average exchange rate Year ended 31st March 2020	2019	% change
US dollar	40%	**1.271**	1.310	-3
Euro	33%	**1.143**	1.134	+1
Chinese renminbi	12%	**8.85**	8.81	–

Overall for the year, the impact of exchange rates increased sales by £36 million and increased underlying operating profit by £5 million, following a £47 million and an £8 million increase respectively in our first half.

If current exchange rates (£:$ 1.233, £:€ 1.110, £:RMB 8.81) are maintained throughout the year ending 31st March 2021, foreign currency translation will have a positive impact of approximately £11 million on underlying operating profit. A one cent change in the average US dollar and euro exchange rates each have an impact of approximately £2 million on full year underlying operating profit and a ten fen change in the average rate of the Chinese renminbi has an impact of approximately £1 million.

Reconciliation of underlying operating profit to operating profit

(£ million)	Year ended 31st March 2020	2019
Underlying operating profit	**539**	566
Profit / (loss) on disposal of businesses[1]	**2**	(12)
Loss on significant legal proceedings[1]	**–**	(17)
Amortisation of acquired intangibles	**(13)**	(14)
Major impairment and restructuring charges[1]	**(140)**	8
Operating profit	**388**	531

[1] For further detail on these items please see pages 152, 199 and 200.

Summary of efficiency initiatives

Initiative £ million	Delivered to date	Annualised benefits by 2022/23
Procurement[1]	71	100
Restructuring	25	25
Health footprint optimisation	20	20
Previous initiatives beginning 2017	**116**	**145**
Clean Air footprint	–	30
Groupwide organisational efficiency	–	50
New initiatives	**–**	**80**
Total efficiency initiatives	**116**	**225**

[1] Around three quarters of procurement initiatives will benefit the income statement, of which around two thirds will be reinvested to drive growth.

Strategic Report

Financial review continued

Major impairment and restructuring charges

As we accelerate our strategy to drive efficiency, we will deliver annualised savings of at least £80 million over the next three years to 2022/23. Related to these new savings, we will be taking total impairment and restructuring charges of around £240 million by 2022/23. Of this, around £80 million is expected to be cash.

During the year we recognised impairment and restructuring charges of £140 million. These comprised the consolidation of our Clean Air footprint, our Lithium Iron Phosphate (LFP) business in Battery Materials and our Health product pipeline.

In Clean Air, we will consolidate some of our existing older capacity in Europe into our new, more efficient plants. In the year, this resulted in an impairment charge of £61 million on our older manufacturing assets.

We impaired our Lithium Iron Phosphate (LFP) business in Battery Materials, which gave rise to an impairment charge of £57 million in the period.

A strategic review of Health's new product introduction process was undertaken during the year which resulted in organisational changes and the deprioritisation of the development of 21 molecules. Development expenditure which had been capitalised in respect of the terminated molecules totalling £20 million has been written off during the year.

Future restructuring costs of around £100 million relate to the simplification of our organisation and consolidation of our Clean Air footprint.

See the table for a breakdown showing the impairment and restructuring charge and cash costs:

£ million	Annualised benefits by 2022/23[1]	Total restructuring costs	Restructuring costs 2019/20	Future restructuring costs[2]
Clean Air footprint	30	(91)	(61)	(30)
Groupwide organisational efficiency	50	(70)	–	(70)
Battery Materials LFP	–	(57)	(57)	–
Health product pipeline	–	(20)	(20)	–
Other restructuring costs	–	(2)	(2)	–
Total	**80**	**(240)**	**(140)**	**(100)**

1 Annualised benefits from 2020/21 of at least £30 million.

2 Includes cash costs of circa £80 million.

Profit / (loss) on disposal of businesses

Profit / (loss) on disposal of businesses is shown separately on the face of the income statement and excluded from underlying operating profit. In the year, we released a £2 million provision in relation to the disposal of Johnson Matthey Gold and Silver Refining Holdings in March 2015. In the year ended 31st March 2019, the group sold its water disinfection business, Miox. After costs, the net proceeds were £2 million which resulted in a loss on sale of £12 million.

Finance charges

Net finance charges in the year amounted to £86 million, up from £43 million in 2018/19. This was primarily driven by increased average precious metal borrowings due to higher precious metal prices, on which we pay higher interest on average than the rest of our borrowings.

Taxation

The effective tax rate on reported profit for the year ended 31st March 2020 was 16.4%, up from 15.3% in the prior year.

The tax charge on underlying profit before tax for the year ended 31st March 2020 was £72 million, an effective underlying tax rate of 15.7%, broadly unchanged from 15.9% in the prior year. This was around 2% lower than expected due to profit mix across different tax jurisdictions following the impact of COVID-19. The current year tax charge includes increases in provisions for uncertain tax positions, £12 million of which was recognised in the first half and relates to reassessments of prior years.

Our approach to tax

Johnson Matthey has developed a reputation over the last 200 years for integrity and our people take pride in doing the right thing across all aspects of our business. These principles underpin our approach to the management of tax.

We want to be clear and open on our approach to tax so that our stakeholders understand it. Today we have operations in over 30 countries and, for each of those countries, we endeavour to pay our fair share of tax. We follow the laws of the relevant country and our group tax strategy so that we pay the correct and appropriate amount of tax at the right time.

Through implementation of our tax strategy, we plan to:

- Maintain open, positive and cooperative relationships with governments and global tax authorities. We also partake in constructive discussions on taxation policies that are relevant to our business.
- Optimise global tax incentives and exemptions, such as those which support the research and development of our next generation of sustainable technologies. We will only engage in tax planning which is supported by a clear commercial rationale. We have a zero tolerance approach to tax evasion and the facilitation of tax evasion.
- Have clear and consistent tax policies and procedures to support our business strategy. All our tax policies and guidelines are managed and maintained by our professional tax function which is supported by external advisers. This ensures compliance and allows us to properly respond to global tax changes and developments.
- Proactively identify, evaluate, manage and monitor tax risks arising from our business operations to ensure they remain in line with the group's risk appetite, seeking external advice where necessary.
- Ensure that all tax returns are accurate, complete and are submitted in a timely manner through the activation of a thorough tax risk compliance management process.

The board approves our tax strategy each year. The tax strategy satisfies the requirements of paragraph 16(2) Schedule 19 Finance Act 2016.

Post-employment benefits

IFRS – accounting basis

At 31st March 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 £262 million.

The cost of providing post-employment benefits in the year was £49 million, down from £56 million last year. The post-employment benefits cost also included a past service credit of £20 million, which compared to a £9 million credit in the prior period.

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.

In order to reduce the group's long term pension risk exposure a number of changes to the UK pension scheme became effective from 1st July 2018, including:

- Contributions from those employees who remain in the career average section increased and will further rise over the next few years to help fund the increased cost of providing these benefits.
- The accrual rate in the career average section reduced from 1/80th to 1/100th for each year of future service after this date.
- New benefit levels with varying employee contribution rates were introduced in the cash balance section.
- Employees in the career average section were given the option of switching to the cash balance section.

The latest actuarial valuations of our two US pension schemes showed a surplus of £1 million at 1st July 2019, an improvement from a £2 million deficit at 1st July 2018.

Capital expenditure

Capital expenditure was £465 million in the year, 3.1 times depreciation and amortisation (excluding amortisation of acquired intangibles). In the period, projects included:

- Clean Air manufacturing plants in Europe and Asia. This increased capacity will enable us to consolidate our manufacturing footprint to drive efficiency and improve flexibility, and support demand from tightening legislation in these regions.
- Investment in the development and commercialisation of eLNO. We broke ground on our first commercial plant in Konin, Poland for the first 10,000 metric tonnes which has the potential for expansion to 100,000 metric tonnes. We are on track to start production in 2022 and supply platforms in production in 2024.
- Upgrade to our core IT business systems.
- Investment in our Health manufacturing facilities and continued investment in our API product pipeline.
- Investment in the efficiency and resilience of our refineries within Efficient Natural Resources.

Capital expenditure for 2020/21 is expected to be up to £400 million as our investment into strategic growth projects continues. Key projects include:

- Investment in eLNO as we continue to commercialise our ultra high energy battery cathode material.
- Completion of our new Clean Air plants in China and India.
- Investment in the efficiency and resilience of our refineries within Efficient Natural Resources.
- Upgrade to our IT systems as we continue to roll out our single global ERP system.

Depreciation and amortisation (excluding amortisation of acquired intangibles) is expected to increase to around £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 systems.

Strategic Report

Financial review continued

Accelerating reduction of precious metal working capital

We have a disciplined approach to managing precious metal working capital and have accelerated our actions in this area. In the year, we made substantial progress in reducing precious metal volumes amounting to £345 million[1] which was achieved through:

- Progressing backlog reduction, with £162 million of precious metal volume removed.
- Optimising precious metal volumes across our businesses, particularly between Clean Air and Efficient Natural Resources, and reviewing commercial terms with pgm collectors as well as our Clean Air customers. This removed £49 million of precious metal volume.
- Substantial inflows of £134 million as a result of supply chain management in Clean Air, reducing metal at every stage so we were not sitting on excess inventory, as demand slowed due to the impact of COVID-19.

We are focused on further reducing precious metal working capital. We are now targeting at least a further £300 million[2] reduction in precious metal backlogs by 31st March 2021, although we expect this to be offset by higher demand in Clean Air depending on the path of recovery.

Notes:
1 Based on 2019/20 blended prices.
2 Based on 31st March 2020 prices.

Free cash flow and working capital

Free cash flow was an inflow of £52 million, an improvement on the prior year. This was primarily due to better net working capital where we saw an outflow of £1 million compared to an outflow of £224 million in the prior year.

Excluding precious metal, working capital days increased to 52 days at 31st March 2020 compared to 48 days in the prior year.

Average working capital days excluding precious metals increased by four days to 63 days. We are targeting an improvement in average non precious metal working capital to between 50 and 60 days over the medium term.

Dividend

The group has a strong balance sheet, good cash generation and liquidity headroom. However, given the heightened degree of current uncertainty and to balance the needs of all stakeholders, the board will propose a final ordinary dividend for the year of 31.125 pence at the Annual General Meeting on 23rd July 2020, representing half the level of the 2018/19 final dividend. This is not intended to be a rebasing; 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. Subject to approval by shareholders, the final dividend will be paid to shareholders on 4th August 2020, with an ex dividend date of 18th June 2020.

Return on invested capital (ROIC)

ROIC declined to 13.3% at 31st March 2020 from 16.4% in the prior year mainly due to higher capital expenditure, increased average precious metal working capital through the year and lower operating profit.

Capital structure

Net debt at 31st March 2020 was £1.1 billion. This is a decrease of £394 million from 30th September 2019 and an increase of £228 million from 31st March 2019. Net debt increased by £43 million to £1.1 billion when adjusted for the post tax pension deficits. The group's net debt (including post tax pension deficits) to EBITDA was 1.6 times (31st March 2019: 1.3 times), at the bottom end of our target range of 1.5 to 2.0 times.

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.

Going concern and treasury policies

Going concern

The group has a strong balance sheet with over circa £1.3 billion of available cash and undrawn committed facilities at 31st March 2020. Leverage, measured by net debt (including post tax pension deficits) to EBITDA, was at the bottom of our target range at 1.6 times. COVID-19 has introduced unprecedented uncertainty to the market outlook and in response to this we have undertaken extensive reviews of our businesses and projections under a range of potential outcomes.

Our review used a number of external sources to identify a range of potential economic scenarios and assessed our headroom under each scenario against committed facilities and key financial covenants over the going concern period.

At a macro level we have used the GDP forecasts from a range of external parties for these scenarios, which are: (1) a deep recession base case which models an extended shutdown followed by an extended recovery period, and (2) a downside of a very deep recession comprising of a deeper shutdown with a challenging, stuttering recovery. The key macro assumptions for our financial year 20/21 are shown opposite.

2020/21 GDP growth projections aligned with the scenarios

Forecast	Deep recession	Very Deep recession
Description	Extended shutdown, followed by extended recovery period.	Deeper shutdown impact with challenging, stuttering recovery.
Global	(1.0%) to (2.0%)	(3.5%) to (4.5%)
US	(0.6%)	(2.7%)
China	1.2%	(3.0%)
Europe	(6.5%)	(~10.0%)

Source: JM analysis; Oxford Economics; McKinsey; IMF (International Monetary Fund); IEA (Institute of Economic Affairs); OBR (Office for Budget Responsibility) (UK); JPM Cazenove and Citi

Clean Air

With the legislative frameworks in place and assumed to remain for vehicle emissions in the markets in which we operate, our key market variable is the level of automotive production. Our scenarios utilise a range of external forecasts and our deep recession scenario assumes a decline of circa 25% in light duty production for Europe and the US but better in Asia, while for heavy duty, the declines are slightly more. In our very deep recession scenario, we assume a circa 35% decline in light duty production for Europe and the US, but better in Asia, while for heavy duty, the declines are again slightly more. For US truck sales, we assume that the bottom of the cycle will occur in 2021/22 in both scenarios and we keep our assumptions on battery electric vehicles (BEVs) consistent at 2% of all vehicles globally.

Within these market assumptions, we have planned for a much greater impact in the early part of 2020/21 and an increase in production over the year, with slower recovery in the very deep scenario.

With a high proportion of variable costs, we expect to mitigate a significant portion of the decline in sales. Working capital drops significantly in the short term before building again to support the growth to normalise by the end of the year. We also assume that we will continue with our strategic investments in the new facilities in China and India in the period.

Efficient Natural Resources

The impact on our Efficient Natural Resources Sector varies by sub-sector. The Catalyst Technologies businesses have seen little impact from the COVID-19 slowdown to date, but we do expect an impact as lower demand begins to impact the industries they serve. The key drivers for our businesses are diverse and will depend upon the specific markets they address as well as feedstock prices. At a market level we have assumed an oil price of $25-35/bbl for our deep scenario and $20-30/bbl for the very deep scenario, together with an overall decline in investment in the oil and gas sector of 35% and 50% respectively. In these businesses we have a higher proportion of fixed costs so the impact of lower demand on profitability will be greater.

Platinum Group Metal (PGM) Services is most impacted by pgm prices and for the purpose of our scenarios we assume lower prices, which adversely impacts profitability. The lower demand on our refineries in the short term in part due to lower Clean Air volumes under these scenarios will allow us to accelerate our progress on backlog reduction as well as meeting planned shutdowns for maintenance and stock counts. This in turn reduces the sensitivity of our working capital to pgm prices.

Health and New Markets

Health is relatively unaffected by COVID-19 with demand for many products unaffected.

Most of our businesses in New Markets see only short term impacts from disruption to manufacturing and supply chains whilst the underlying market demand remains e.g. fuel cells and medical devices. We assume that our strategic focus and investment in Battery Materials is maintained throughout the period.

Funding and available liquidity

The group has a robust funding position. JM signed a £1 billion five year committed revolving credit facility in March this year which secures liquidity for the next five years and was entirely undrawn at 31st March 2020. Our longer term funding comes from the US private placement market and other regional lenders including the European Investment Bank and KfW. The maturity profile at 31st March 2020 is excellent with only £130 million of term debt maturing before June 2021. In April 2020, we secured a further US$300 million of funding from the US private placement market for the next five to seven years. JM has also secured access to the Bank of England's COVID Corporate Financing Facility (CCFF) which would provide additional back-stop liquidity for the next year if needed.

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.

Strategic Report

Going concern and treasury policies continued

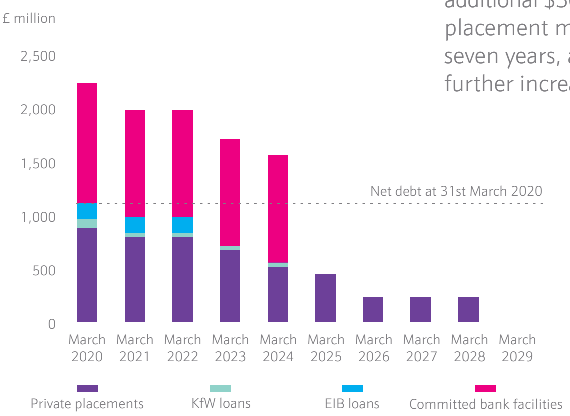
At 31st March 2020 the group had metal lease facilities of circa £800 million, of which £451 million (31st March 2019: £372 million) was drawn. As these metal leases are for periods of less than 12 months they have been excluded from our going concern assessment, with the assumption that when these leases mature they are replaced with our other existing committed credit facilities. The metal leasing market remains active and there is no indication that renewing these lease facilities when they mature will not be possible. Similarly, we have also excluded from our modelling the funding facilities obtained under the CCFF. While metal leasing facilities and the CCFF are excluded from our modelling under a normal situation, we would expect to have access to facilities such as these.

Conclusion

The group has a robust funding position and has tested its performance under a deep recession scenario and stress tested with a more extreme very deep scenario. In both scenarios, we have sufficient headroom against committed facilities and key financial covenants in the going concern period (15 months following 31st March 2020). There remain risks to the group including more extreme economic outcomes and our delivery of refinery backlog reductions. 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 15 months following 31st March 2020 and so determine that it is appropriate to prepare the accounts on a going concern basis.

Maturity profile of debt facilities



Treasury policies

Treasury policies and financial risk management

Group Treasury is a centralised function within JM based in the UK and US. The role of Group Treasury is to secure funding for the group, manage financial risks and provide treasury services to the group's operating businesses. Group Treasury is run as a service centre rather than a profit centre. The group does not undertake any speculative trading activity in financial instruments.

Funding and liquidity risk

The group's policy on funding capacity is to ensure that we always have sufficient long term funding and committed bank facilities in place to meet foreseeable peak borrowing requirements. The group successfully refinanced its existing bank facilities in March 2020, consolidating into a £1 billion five year sustainability linked revolving credit facility. In line with the group's vision this facility contains sustainable performance targets.

At 31st March 2020 the group had cash and cash equivalents of £273 million and £1,125 million of undrawn committed bank facilities available to meet future funding requirements. The group also has a number of uncommitted facilities, including overdrafts and metal lease lines, at its disposal. The maturity dates of the group's debt and committed borrowing facilities as at 31st March 2020 are illustrated in the chart below.

Of the committed bank facilities, £125 million have a final maturity date within the 15 months to 30th June 2021 (the going concern period). In addition, term debt of £41 million matures in December 2020 and £89 million matures in January 2021. These term debt repayments will be financed using existing bank facilities.

In April 2020, the group secured an additional $300 million from the US private placement market for the next five to seven years, adding further liquidity and further increasing the maturity profile.

Foreign currency risk

JM's operations are located in over 30 locations, providing global coverage. A significant amount of profit is earned outside the UK. In order to protect the group's sterling balance sheet and reduce cash flow risk, the group has financed a significant portion of its investment in the US and Europe by borrowing US dollars and euros respectively. Additionally, the group uses foreign currency swaps to hedge a portion of its assets. The group uses forward exchange contracts to hedge foreign exchange exposures arising on forecast receipts and payments in foreign currencies. Details of the contracts outstanding on 31st March 2020 are shown on pages 164 and 182.

Interest rate risk

At 31st March 2020 the group had net borrowings of £1,018 million of which 84% was at fixed rates with an average interest rate of 3.6%. The remaining 16% of the group's net borrowings was funded on a floating rate basis. A 1% change in all interest rates would have a £2 million impact on underlying profit before tax.

Precious metal prices

Fluctuations in precious metal prices have an impact on JM's financial results. Our policy for all manufacturing businesses is to limit this exposure by hedging against future price changes where such hedging can be done at acceptable cost. The group does not take material price exposures on metal trading.

A proportion of the group's precious metal inventories are unhedged due to the ongoing risk over security of supply.

Credit risk

The group is exposed to credit risk on its commercial and treasury activities. As COVID-19 impacted we acted quickly to tightly manage our credit exposures and closely monitor our risks. Counterparties are assessed against the appropriate credit ratings, trading experience and market position to define credit limits. Our exposures are monitored frequently and mitigating actions taken where appropriate. In treasury and precious metal management, these exposures include the mark to market of outstanding transactions and potential settlement risks.

+ Pages 70 to 74: Our principal risks

Risks and uncertainties

JM applies a holistic risk approach which enables the business to protect value, proactively manage threats to the delivery of strategic and operational objectives while enhancing the realisation of opportunities. The COVID-19 pandemic has altered the external environment and specifically our response in some areas where risk has increased. The long term impact of the COVID-19 pandemic on JM is uncertain and we have been working through a number of scenarios to understand the potential impacts. While we are confident that our business model is resilient, we remain cognisant of the challenges created by the pandemic. We have further identified specific areas where our principal risks could be impacted and, as they evolve, we are working with management to further provide JM's board with the line of sight in order to plan ahead and take appropriate action.

Managing JM's risks

Effective risk management is central to JM's decision making process as it enables:

- Planning through the lens of prioritisation to deliver strategic objectives.
- Consideration of risk and reward in establishing and implementation of the relevant controls in the areas that matter most.
- Assurance resources to be focused on specific areas of risk and uncertainty.
- Opportunities to be pursued while continuing to mitigate JM's risks in a rapidly changing external environment. This includes effective incident response to emerging risks, such as COVID-19.
- Compliance with UK Corporate Governance Code requirements.

JM's risk approach

JM's Board of Directors has overall responsibility for the risk management process. Together with the Group Management Committee (GMC) they have performed a robust assessment of the principal and emerging risks facing the business to ensure that the risks align with goals and strategic objectives. The Audit Committee assists the board in monitoring the effectiveness of the risk management and internal control policies, procedures and systems.

The risk management framework incorporates both a top down approach to identify the company's principal risks and a bottom up approach to identify operational risks.

Each principal risk is sponsored by a member of the GMC who drives progress through regular review considering related emerging risk factors, current responses and further mitigating actions to reach appetite. The GMC also periodically focuses on selected risks and performs deep dive reviews to support relevant strategic topics on the GMC agenda. The risk reviews are embedded within the relevant business and / or functional reviews to ensure that they are considered in the context of JM's values and strategic objectives. In response to the outbreak of the global pandemic, a dedicated Group Incident Management Team was deployed which is discussed further on page 69, to specifically oversee and direct JM's response to COVID-19.

Risk framework

Strategic enablers

Application against our risks:

- Innovation
- Efficiency and excellence
- Values-driven culture
- Sustainable business

Current risks

Risks we are actively managing that could stop us achieving our strategic objectives.

Emerging risks

Risks with a potential future impact from internal or external opportunities or threats. It also now includes 'black swan' events for example global pandemics.

What we assess

- **Risk ownership:** each risk has a named sponsor and owner.
- **Gross risk score:** unmitigated position.
- **Net risk score:** current position.
- **Risk appetite:** desired position.
- **Mitigating actions:** suitability for achieving appetite.
- **Risk score movements:** positive / negative.

Strategic Report

Risks and uncertainties continued

How we manage risk

All risks are described, analysed and reported using a standardised framework across the business. Likelihood of occurrence and the potential impact on objectives are considered and scored using a broad range of impact measures. The effectiveness and adequacy of controls are assessed regularly with assigned risk sponsors and owners, and reported at least twice a year.

Furthermore, functional leaders, sectors and site teams are responsible for identifying, assessing and prioritising their risks, considering the likelihood of occurrence and the potential impact to JM's objectives.

Site risks are aggregated and analysed for trends and anomalies which are reviewed by sector leadership teams. Risk insights are then incorporated into strategic planning and budgeting. The Group Risk Register is subject to a detailed review and discussion by the GMC, and this includes discussion of emerging risks.

The board assesses the outputs from this process and takes confidence from the 'three lines of defence' risk assurance model. The first line represents operational management who own and manage risk on a day to day basis, utilising effective internal controls. Group functions and sectors monitor and oversee these activities, representing governance and compliance at the second line. The third line is the independent assurance over these activities provided by the Corporate Assurance function.

Process developments during 2019/20

JM continually works to improve risk management practices and over the last 12 months the following key enhancements have been made, which have also supported the coordination of our responses to the COVID-19 pandemic:

- Introduced dashboards to improve principal risk reporting. Dashboards were developed to consolidate risk data including current net and appetite scoring as well as the actions required to support achievement of desired outcome. This has improved the quality of risk focused discussions across the business.
- Enhanced risk appetite statements. GMC risk sponsors have developed more detailed and focused appetite statements for principal risks. They have been reviewed by the board and the GMC, and have been embedded into risk reporting dashboards to further improve visibility of the journey towards the appetite.
- Improved key risk indicators (KRIs) methodology. Developed approach in detailing metrics for each principal risk measured in time and cost. This provides the board, risk sponsors and owners an ability to track mitigation maturity, costs and timescales associated with driving the net positions towards the defined appetites.
- Further sub-sector risk analysis. Conducted JM wide analysis on group and sector risks such as root cause and correlation against their likely principal risks to provide information as to where risks are originating from and how they can be effectively mitigated.
- Continued horizon scanning for emerging risks. Reviewed internal and external environment changes / movements at the board and GMC to ensure that the top down risk management process is fully informed.

How we manage risk

Corporate Assurance function

Constructively challenges and assists the board, Audit Committee, GMC risk sponsors, sectors and functions in considering the range of risks identified and their materiality. Particular focus is provided to the progress of mitigating actions / projects in terms of their successful implementation and their likely effectiveness in reducing risk in line with our appetite.

Top down

Principal risks

Operational registers

Bottom up

Board of Directors

Assesses principal risks and sets risk appetite. Overall responsibility for sponsoring the approach to risk management and internal controls.

Audit Committee

Assesses the effectiveness of the group's risk framework and internal controls system.

Group Management Committee (GMC)

Reports on principal risks and uncertainties to the board and Audit Committee. Carries out top down identification and review. Develops company strategy in line with board risk appetite. Owns risk definitions, mitigation plans and monitors progress towards the appetite through our GMC risk sponsors.

Sector level

Carries out a top down review of activities on a regular basis and is responsible for ensuring that sites and functional areas have developed risk registers in place. Reports to the GMC on sector risk and issues.

Site / functional areas / programmes / projects

Carries out risk identification, assessment and mitigation. Reports top risks to sector. Carries out regular reviews on effectiveness of existing controls and progress with control implementation.

COVID-19

JM has been proactive in its response to COVID-19. The Group Incident Management Team has been swiftly deployed to manage the response to the current pandemic. While coordinated and closely overseen by GMC, the team has implemented several specific measures including a groupwide pandemic response plan, a groupwide alert level status matrix and a comprehensive site pandemic response measures playbook. These measures have ensured that operations are able to continue safely and in accordance with government policy and regional guidance. JM has also specifically focused actions in managing cash flow, reducing cost and working capital to ensure the group remains robust, with sufficient liquidity.

The board and GMC have further directed the updating of JM's principal risks to reflect the impact of this pandemic. In most instances, risk definitions have not been changed as the pandemic has not changed the longer term coverage of each risk. However, it should be noted that additional actions have been defined and where appropriate implemented to reflect the impact of COVID-19. Consideration has also been given as to whether COVID-19 should be treated as an individual risk. The board agreed that the pandemic would be more effectively managed through articulating its impact within each of the existing principal risks rather than a stand alone item.

JM recognises that the current COVID-19 pandemic is an evolving situation and we will need to continue to be agile in managing this risk. Furthermore, we will continue to review and challenge the principal risks providing an ongoing consideration as to whether it needs to be recognised as a stand alone risk in the future.

The crisis has also accelerated our learnings on how differently we can use technology to connect, collaborate and engage with our customers, suppliers and employees across the globe. We intend to use these lessons, to ensure that as lockdown eases, we are embracing new habits and opportunities this change has created.

JM's principal risks and uncertainties

Principal risks are critically assessed to ensure that JM meets the challenges facing the business and strategic objectives. The COVID-19 pandemic, which has altered the external environment, has impacted the risks JM manages including supplier disruption, rise in mandatory / voluntary work from home and a shift in customer behaviours. JM has taken decisive action to protect its people, support its communities across the globe and manage the continuity of the business to deliver its vision for a cleaner, healthier world.

Specifically, in this context, managing today's financial performance is imperative as it further underpins the future success of JM. The board and GMC are continually assessing the potential impact of COVID-19 on the business with the assumption that the global economy, JM's customers and suppliers will be affected for far longer than the next few months and that some changes may well be permanent. This is explored further within the Viability section on page 75. Also, in the same way as governments around the world are planning their COVID-19 exit strategies, JM is too. This means, first and foremost, continuing to keep all people safe, then focusing on the choices and actions to put JM in the best position to deliver the long term future strategy.

To understand the current risk universe for JM, GMC risk sponsors have assessed changes to their risks, prioritising principal risks as required, with updated plans to mitigate them. This has been enabled by the risk management process facilitated by the Corporate Assurance function and additionally through the COVID-19 Group Incident Management Team.

It further contributed to discussions by the board and GMC to ensure JM's operational posture reflects the current environment.

The following key changes, additions and updates on JM's principal risks and uncertainties in 2019/20 have been considered:

- The 'Existing market outlook' risk has been reassessed to include both the short term market risk that can be foreseen and reacted to and longer term 'black swan' events where the quality of response is the important factor. COVID-19 has increased the volatility and uncertainty of our outlook in our existing markets but over time we would expect both of these elements to reduce with revised market understanding.
- The 'Future growth' risk has been refined to focus on the main elements that drive our growth (identifying opportunities, developing the products and services required and building the capability to deliver). This has provided clearer ownership, accountability and monitoring of differing risk exposures in strategic investments and / or delivery of expected business cases. We have improved our visibility and awareness of our Fuel Cells business' risks and uncertainties as it executes its ambitious growth plans.
- The assessment criteria for the 'Environment, health and safety' risk has been enhanced to drive stronger alignment with the Environment, health and safety (EHS) strategy and maintaining strong focus on JM's aspiration of zero harm. The risk has also been updated to reflect greater environmental actions. COVID-19 has created unprecedented challenges in the working environment around us. As the health, safety and wellbeing of our employees is vital, JM reacted quickly to take relevant actions such as implementing global travel restrictions, restricting attendance / organisation of large events, increasing remote working at scale and enhancing process safety measures. JM has further instigated frequent employee communications and engagement around the importance of safety in the context of COVID-19 and issued additional guidance for process safety measures. JM has also leveraged its global presence to learn from our colleagues in China. It enabled an early start of our COVID-19 preparations around the globe to implement measured responses to the pandemic across all of JM facilities.
- Climate change is incorporated into our risk management process as a driver of certain principal risks, especially 'Future growth', 'Environment, health and safety', 'Supply failure' and 'Failure of operations'. We recognise that effective management of climate change risks are crucial to deliver our growth strategy and inspire confidence from our stakeholders. The rate and extent of change of our key markets in response to climate change is the subject of extensive scenario planning and we are further analysing the validity of a stand alone risk for this area.

Strategic Report

Risks and uncertainties continued

- Metal liquidity and supply – JM continues to refine and enhance the Precious Metal Management (PMM) team's approach to both the financial processes which govern metal management, and operational processes. Significant advances have been made in reducing the amount of working capital absorbed by metal prior to the impact of COVID-19, as well as strengthened governance including additional specialist resources to the PMM team. While the pandemic disruption has been a factor that JM considered in metal supply, it has not had an immediate impact on our supply positions. We continue to monitor the situation with our suppliers including potential shortages of supply created by mine closures.
- Battery Materials – recognising the significant strategic potential of the Battery Materials business in developing and bringing to market eLNO, JM is creating a leading risk and governance capability to focus on managing programme and business risks. The priority is to ensure that business and programme risks receive appropriate management attention and are addressed quickly and effectively in this complex environment.
- Within the 'Applications, systems and cyber' risk, key cyber security technologies have been deployed to increase our ability to predict, prevent, detect and respond to cyber threats. These have been fine tuned for the increased risk of attack associated with COVID-19 as we anticipate a continued increase in volume and scale of financially motivated cyber attacks where the pandemic is used as a cover. We have increased the level of communication and awareness activities to ensure our employees are more alert. We continue to track external threats working with governments, law enforcement and industry specialists as appropriate.
- Brexit – JM is continuing to monitor and assess the potential impact of the UK's exit from the European Union on current operations and strategy. Plans are well developed, and JM is confident that the acute demands of managing the COVID-19 response will not reduce the ability to respond to changes caused by Brexit.

The following table sets out the principal risks and uncertainties facing the group and the mitigating actions we have in place. It also details any profile changes for each principal risk during the course of the year.

Strategic risks are listed first followed by operational risks. Each risk has a GMC sponsor who is responsible for the risk and to ensure controls are adequate and prioritised effectively. Each principal risk is also linked to one or more of our strategic enablers – 'Efficiency and excellence', 'Sustainable business', 'Innovation' and 'Values-driven culture'.

Key

E Efficiency and excellence	I Innovation
S Sustainable business	V Values driven culture

1 Existing market outlook E S I V

Risks, opportunities and impact	Key mitigations	Changes since 2019 annual report
The impact of changing assumptions in our key markets is either unplanned or unforeseen and we are not 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. **GMC sponsor:** Christian Günther	• Execution of the strategic planning process to assess and understand external trends and assessment of the associated impacts across our sectors (including the balance, scale and focus of investments). • Regular review of our portfolio is undertaken to ensure that each part of the business is providing value to the group. In turbulent times the resilience of this portfolio demonstrates their benefits. • Integration of strategic risk within the strategic planning process to challenge implicit assumptions and drive proactively the consideration of different market outcomes. • Monitoring of key viability and liquidity metrics (including balance sheet strength) as part of budgeting and going concern testing. • Technology road mapping to understand our response options to evolution in our markets and associated scientific and technological requirements. • Monitoring of changes to key drivers (including GDP and market assumptions), scenario planning and adjusting business plans accordingly.	We continue to monitor global macroeconomic factors and we are improving our sensitivity analysis through the strategic planning and budgeting process. The agility of this process has allowed us to re-plan quickly and efficiently. COVID-19 has changed our market outlook through supply disruption, plant shutdowns and changing consumer demands. We have so far seen significant impact to our business throughout Q1 2020/21 driven by COVID-19. Other than the health, safety and wellbeing of our employees, we have specifically focused our actions in managing cash flow, reducing cost and working capital to ensure JM remains robust, with sufficient liquidity. COVID-19 has increased the volatility and uncertainty of our outlook in existing markets but over time we would expect volatility to reduce and with revised market understanding uncertainty to decline. While putting our own business strength and continuity first, we have also been assessing opportunities created by these market conditions.

2 Future growth

E S I V

Risks, opportunities and impact

Failure to deliver planned growth and value creation through ineffective execution of strategic initiatives and investments.

GMC sponsor: Robert MacLeod

Key mitigations

- A clear strategy, which is continuously reviewed in the light of new information, and a business review process to track execution of that strategy (Transformation Office).
- Ongoing reviews and monitoring of new technologies and market competitiveness.
- Targeted investment in research and development, capital projects and people with the specific skills necessary to deliver effectively and support the realisation of our strategy.
- Proactive engagement with current and potential customers as well as industry bodies, for example the Hydrogen Council, to understand future needs and potential product / market evolution.
- Regular reviews of all strategic capital projects by dedicated group capital projects team.

Changes since 2019 annual report

This risk has been refined to focus on the main elements that drive our growth (identifying opportunities, developing the products and services required and building the capability to deliver).

We have reviewed our growth choices, timing of investments and execution risks in light of COVID-19. Specifically, we have conducted detailed assessments of the impact on projects delivery and start up due to limitations on resource and equipment availability. We continue to ensure that our future growth is aligned with global macro trends (including climate change) such as fuel cell technology.

3 Competitive advantage

E S I V

Risks, opportunities and impact

Failure to maintain our competitive advantage in existing markets and, as a result, not meeting customers' evolving needs as effectively and profitably as our competitors.

GMC sponsor: Maurits van Tol

Key Mitigations

- Strong customer relationships due to JM's technical proposition, good market reputation and a high level of technical service.
- Regular engagement with customers at multiple levels and performing satisfaction surveys.
- Regular strategy reviews including a review of our competitive position and competitors' moves.
- Research and development as well as capital management process ensuring resources are prioritised against the areas of greatest opportunity.
- Strong innovation portfolio with new technology platform and product development process.

Changes since 2019 annual report

We are delivering and tracking our major capability building programmes including commercial, procurement and digital transformation.

We have processes in place to enable effective decisions to allocate innovation resource and capital. Through our innovation excellence programme, we continuously improve the processes that further expand JM's product, application and technology toolbox.

COVID-19 has provided both challenges and opportunities to our business. We have therefore also been focused with our response on emerging opportunities that would transform our business at pace.

4 Environment, health and safety (EHS)

E S V

Risks, opportunities and impact

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.

GMC sponsor: Robert MacLeod

Key mitigations

- Embedded health and safety culture, including clear policies and standards, continual training and awareness activities and audits.
- Continue to operate process safety reviews on applicable sites.
- Investigations carried out to determine the root cause of incidents and accidents and the development of remediation plans.
- Reporting and management of environmental data.

Changes since 2019 annual report

The health and safety of our employees continues to be our absolute priority across the business. We have made progress in embedding our policies across the business and continue our execution of all EHS improvement plans in a controlled manner, with rigorous and regular tracking which has resulted in improved leading and lagging indicators across the group.

This risk has been updated to clearly articulate the way we are managing our health and safety exposure, and specifically to encompass all relevant areas such as our environmental impact.

COVID-19 has impacted the ways of working for many of our employees. We have deployed new EHS policies and guidelines to protect our employees and we have further developed our wellbeing support programme.

Strategic Report

Risks and uncertainties continued

Key

E Efficiency and excellence
I Innovation
S Sustainable business
V Values driven culture

5 Supply failure
E S I V

Risks, opportunities and impact

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. The impact of COVID-19 has reduced customer demand and increased its volatility while simultaneously impacting the entire supply chain. It has changed the nature of this risk as it requires JM to respond at pace to the changing external environment.

GMC sponsor: Jane Toogood (metal) and Anna Manz (other sourcing)

Key mitigations

- Supplier relationship management through formalisation of regular reviews to discuss their constraints and quality management processes.
- Where deemed appropriate, we carry strategic stocks of raw materials and monitor those levels regularly in the context of the external environment.
- Strategic materials and key suppliers potentially susceptible to COVID-19 related supply disruption in and across geographies identified and hyper care plans in place to ensure continuity and future strength of our supply chain.
- Groupwide co-ordination of sourcing and sharing of resources to ensure personal protective equipment (PPE) continuity of supply and operations to protect our people.
- Improving resilience on supply chain logistics, goods security in particular.
- Regular investigation of alternative materials as part of research and development.
- Prioritised ramp up plans in place to ensure agile response to resumption in demand.
- Continued investment in our pgm refining business to ensure access to recycled precious metals.
- Ongoing market research to understand and monitor the impact of short term events on longer term supply of metal.

Changes since 2019 annual report

We have made progress in the implementation of our procurement strategy and sharpened our understanding of supply chain across the sectors including our capital projects supply chain.

We have committed, through Q1 of 2020/21, to support suppliers, particularly our smaller suppliers who may suffer hardship as a result of COVID-19. We are also placing greater emphasis on the customer and consumer impact of our supply chain and potential supply failure (e.g. to a major OEM).

We have reduced the precious metal backlogs in our refineries, providing access to precious metal meaning that we are currently able to continue servicing critical customers.

6 People
E V

Risks, opportunities and impact

To successfully execute our strategy and deliver growth, we need to ensure that we have the breadth and depth of leadership and the appropriate skills and capabilities to drive a motivated, inclusive and engaged workforce.

GMC sponsor: Annette Kelleher

Key mitigations

- Values and behaviours embedded in all internal processes including hiring and performance reviews.
- Culture focused sessions arranged with leadership and development of culture statement roadmap.
- Ongoing leadership development and wellbeing programmes.
- Global employee engagement survey conducted every two years followed by development and delivery of targeted action plans.
- Pulse surveys carried out to test the progress being made in specific areas and course correct as necessary.

Changes since 2019 annual report

We are continuing to invest in our leadership by clarifying the capabilities and behaviours required through the development at all levels of the organisation.

We have undertaken a further employment engagement survey and are implementing action plans relevant to local sites, as well as global programmes focused on communication, development and ways of working.

We have in place several mitigating actions in response to COVID-19. These include prioritising our employees' safety and health, social distancing and enabling a significant number of colleagues to work from home as well as necessary crisis cover. In the short term, while our leaders navigate the COVID-19 situation, we have put our leadership development programmes on hold and increased our focus on their resilience and wellbeing.

We have a series of leadership engagement and employee communications planned on a regular basis to support colleagues in times of uncertainty and maintain motivation across the group.

7 Security of metal / highly regulated substances E

Risks, opportunities and impact

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.

GMC sponsor: Jane Toogood

Key mitigations

- Continue execution of the security roadmap which sets out the three year plan to further strengthen the function.
- Implementation and application of the Group Security policies across all sites.
- Execution of security assessments and audits.
- Threat evaluation and horizon scanning regularly carried out.
- Insurance coverage in place.
- Ongoing security awareness campaigns and training including rigorous follow up of thefts and continuous learnings.

Changes since 2019 annual report

Our level of control will increase through the delivery of the security roadmap, which includes implementation of control measures across our critical sites.

In light of COVID-19, we have accelerated certain aspects of the security plan and are ensuring full and comprehensive security cover.

8 Intellectual property management E S I

Risks, opportunities and impact

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.

GMC sponsor: Maurits van Tol

Key mitigations

- Portfolio management of intellectual property and technology enabled governance.
- Continued training and awareness of Information Classification Policy.
- Implementation of business intellectual property management strategies.
- Intellectual property lawyers used to provide specialist guidance including in the use of intellectual property as a business tool.

Changes since 2019 annual report

The intellectual property landscapes for the technologies in which JM operates remains inherently challenging as, for example, sustainable technology development is a very dynamic space.

We have made progress implementing mitigating actions, notably rolling out the information security policies including information classification, a robust stage gating process and in developing intellectual property strategies on a per sector / business basis as appropriate.

9 Failure of operations E S

Risks, opportunities and impact

We will experience interruptions which result in delays in the manufacturing and supply of our products. This may result in lost sales and / or profit affecting our financial performance and reputation.

GMC sponsor: Joan Braca

Key mitigations

- Continuous implementation of Group Business Continuity Policy and Manual, and manufacturing excellence programme across all sites.
- Regular maintenance of critical machinery and continued investment in infrastructure.
- Continue to develop comprehensive response plans with annual testing.

Changes since 2019 annual report

The Group Business Continuity Policy and Manual are embedded across all sites, personal process safety performance has been further enhanced.

In addition we have successfully implemented our Group Incident Management Team to manage our response to the current global pandemic and implemented a number of COVID-19 specific measures including a groupwide pandemic response plan, site operational procedures (focusing on social distancing measures), a groupwide alert level status matrix and a comprehensive site pandemic response measures playbook.

10 Ethics and compliance S V

Risks, opportunities and impact

Failure to comply with ethical and regulatory compliance standards leading to reputational damage, possible criminal / legal exposure for the company or for individuals.

GMC sponsor: Robert MacLeod

Key mitigations

- Implementation of a refreshed Code of Ethics supported by continued training and tone from the top, set by senior leadership.
- Assurance programme in place to monitor business unit and sector compliance with key controls.
- Ethics panel and 'speak up' facility available and any issues fully investigated, and any recommended actions implemented.
- Use of internal and external subject matter experts to identify risks, set standards and provide advice and training.
- Annual ethical working practice certification by all management with any issues raised investigated.

Changes since 2019 annual report

We have launched several refreshed key policies (Gifts, Hospitality and Charitable Donations, Anti-bribery and Corruption) with aligned training.

We have also developed a more detailed action plan to address all identified risks.

We have increased the level of awareness activities to ensure our employees are aware of the heightened risk due to the additional financial pressures that people and companies may be suffering due to the impact of COVID-19 pandemic.

Strategic Report

Risks and uncertainties continued

Key

E Efficiency and excellence
I Innovation
S Sustainable business
V Values driven culture

11 Business transition

E S I V

Risks, opportunities and impact

Failure to manage and deliver change in a controlled manner to achieve expected business benefits.

GMC sponsor: Robert MacLeod

Key mitigations

- Strategic Transformation Office set up to ensure appropriate governance across key initiatives to coordinate and drive delivery of change in a controlled manner.
- Monitoring of JM wide risks and interdependencies of the change.
- Support from subject matter experts in the execution of business change.
- Independent assurance on key change programmes.
- Implementation of project management framework across all key initiatives.

Changes since 2019 annual report

We have implemented strategic oversight of the key change initiatives by the creation of a Chief Transformation Officer role. This role orchestrates cross group initiatives and supports leaders to drive forward the delivery of the expected benefits creating an agile and efficient business, providing flexibility to consistently deliver to our people, customers and stakeholders.

Key programme themes are manufacturing footprints and target operating model reviews, customer and growth, innovation, people and culture. There has been minimal direct impact on these programmes due to COVID-19 and there is opportunity to accelerate in some areas to drive efficiency going forward.

We have introduced and embedded change in managing strategic capital projects and our procurement excellence programme has become part of business as usual activities.

Although we have continued to implement our global ERP solution (Unify) with a number of sites going live during 2019 in the Clean Air Sector, we have paused deployment in the US to prioritise resource in light of COVID-19.

12 Product quality

E S I V

Risks, opportunities and impact

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.

GMC Sponsor: Robert MacLeod

Key mitigations

- Monitoring and reporting of quality performance, taking corrective action where required.
- Continue to develop robust manufacturing and preventative maintenance systems supported by standardised processes.
- Global quality management systems embedded and supported with training and regular communications.
- Embed quality-by-design into new product introduction and product change management processes.

Changes since 2019 annual report

The regulatory environment continues to tighten, and our customers are experiencing greater scrutiny and in-use testing.

We have progressed our thinking in understanding continuous improvement opportunities and how we apply inherently different quality management systems across our sectors.

In the context of post COVID-19 potential surges in demand, we have enhanced our planning to ensure product quality is maintained whilst we react and manage potential impacts to our supply base.

13 Applications, systems and cyber

S I V

Risks, opportunities and impact

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.

JM's response to COVID-19 has increased employee remote working and presented new demands on applications, systems and cyber security. This has resulted in increased risks in the operational management of IT systems and cyber risks as malicious actors look to exploit the pandemic.

GMC sponsor: Anna Manz

Key mitigations

- Key cyber security technologies have been deployed to increase our ability to predict, prevent, detect and respond to cyber threats. These have been tuned for the increased risk of attack associated with COVID-19.
- Continued delivery of our Cyber Security and Infrastructure Improvement Programme (CSIIP) to increase our organisational resilience and we have prioritised this investment in the context of COVID-19. Controls have been increased in areas where we perceive the risk to be heightened.
- Implementation of key policies and standards across JM.
- Continued support and assurance from third party specialists.

Changes since 2019 annual report

We have continued to invest heavily in our cyber security and IT general controls providing better visibility and governance to support a more efficient business.

CSIIP programme deliverables have been met in a controlled manner, meeting the milestones set. Risk mitigations have been adjusted in light of COVID-19.

We have increased the level of communication and awareness activities to ensure our employees are more alert to the increased external risk associated with the exploitation of the COVID-19 pandemic. We continue to track external threats working with governments, law enforcement and industry specialists as appropriate.

Viability

In accordance with provision 31 of the UK Corporate Governance Code 2018, the directors have assessed the viability of the company over a longer period than the 15 months to June 2021 covered by the 'Going Concern' statement. In view of the highly uncertain times following the COVID-19 outbreak we have based our assessment on the severe but plausible deep recession scenario that is described in detail in the going concern review.

During the year the board has carried out a robust assessment of the principal and emerging risks affecting the company, particularly those which could threaten the business model. The risks and the actions taken to mitigate them are described in the previous section on 'Risks and Uncertainties'. To reach the viability statement conclusion we have undertaken the following process:

- The Audit Committee annually reviews the risk management process to ensure its continuing effectiveness;
- A rolling programme is in place of deep dives which allow the GMC and board to review the company's principal and emerging risks. In the case of board reviews, a presentation is made on the risk and the progress of mitigations, from the accountable GMC risk sponsor;
- In September and March, a presentation is made to the board from the Corporate Risk and Assurance Director, explaining the process followed by management to identify, assess and manage risks throughout the business. At this time, all our principal and emerging risks are considered along with the linkages between them; and
- Throughout the year, a risk-based internal audit plan is executed by the Corporate Assurance and Risk Team, the results of which were presented to and discussed by the Audit Committee. This includes assessment of root cause, controls effectiveness, and assurance.

The group's prospects are assessed through the annual strategic and business planning processes. This process includes a review of assumptions made and the ongoing assessment of annual and longer term plans, including appraisal of the group strategy and significant capital investment decisions. Reviews are led by the Group Chief Executive and CFO in conjunction with Sector Chief Executives. In addition, the board reviews the Sector strategies throughout the year. During these reviews, the group's current position and its prospects over the forthcoming years is reviewed which allows reaffirmation of the group strategy.

The directors have determined that a three year period to 31st March 2023 is an appropriate period over which to assess the group's viability as it is in line with the group's annual detailed planning. In making the viability assessment, we have considered a number of stress scenarios linked to the group's principal and emerging risks.

As stated earlier the impact of COVID-19 is included in all scenarios with the assumption of a deep recession scenario. This models an extended shutdown followed by an extended recovery period as outlined in the going concern review. Over the longer period considered for viability analysis, our scenario assumes a recovery in the markets in which Clean Air operates in 2022/23 and 2023/24 following the steep decline assumed in 2020/21. Efficient Natural Resources serves a range of markets by sub-sector. The catalyst markets in which we operate are assumed to have a much slower recovery over 2022/23 and 2023/24. In PGM Services we maintain an assumption of low metal prices throughout the period. Health and New Markets are relatively unaffected over the period.

We have analysed the impact of the following three hypothetical stress scenarios as well as considered all of them occurring at the same time:

Scenario 1: Existing market outlook – this scenario considers the impact of changes in key business assumptions, either unplanned or unforeseen, where JM is not agile enough to respond. Under this scenario we evaluated the impact of a further downgrade in the global economic outlook beyond the deep recession scenario caused by COVID-19. This is the very deep recession scenario as described in our going concern analysis. This scenario also includes movements in commodity markets and the potential impact from a faster than expected uptake of electric vehicles.

Scenario 2: Future growth – this scenario models the failure to grow through new opportunities as a result of ineffective execution. This scenario assesses failing to deliver new growth in new markets and technologies.

Scenario 3: Competitive advantage – this scenario considers the failure to maintain competitive advantage in existing markets together with the impact of other risks identified in the group's principal risks, including intellectual property related risks, poor management of capital projects, significant production losses due to downtime at a major site, the inability to improve certain businesses or sites, and unmitigated Brexit risks. Due to the wide range of risks included we have applied an overall probability weighting to this set of risks to derive a potential financial impact.

Our evaluation took account of the group's current financing arrangements and assumes no refinancing of maturing debt although in practice we would fully expect to refinance these well ahead of maturity. Our stress testing showed that under each of the three scenarios the group had headroom under its committed facilities and financial covenants. Only in the most extreme case of all three scenarios occurring simultaneously would there be a potential breach of a key covenant. We consider this outcome to be extremely unlikely and are satisfied that there are mitigating actions that we can take and capacity for additional financing to allow JM to effectively respond to the negative impact from a combination of these stress scenarios.

We have also undertaken a reverse stress test in order to identify what additional or alternative scenarios and circumstances would threaten our current financing arrangements. This shows that the group has headroom against either a further decline in profitability beyond the very deep recession or a significant increase in borrowings.

Based on the results of our assessment, the directors have a reasonable expectation that the company will be able to continue in operation and meet its liabilities as they fall due over a period of at least three years.

The Strategic Report from page 2 to page 75 was approved by the board on 11th June 2020 and is signed on its behalf by:

R. MacLeod

Robert MacLeod
Chief Executive