



JM

2018 Annual Report and Accounts



Johnson Matthey
Inspiring science, enhancing life

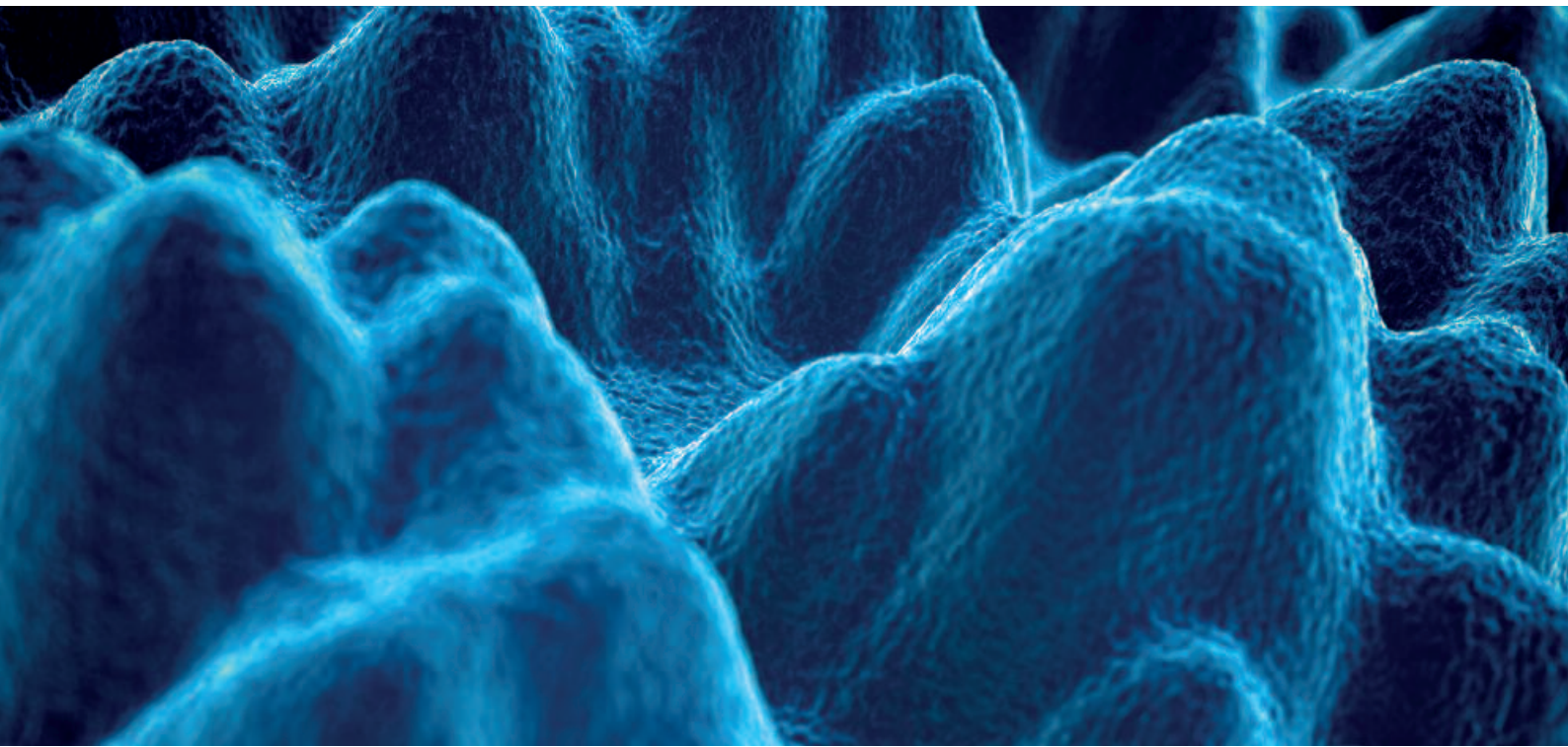


Our vision is for a world that's
cleaner and healthier; today
and for future generations

Johnson Matthey

As a global leader in sustainable technologies

we apply our cutting edge science to create solutions with our customers that make a real difference to the world around us.



Delivering solutions today:

Catalysts that prevent 40 tonnes of pollutants entering our air every minute

Active pharmaceutical ingredients that relieve symptoms for millions of people each year

Recycling technologies that conserve millions of tonnes of platinum group metals every year

Creating solutions for the future:

Class leading battery materials technology to enable zero emission vehicles

Our strategy will deliver sustained growth

Cutting edge science and technology is our competitive advantage.

Delivery of our strategy requires us to:

Invest in our **science** and technology in order to;

Maintain and build our leadership in high growth markets by solving complex problems for our **customers**.

Operate our business efficiently, safely and **sustainably**.

Develop and grow our great **people**.



The outcome is sustained value over the long term, characterised by:

Strong return on invested capital of 20%

Attractive earnings – mid to high single digit growth in underlying earnings per share

A progressive dividend for our shareholders

And a cleaner, healthier world for everyone.

We have five values:

Protecting
people and
the planet

Acting with
integrity

Working
together

Innovating
and
improving

Owning
what we do

They guide how we do things in JM and shape the right culture to achieve our strategy.

2017/18 was a good year for JM

We delivered what we said we would.
We built foundations for future growth.

Investing in our science

Gross R&D spend

£193m

Delighting our customers

Revenue up 17% to

£14,122m

Sales¹ up 7%² to

£3,846m

¹ Sales excluding precious metals.

² At constant rates (see note 2 on page 61).

Underlying operating profit flat³

£525m

³ At constant rates (see note 2 on page 61).

Running our business better

Average working capital days⁴

62

⁴ Excluding precious metals.

Free cash flow⁵ of

£136m

⁵ For definition see page 191.

Carbon footprint ('000 tonnes CO₂ equivalent)

445

Supporting our people

Lost time injury and illness rate

flat

Employee engagement

61%

Creating value for our shareholders

Attractive return on
invested capital⁶

16.4%

⁶ For definition see note 31g on page 181.

Underlying earnings
per share flat

208.4p

Progressive dividend –
up 7% to

80.0p



Building a sustainable business for the future

A new sustainable business framework to 2025

Aligned to our brand, vision and strategy

Driving sustainable business practices throughout JM's value chain

Comprising six new goals

Health and
safety

1

Our
people

2

Low carbon
operations

3

Responsible
sourcing

4

Sustainable
products

5

Community
engagement

6



Contents

Strategic Report

- 4 JM in profile
- 6 Chairman's statement
- 8 Strategic progress and priorities
- 9 Chief Executive's statement
- 13 Group Management Committee
- 14 Group strategy
- 16 Sustainable business framework
- 18 How we create value
- 20 Our stakeholders
- 22 Key performance indicators
- 25 Science
- 32 Customers
 - 36 Technologies for clean transportation
- 38 Operations
 - 44 Environmental performance
- 48 People
 - 51 Health and safety performance
 - 56 JM's 200th anniversary
 - 58 People performance data
- 60 Financial performance review
 - 61 Group performance review
 - 62 Sector performance review
 - 64 Clean Air
 - 66 Efficient Natural Resources
 - 67 Health
 - 68 New Markets
 - 70 Financial review
 - 74 Treasury policies, going concern and viability
- 76 Risks and uncertainties

Governance

- 84 Board of Directors
- 86 Letter from the Chairman
- 87 Corporate Governance Report
- 99 Nomination Committee Report
- 103 Audit Committee Report
- 111 Remuneration Report
- 131 Directors' Report
- 135 Responsibility of Directors

Accounts

- 138 Consolidated Income Statement
- 138 Consolidated Statement of Total Comprehensive Income
- 139 Consolidated and Parent Company Balance Sheets
- 140 Consolidated and Parent Company Cash Flow Statements
- 141 Consolidated Statement of Changes in Equity
- 142 Parent Company Statement of Changes in Equity
- 143 Accounting policies
- 150 Notes on the accounts
- 191 Reconciliation of non-GAAP measures to GAAP measures
- 192 Independent auditor's report

Other Information

- 200 Basis of reporting – non-financial data
- 203 Verification of non-financial data
- 204 GRI Standard Content Index
- 206 Shareholder information
- 208 Glossary of terms
- 209 Index
- 210 Financial calendar 2018/19
- IBC Company details





About this report

Our integrated report for 2018 combines all aspects of the group's performance into one document and reflects how we are addressing areas which we believe have the potential to have a material impact on our business.

Unless otherwise stated, performance data is for the year ended 31st March 2018.

Navigation

Throughout this report you will find a series of easy to identify icons to help you find further information about the group.

-  Read more
-  Principal risk
-  Go online
-  Key performance indicator (KPI)

Sustainability reporting

This report is written to the GRI reporting standard. We report against GRI in line with the issues that are important and / or material to our business.

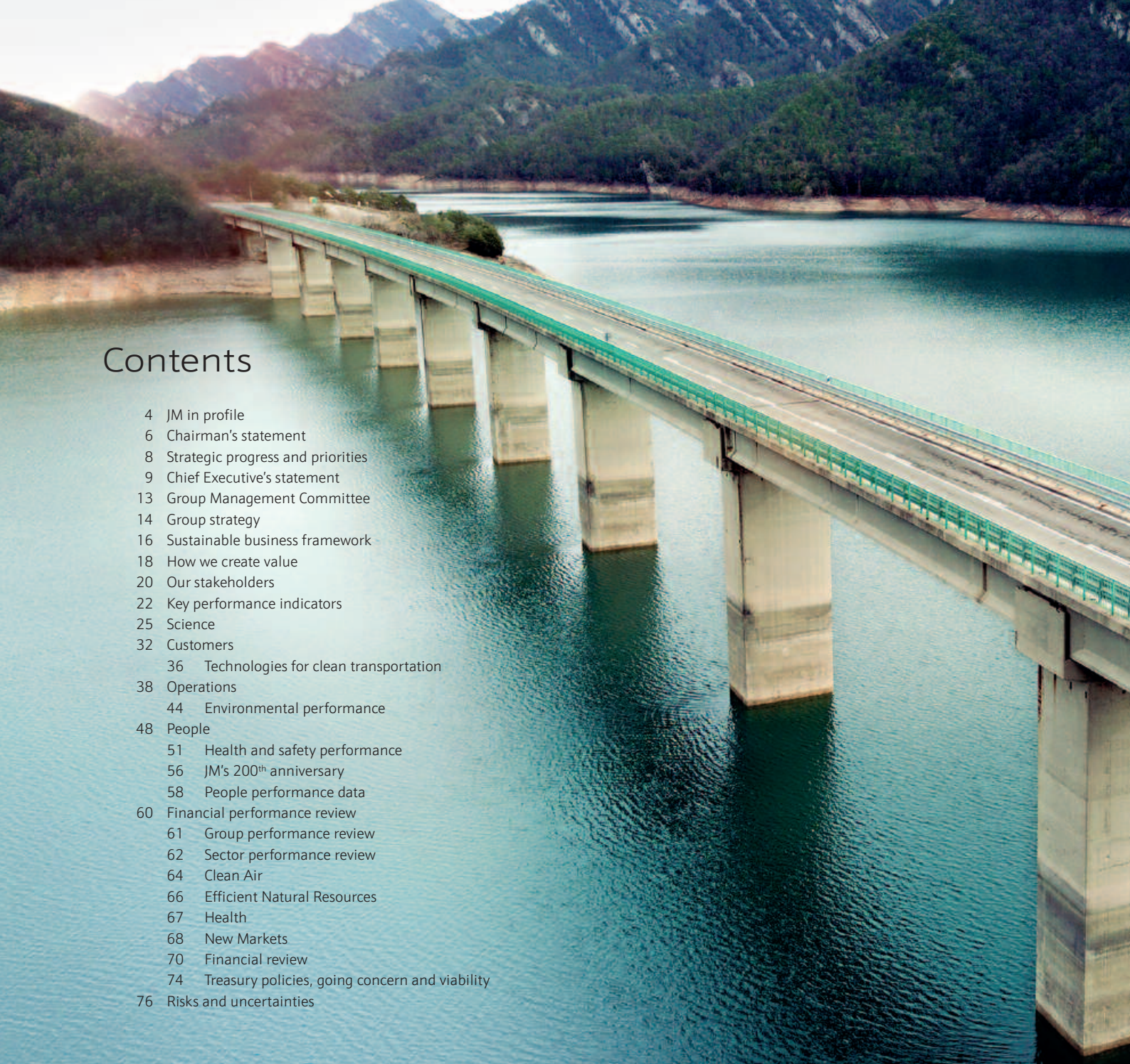
Stay updated

You can find this report and additional information about Johnson Matthey, including the latest news, investor updates and sustainability, on our website:

www.matthey.com

Cautionary statement

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



Contents

4	JM in profile
6	Chairman's statement
8	Strategic progress and priorities
9	Chief Executive's statement
13	Group Management Committee
14	Group strategy
16	Sustainable business framework
18	How we create value
20	Our stakeholders
22	Key performance indicators
25	Science
32	Customers
36	Technologies for clean transportation
38	Operations
44	Environmental performance
48	People
51	Health and safety performance
56	JM's 200 th anniversary
58	People performance data
60	Financial performance review
61	Group performance review
62	Sector performance review
64	Clean Air
66	Efficient Natural Resources
67	Health
68	New Markets
70	Financial review
74	Treasury policies, going concern and viability
76	Risks and uncertainties

Strategic Report



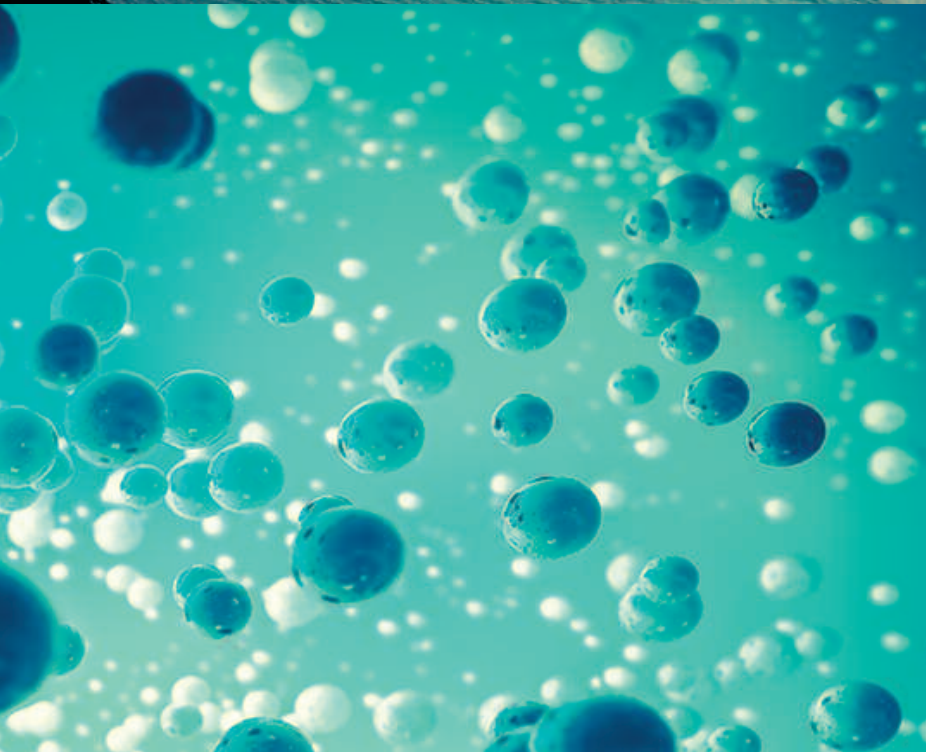
Here we explain
how we use our
inspiring science
to enhance life.

Strategic Report

Governance

Accounts

Other Information



The Strategic Report from page 2 to page 81
was approved by the board on 30th May 2018
and is signed on its behalf by:

A handwritten signature in black ink, reading "R MacLeod".

Robert MacLeod
Chief Executive

JM in profile

Johnson Matthey is a global leader in science that makes the world cleaner and healthier. With over 200 years of sustained innovation and technological breakthroughs, our solutions improve the performance, function and safety of our customers' products.

14,000
people

More than
30
locations

Our science has a global impact in areas such as low emission transport, pharmaceuticals, chemical processing and making the most efficient use of the planet's natural resources.

Our strategy to deliver sustained growth and value creation for shareholders drives attractive returns over the medium term: mid to high single digit compound annual growth in earnings per share, ROIC expanding to 20% and, as a result, a progressive dividend.

Today more than 14,000 Johnson Matthey professionals collaborate with our network of customers and partners to make a real difference to the world around us.

North America

12 major manufacturing facilities
33% of group sales
24% of employees

Europe

14 major manufacturing facilities
39% of group sales
53% of employees

China

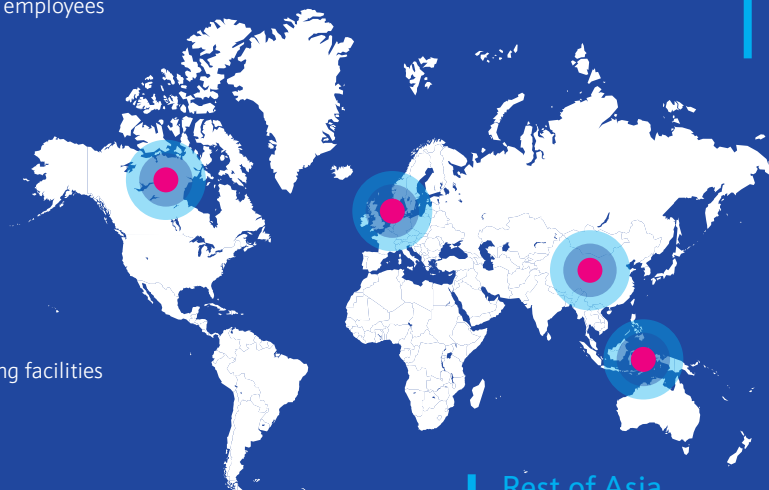
5 major manufacturing facilities
10% of group sales
8% of employees

Rest of World

5 major manufacturing facilities
9% of group sales
5% of employees

Rest of Asia

6 major manufacturing facilities
9% of group sales
10% of employees



Johnson Matthey

Clean Air	Efficient Natural Resources	Health	New Markets	Group Functions
<ul style="list-style-type: none"> A global leader in catalysts and catalyst systems for vehicles and industry Creating value from high technology catalyst formulations and systems to meet legislated limits for emissions around the world 13 manufacturing facilities in 12 countries Nine technical centres in eight countries Strategy to deliver sustained growth 	<ul style="list-style-type: none"> Creating value from efficient use and transformation of critical natural resources including oil, gas, biomass and platinum group metals (pgms) Leading positions across four global businesses: Catalyst Technologies, Pgm Services, Advanced Glass Technologies and Diagnostic Services 18 manufacturing facilities in eight countries Two technical centres in the UK Strategy to deliver market leading growth 	<ul style="list-style-type: none"> Leading provider of complex chemistry solutions to generic and innovator pharmaceutical companies Develops and manufactures active pharmaceutical ingredients (APIs) for a range of treatments Operates in the large and growing outsourced small molecule API market Five manufacturing facilities in two countries Three technical centres in three countries Strategy to deliver break out growth 	<ul style="list-style-type: none"> Accessing new areas of potential growth aligned to global priorities of cleaner air, improved health and more efficient use of natural resources Strategy to deliver break out growth in battery materials, with market leading cathode material technology 	<ul style="list-style-type: none"> Provide common standards to leverage efficiency and create value across the group's sectors Includes global science and technology function which drives innovation and leads R&D in core science and business areas. Supports technology development in sectors

Strategic Report

Governance

Accounts

Other Information

Sales

excluding precious metals

£3.8bn

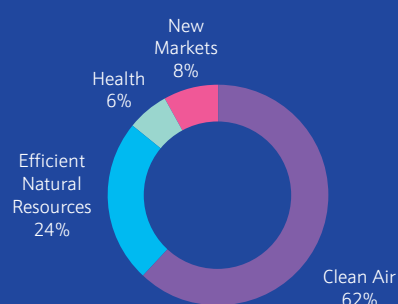
Operating profit

underlying

£525m

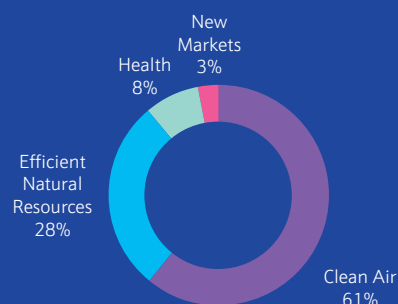
Sales by sector

excluding precious metals



Operating profit excluding corporate

underlying



Chairman's statement

This is my last statement to shareholders after seven years as your Chairman. I must start by saying what a pleasure and privilege it has been to chair the board of a company as special as Johnson Matthey. I leave in the knowledge that with a strong management team, a sound strategy and a very experienced new Chairman to take over running the board, the company is set for further growth and success in the years ahead.

During the last year, Robert and the management team set out a clear strategy for sustained growth and value creation. Together with JM's 14,000 people they have successfully embarked on delivering that strategy, applying world class science to solve complex problems for our customers. As a result, the company has continued to make an important contribution to making the world a cleaner and healthier place, enhancing the lives of millions of people around the world.

With the aim of achieving more effective focus, the group was reorganised in the year into four sectors: Clean Air, Efficient Natural Resources, Health and New Markets, which includes our Battery Materials business.

Air quality has remained an intensifying global issue. Our Clean Air Sector continues to work closely with our customers to enable the current generations of internal combustion engines to respond to changing legislation and consumer demand.

Our strategy is delivering the capacity, technology and efficiency improvements that will enable us to sustain growth in this key group business for at least the next decade.

At the same time, and in response to the concern about air quality, the automotive market has accelerated its long term plans for replacement of the internal combustion engine. JM has put itself at the forefront of this process, developing a leading battery chemicals technology needed to make it happen. A key focus for the board is now ensuring that we manage investment in capacity and commercialisation to ensure we deliver our next generation technology to our customers as the market for battery electric vehicles begins significantly to grow.

Elsewhere, our Efficient Natural Resources and Health Sectors bring diversity and added fire power to the group's portfolio. Both serve growing markets in which they hold technology leadership positions and have made solid progress on deploying our strategy during the year.

Alongside the development and implementation of strategy sector by sector, we have continued the process of making JM a more agile, flexible and efficient company, ready and able to cope with the demands of the growth we expect to deliver.



Tim Stevenson
Chairman

JM has continued to make an important contribution to making the world a cleaner, healthier place

Committed to sustainable business

Ever since our business was founded in 1817, JM has made a significant contribution to sustainability: long before the word 'sustainability' became common in corporate language, it was an intrinsic part of JM's culture.

Our Sustainability 2017 programme came to an end on 31st March 2017 and, as we reported last year, we achieved our specific goals in relation to embedding sustainability into the way we do business. This is now exemplified in our vision and brand, through the focus of our sectors and is explicit in the delivery of our group strategy. I am delighted that we are now able, in this annual report, to share our sustainable business ambitions for the period to 2025. Aligned to our business strategy and framed as a series of six challenging goals, it will drive us towards sustainability leadership across our whole value chain.

Great people and the right culture

Since I joined the business seven years ago I have always been struck by the pride and commitment that our people bring to their work; they are proud of the positive impact the company has on the world and are deeply committed to making sure JM continues to be successful. In this context, the board has had particular focus on a number of key areas over the course of the last year. First, on a redoubling of our effort to drive the right health and safety behaviours; our performance this year was unchanged and so there is more work for us to do in this area. Second, on training and development of our people and effective succession planning. Third, on the reinforcement of a healthy and positive culture across the business, with particular focus on the board's key theme of 'doing the right thing'. In the latter, we have expanded and further embedded our ethics and compliance programme to ensure we are a responsible partner for our customers and that we stand up well to the increasing external scrutiny on corporations. Our board and senior team are clear about the role they play in all this; we are setting the right tone from the top to create a culture that drives success on all fronts.

An effective board

We operate in an increasingly complex world of operational, commercial, geopolitical, environmental and financial opportunities and risks. A key job for the board is to ensure that the executive is enabled to manage the group's businesses effectively through the challenge that this difficult mix can create. With an appropriate balance of skills, diversity and experience, the board has become increasingly effective in carrying out this role. We make sure our Non-Executive Directors have a thorough understanding of JM's strategic priorities, in particular through focused teach-ins on specific areas of our business and markets.

A very positive external review, this year, of the work of the board underlined the board's open and collegiate way of working.

In November 2017, after five years on our board, Colin Matthews stepped down as a Non-Executive Director and Chairman of our Remuneration Committee. Colin contributed significantly during his time on the board; his wise counsel will be missed. Following his retirement, the board appointed Chris Mottershead as Chairman of the Remuneration Committee.

In November we were delighted to welcome John O'Higgins as a Non-Executive Director. He brings a combination of strong business credentials and deep industrial experience.

A new Chairman

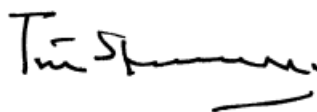
In July 2018, at the close of this year's annual general meeting, I will step down after seven years as your Chairman and hand over to Patrick Thomas. Patrick joins the board as Non-Executive Director and Chairman Designate on 1st June 2018. I am delighted that my colleagues have chosen him to succeed me. He has substantial experience in leading international speciality chemicals businesses and an impressive track record of driving growth through science and innovation across global markets. His extensive board experience and recent executive leadership of major global organisations means he will be a great asset to JM. I wish him every success in his role.

Shareholder returns

Underlying earnings per share were flat this year as translational foreign exchange benefits were offset by higher net finance charges and a higher underlying tax rate. Nevertheless, confident in our prospects, the board is recommending a 7% increase in the final dividend.

JM is well set for the future

Johnson Matthey is a great business with a proud history. Our 200th anniversary in 2017 was a remarkable achievement. World class science and a sure ability to spot opportunities have been at the base of the company's consistent delivery and success. I am confident that can continue long into the future.



Tim Stevenson
Chairman

Strategic Report

Delivering our strategy – progress and priorities

Strategy	Strategic outcome	Progress in 2017/18	Priorities for 2018/19
Sustained growth in Clean Air	Market share gains. Expanded, enhanced capacity to meet growing demand.	<ul style="list-style-type: none"> On track to move to circa 65% share of Light Duty diesel in Europe. Increased efficiency of manufacturing footprint and processes. Secured majority of expected platform wins in China and approved new plant to meet demand. 	<ul style="list-style-type: none"> Continue to enhance efficiency through procurement and automation in order to deliver broadly stable operating margin in 2018/19. Continued capital investment to deliver against customer needs. Secure new business wins in Light Duty Europe and in China.
Market leading growth in Efficient Natural Resources	Growth ahead of market and enhanced margin.	<ul style="list-style-type: none"> Managed the business more efficiently through: <ul style="list-style-type: none"> Simplifying product and customer portfolio. Improved working capital management. In addition, delivered cost savings from restructuring programme. 	<ul style="list-style-type: none"> Continue to grow sales ahead of market. Leverage efficiency actions to deliver enhanced margin (before restructuring benefits).
Break out growth in Health	Be development partner of choice for innovator and generic companies and deliver £100 million additional operating profit by 2025.	<ul style="list-style-type: none"> Jason Apter appointed Sector Chief Executive in March 2018. R&D investment in new generic API product pipeline on track. Optimising manufacturing footprint. 	<ul style="list-style-type: none"> Deliver value from manufacturing footprint optimisation. Continue to mature our generics pipeline.
Break out growth in New Markets from battery materials	Focus on next generation high energy density market. Deliver leading product to gain share of next generation high energy density battery electric vehicle market.	<ul style="list-style-type: none"> Stepped up R&D investment to continue eLNO™'s technology leadership. Further testing of eLNO by customers with continued positive feedback. Building out infrastructure: <ul style="list-style-type: none"> Approved plans to build demonstration scale plant in the UK and first customer application centre. Design underway of first commercial plant, located in Europe and due to start production in 2021/22. 	<ul style="list-style-type: none"> Progress technology development and infrastructure build out in order to commence sales of product for 'A cycle' testing with customers.
Relentless focus on operational efficiency	Deliver £60 million savings through procurement.	<ul style="list-style-type: none"> £12 million of cost savings from our restructuring programme in 2017/18. Continued focus on efficiency through: <ul style="list-style-type: none"> Accelerated roll out of global procurement function. Continued investment in core IT systems upgrade. Improved average non-precious metal working capital days to 62 days (2016/17: 69 days). 	<ul style="list-style-type: none"> Deliver additional £13 million restructuring savings to benefit 2018/19. Deliver savings from procurement. Roll out first and second waves of IT core systems.
Science and technology	Sustain market leading positions.	Increased visibility across our R&D portfolio and polarised investment process. Developed eLNO market leading battery material product.	Further targeting of investments to high growth opportunities. Continued development of eLNO.
Sustainable business	Sustainability leadership.	Developed and launched new sustainable business framework and six goals to 2025.	Make progress towards achieving sustainable business goals throughout our businesses globally (see pages 16 and 17).
Investing in our people and creating the right culture	Peer group leading health and safety performance. Engaged and enabled workforce.	Continued emphasis on behavioural health and safety programmes although health and safety performance was flat. Engaged employees in strategy and priorities. Refreshed values.	Shape culture through: <ul style="list-style-type: none"> Continued emphasis on health and safety, including process safety, to drive improved performance. Engaging our people. Roll out new values and behaviours and carry out second global opinion survey.

Chief Executive's statement

Q&A with
Robert MacLeod

JM refreshed its strategy over the last 12 months. What has stayed the same and what has changed?

The core of our strategy is largely unchanged: applying our science to solve our customers' complex and challenging problems. In refreshing it, we have sharpened its focus and set out clear plans that will deliver sustained growth and value creation for shareholders.

Our strategy stems from our vision for a cleaner, healthier world. So, we are investing in areas where our inspiring science enhances life: through cleaner air, improving people's health and by conserving our planet's critical natural resources. These are areas that will help us continue to build a sustainable business and accelerate our growth.

Today our science is world class and we will continue to invest in our science and technology to ensure that we maintain and enhance our world class capabilities. By applying it to the complex problems faced by our customers, we sustain leading positions in markets that are growing, driven by technology and therefore attract high margins. This is the source of the attractive return profile we generate in our business.

In refreshing our strategy, we have identified the areas where our technology will drive growth. Linked to this, we have also dialled up our efforts to operate more effectively across the group. These programmes will help us realise benefits across the whole group, enabling us to run the business more effectively and making us more agile and responsive to our customers.

The enthusiasm and contribution of JM's people are central across all aspects of our strategy, so no change there. But we are placing much more emphasis on helping them connect their contribution to our goals, on developing their capabilities and on developing the right culture; one that encourages us all to work together safely, sustainably, ethically and with respect for each other.



Robert MacLeod
Chief Executive

Strategic Report

Would you say you've delivered operational performance in 2017/18 in line with your plans for the group?

Yes, we absolutely have. It has been a good year where we have achieved our short term objectives and have made significant progress in building the platform that enables us to execute our strategy through 2018/19 and beyond.

We started the year by reorganising into four new sectors: Clean Air, Efficient Natural Resources, Health and New Markets. These are aligned to the global challenges we tackle. Having developed the long term strategies for each of our sectors, we have moved swiftly into execution mode and are making good early progress.

We also have made significant strides forward on our groupwide enablers. We have accelerated the roll out of a global procurement function which is well on track to deliver around £60 million of savings over the next three years. We have initiated our Commercial Excellence programme and progressed our upgrade of IT systems. In addition, we have realised cost savings from our group restructuring programme.

Numbers wise, we have delivered sales and underlying operating profit in line with our expectations at the start of the year, and I am especially pleased with our disciplined management of working capital. Together, this demonstrates the sound running and management of the business.

If I look across our four sectors, once again Clean Air had a strong year. We improved the quality of our Efficient Natural Resources business and in Health we are better positioned as we optimise our manufacturing footprint and continue to progress our substantial active pharmaceutical ingredient (API) pipeline. The further development of our next generation battery material was a highlight this year and I am really excited about the speed of progress we are making and the plans we have to commercialise this product.

Building on your last point, one can't escape headlines about air quality, vehicle emissions and how electric cars are the future. This clearly has implications for Johnson Matthey so can you explain your strategic priorities in this context?

When it comes to air quality, JM is part of the solution. We are working with our customers to meet the ever tighter emissions legislation as legislators push to improve air quality in cities. In Europe, we have developed products that enable emissions from diesel cars to be the same as those from petrol cars and, of course, that are lower than ever before.

We have been working alongside customers in the automotive supply chain for almost 50 years and are a trusted partner on technology. So as their markets and products are changing, we are expanding our portfolio with technologies to reduce and eliminate emissions that span the full range of powertrain options.

In our Clean Air Sector, our technology leadership, investments and focus on efficiency mean we have secured significant market share gains in Europe. These will deliver growth in the short to medium term, even as consumers' preferences move away from diesel powered cars. At the same time, we are actioning our strategic plans that will drive strong growth in the medium to longer term in Asia when the tighter emissions legislation comes into force in India and China.

Our progress in developing our Battery Materials business this year has been tremendous. This is JM science at its best. We have harnessed the full JM science and technology arsenal and our expert people across the whole company. In doing so, we have moved rapidly this year to become a technology leader. Our class leading material, which we call eLNO™, is delighting our customers in qualification tests and we announced our plans to significantly ramp up our investment to commercialise our eLNO technology. eLNO is not a product for today's market which focuses on hybrid vehicles; it is designed to enable large scale adoption of pure battery electric vehicles with greater range and lifetime. Our strategic plans are timed to deliver the very best performing technology to our customers as the market moves into high growth.

Clear strategy and plans for growth; delivery underway and on track

What investments are required in these areas, and across JM as a whole, to support your future growth?

Investment in our science and technology across all of JM, of course. I can't emphasise enough how good we are at translating our world class science expertise into solutions across the group and through our sectors. It is how we differentiate ourselves in our markets, and our refreshed strategy is providing us with increased focus and discipline in investing our R&D spend into areas of higher potential future growth. One such area is in our Health Sector where we are investing in our pipeline of new generic API products.

In addition to investments in battery materials manufacturing, we are making important investments in Efficient Natural Resources' facilities and have major capacity expansions in Poland and China for Clean Air.

We also continue to invest in strengthening the core of JM to simplify the way we do things, bring consistency to common processes and generate savings which we can reinvest in the business.

Our investments will enable us to capture growth in our markets and ensure we run our business as safely and effectively as possible. And underpinning all this is the investment we are making in our people.

Can you tell us more about your people and the JM culture?

Great people are the force behind JM and so it is really important we get this right. Our employee survey, which we ran in November 2016, gave us a valuable steer on how well we are doing and over the last year we have done a lot of work in response to what we heard from our people. There were a lot of positives, but they also said they wanted to be clearer about our strategy so we are spending time not only to help them understand it, but to provide a clear line of sight between our strategy and their individual goals, helping them connect their contribution directly to JM's achievements and vision. At the same time, we are creating a more consistent approach across all areas relating to talent. There is more for us to do, but we are well on our way.

Beyond putting the right processes in place, we are doing a lot to make sure we have the right culture. Alongside our strategy refresh we have also refreshed our company values. That's not a decision we took lightly. But in doing so we now have a stronger set of values, and the behaviours that put them into action, that are true to our vision, will guide us to act ethically and support us in delivering our strategy.

Our culture and values must also drive the right behaviours when it comes to health and safety; it is a major priority for us and our performance this year was unchanged. I am determined that we must do better.

Now that your Sustainability 2017 programme has come to a close, have you put anything else in its place?

Yes, we have. We have much to contribute to a more sustainable future.

Sustainability 2017 engaged our people and transformed our sustainability performance. It laid the foundations for our new brand and our vision; our refreshed business strategy has stemmed from these.

And now we have put in place our new sustainable business framework which, through its six challenging goals, continues our sustainability commitment but is more outward looking – towards our customers, communities and supply chains. It drives sustainable business practices for internal and external stakeholders, throughout JM's value chain. It also includes an important ambition: to make JM a truly diverse and inclusive organisation.

JM celebrated its 200th anniversary in 2017. With the celebrations now drawn to a close, what would you call out as the highlights?

Reaching 200 is a rare achievement for a company and we were determined to recognise and engage our people and look to the future. In May 2017 we launched our new brand – inspiring science, enhancing life – which encapsulates what we do best and the positive impact we have on the world. It is already helping us build a stronger presence in our markets, connect with our customers and attract and retain great people.

Then on 19th July, the 200th day of our 200th year, everyone in JM around the world joined together for our global celebration during which we 'followed the sun', from Melbourne, Australia to San Diego, USA, with a broadcast live to staff for 24 hours. It was a really amazing day.

We closed events with our JM200 Awards which recognised the incredible work and contribution of our people. We announced our winners at a ceremony held at the Royal Institution in London, which made for a memorable and fitting end to our anniversary year.

Strategic Report

Finally, your thoughts on 2018/19 and beyond?

In July, at our AGM we will say goodbye to Tim Stevenson, our Chairman of seven years. It has been a huge privilege and pleasure for me to work with Tim during that time, including over the last four years in my role as Chief Executive. I'd like to offer him my personal thanks, and extend those of everyone associated with JM, for all that he has done for the company. We will miss him and wish him the all very best for the future.

We welcome Patrick Thomas as our new Chairman who brings a wealth of experience which I know will be extremely valuable to JM at this stage in its development. I am really looking forward to working with Patrick to take the business forward.

Our key priorities for 2018/19 are to deliver in line with our strategic plans for each of our sectors, continue to develop our technology and meet the milestones for our groupwide enabler programmes, as outlined on page 8. And we must focus our people: embedding our values to create a safer and ethical culture, acting on what they have said through our survey and ensuring everyone understands how they contribute to Johnson Matthey's success.

So, 2018/19 should see us continue to build our stronger business platform for the future. JM is a great company with strong opportunities for growth and a strategy that I am confident we will deliver. In doing so we will achieve our potential as a business, make our mark and leave the world a cleaner, healthier place.

Outlook for the year ending 31st March 2019

We expect growth in operating performance at constant rates to be in line with our medium term guidance of mid to high single digit growth.

We expect the second half performance to be stronger mainly reflecting our normal seasonality.

At current foreign exchange rates, (£:\$ 1.354, £:€ 1.143, £:RMB 8.62), translational foreign exchange movements for the year ending 31st March 2019 are expected to adversely impact sales and underlying operating profit by £41 million and £6 million respectively.



Pages 65 to 69 for the outlook for our four sectors

Robert MacLeod
Chief Executive



Group Management Committee (GMC)

From left to right

Matthew Harwood, Chief Strategy and Corporate Development Officer

Joined the GMC: August 2017

Matthew joined JM in August 2017. Prior to JM he was at Petrofac. Matthew leads the group's strategic planning and corporate development activities and works with the Sector Chief Executives to develop the strategy for our sectors.

Alan Nelson, Chief Technology Officer and Sector Chief Executive, New Markets

Joined the GMC: June 2015

Alan joined JM in June 2015 as Chief Technology Officer and now also leads our Battery Materials business and the rest of our New Markets Sector. Previously with The Dow Chemical Company, he leads our innovation portfolio, directs global research efforts and leads the implementation of business plans into new markets. He is also responsible for our sustainable business framework.

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.

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 chairs the Brexit working group.

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.

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 our efforts to drive excellence and efficiency across JM's business.

Jason Apter, Sector Chief Executive, Health

Joined the GMC: March 2018

Jason joined JM in March of this year to lead the Health Sector. Bringing experience from the healthcare and life science industry from MilliporeSigma, Jason leads the strategy to deliver complex chemistry solutions for our customers.

Simon Farrant, General Counsel and Company Secretary

Joined the GMC: July 2007

Simon joined JM in 1994 as Senior Legal Adviser and became Company Secretary in 2001. Simon heads up our company secretarial and legal activities, including on ethics and compliance. He also acts as secretary to the board and its committees.

John Walker, Sector Chief Executive, Clean Air

Joined the GMC and board: October 2013

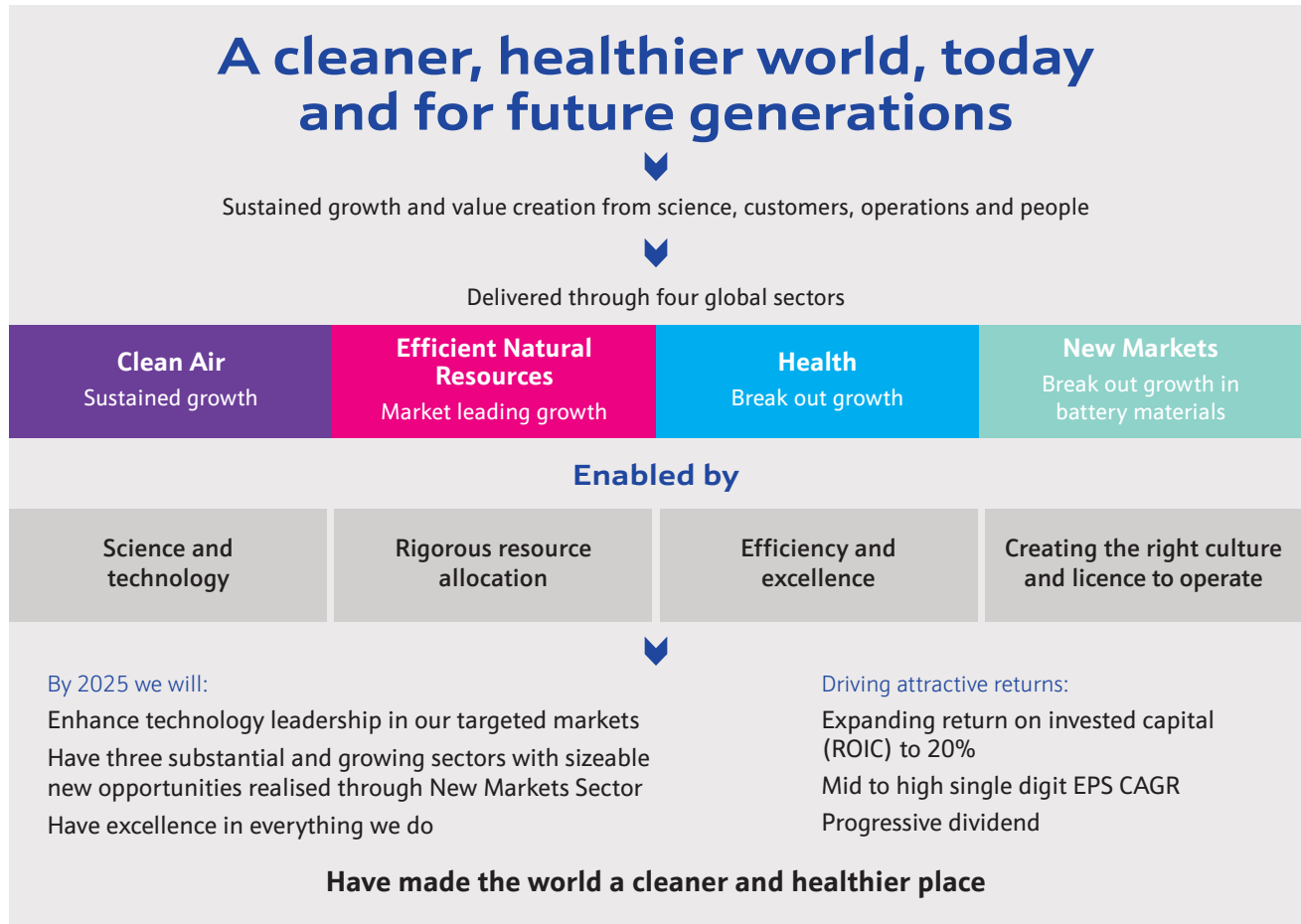
John joined JM in 1984 and has led our Clean Air Sector since 2009 after heading up its Asian business for many years. John also has board level responsibility for environment, health and safety.



Strategic Report

Our strategy for sustained growth and value creation

JM's competitive advantage is our world class science and technology. We use it to create long term value for our shareholders and a cleaner, healthier planet for everyone.



Groupwide enablers

Support strategic delivery and generate savings to reinvest and drive growth in the business

Science and technology	Investment in world class science that delivers market leading positions
Rigorous resource allocation	Targeting the highest growth opportunities that deliver the most attractive returns in areas where our inspiring science enhances life
Efficiency and excellence	Common standards and processes, enabled by IT Developing future talent Improving working capital management Savings from procurement Optimising JM's value share from commercial relationships
Creating the right culture and licence to operate	Delivering our brand promise No compromise on health and safety 'Doing the right thing' without question Engaged and enabled people, ready to play their part

Clean Air

Sustained growth from:

- Market share gains (already secured) in Europe
- Tighter legislation in Europe requiring higher value products
- Tighter legislation in Asia (China and India)
- Consistent growth in light duty catalyst market in North America
- Operational efficiency activities that support margin and ROIC

Efficient Natural Resources

Market leading growth from:

- Focused investment in R&D to maintain and extend technology leadership
- Outperforming in selected, high growth segments
- Increased efficiency to enhance performance
- Extending capabilities into adjacent markets, geographies and technologies

Health

Break out growth from:

- Enhancing our position as a technology partner of choice with innovator customers
- Driving value from existing generics business
- Commercialising our pipeline of new generic products

New Markets

Break out growth in battery materials from:

- Commercialising our leading eLNO high energy cathode material
- Scale up through demo, pilot and full production scale; investment of more than £200 million from mid 2018
- Continued investment in next generation, best in class high energy battery materials
- Continuing to position other new businesses for growth

Our strategy directs investment choices across the group so that our people can translate our world class science and technology as efficiently as possible to solve our customers' complex problems and tackle major global challenges: the need for clean air, improved healthcare and the most efficient use of our planet's natural resources.

Our strategy will deliver sustained growth and value creation through:

- Investment in science and technology which accelerates growth and creates leadership
- Serving customers in growing, high margin, technology driven markets, aligned to global challenges and delivered through our four sectors
- Operating with a relentless focus on efficiency and excellence; maximising synergies and driving standard processes and ways of working where it makes sense to do so
- Attracting and retaining the best people into a culture that is true to our vision and that breeds success

View the presentation and transcript from
our Capital Markets Day in September 2017



A new sustainable business framework to support value creation

With our science, understanding and vision, we believe we have much to contribute to a more sustainable future.

In March 2017 we came to the end of our Sustainability 2017 programme. In realising our Sustainability 2017 Vision, we engaged our people, made Johnson Matthey a safer place to work and built our reputation as a world leading manufacturer of sustainable technologies. Over ten years we transformed our business and our sustainability performance, halving our operational carbon footprint and our use of energy and water per unit of sales.

Sustainability 2017 laid the foundations for our new brand: inspiring science, enhancing life; and our vision for a cleaner, healthier world. Our refreshed business strategy has stemmed from these.

All of this provided a powerful impetus for rethinking our business and how we wanted to further embed and integrate sustainability. It was time to move forward and increase our ambition for building a sustainable business.

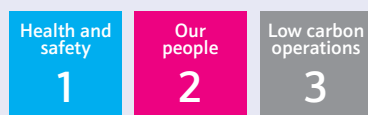
Several inputs steered our new sustainable business framework

In developing the next phase of our sustainable business framework, we recognised that the world had moved on. External stakeholder expectations had increased, and customers and investors now are looking increasingly for evidence of sustainable practices. Regulation has also increased in our field. And in the bottom line savings of £142 million that we achieved during Sustainability 2017, we knew that a new framework would once again provide business benefits.

We also considered the UN Sustainable Development Goals (UN SDGs) and identified six of the UN SDGs where we can make the biggest positive impact. The six are:



Our sustainable business goals – what have we continued and what's new?



Goal 1: For health and safety, aspire to zero harm.

This goal continues our Sustainability 2017 target. It is the same goal with the same ambitious KPIs and target. We measure our lost time injury and illness rate (LTIIR) and total recordable injury and illness rate (TRIIR).

Goal 2: Ensure JM is a truly inclusive organisation that fosters employee engagement and development within a diverse and global workforce.

This is a new goal which acknowledges the crucial role our people play in delivering our vision and strategy.

Goal 3: Reduce our greenhouse gas (GHG) emissions per unit of production output by 25%.

This goal continues our commitment to reducing the environmental impact we have through GHG emissions from our operations. Whilst similar to our 2017 target (where we measured GHG emissions relative to sales), in our goal to 2025 we are measuring relative to production output to drive operational improvements further and reduce the impact of our business on climate change.

Our framework and our six new sustainable business goals

The outcome is a new sustainable business framework aligned to our brand, vision and strategy. It continues our sustainability commitment but is more outward looking – towards our customers, communities and supply chains. It drives sustainable business practices for internal and external stakeholders, throughout JM's value chain.

The framework comprises six new goals:

	Sustainable business goal	Sustainable business KPIs	Baseline	2016/17	2017/18	2025 target
Health and safety 1	For health and safety, aspire to zero harm	Annual TRIIR	TRIIR in 2016/17	1.00	0.93	0.6
		Annual LTIIR	LTIIR in 2016/17	0.48	0.48	0.2
		Annual OSHA severity rate	Rate in 2016/17	11.2	12.2	6.0
Our people 2	Ensure JM is truly inclusive, fostering employee engagement and development within a diverse global workforce	Employee engagement index score (%)	2016/17	61%	–	73%
		Employee enablement index score (%)	2016/17	62%	–	72%
		Diversity and inclusion plan implementation (%)	2016/17	0%	13%	100%
Low carbon operations 3	Reduce our greenhouse gas (GHG) emissions per unit of production output by 25%	Annual GHG emissions (Scope 1+2) / tonnes manufactured product sold	CO ₂ eq emissions intensity for 2016/17	3.8	3.4	2.8
Responsible sourcing 4	Improve sustainable business practices in our supply chains	Tier 1 strategic suppliers assessed and compliant with Supplier Code of Conduct	% of Tier 1 strategic suppliers assessed in 2017/18	Not measured	11%	100%
			% of these compliant with the code	Not measured	73%	100%
Sustainable products 5	Double the positive impact that JM's products make to a cleaner, healthier world	Annual sales giving contribution to UN SDGs	2017/18 sales data against UN SDG indicators (% of group sales)	Not measured	85.8%	>90%
		Annual aggregation of product sustainability benefits in key areas	Tonnes of pollutants removed	Not measured	3.31m	6.62m
			Number of lives positively impacted	Not measured	138,000	920,000
			Tonnes of GHGs removed (CO ₂ eq)	Not measured	10.6m	21.2m
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	Not measured	678	50,000



Goal 4: Improve sustainable business practices in our supply chains and, through collaboration, ensure full compliance with our minimum standards from strategic suppliers.

Goal 4 is new. Through our Supplier Code of Conduct (in place since 2017) and other responsible sourcing policies, goal 4 will bring about a new standard of transparency and vigilance.

Goal 5: Double the positive impact that JM's products, services and technologies make to a cleaner, healthier world.

Goal 5 is also new. Here we aim to double the impact that our products, services and technologies can make on a cleaner, healthier world.

It drives us towards our JM vision.

Supported by our new sustainable business framework of six goals, we believe we can achieve our vision through our inspiring science; our collaboration with customers; our operations and their commitment to sustainable practices; and our great people.

Goal 6: Increase the use of volunteer hours to support our community and charity partners through the JM employee volunteering programme.

Goal 6 is new and continues our community involvement with a formal target. Through this target we aim to support our communities and also provide personal development opportunities for our people.

Strategic Report

How we create value

What we use

Knowhow and intellectual capital

JM's competitive advantage is its science and technology.
We use our industry leading capabilities across our sectors.
We own patents covering our science, technology and processes.

Financial

We invest for growth using equity from our shareholders, raised debt 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

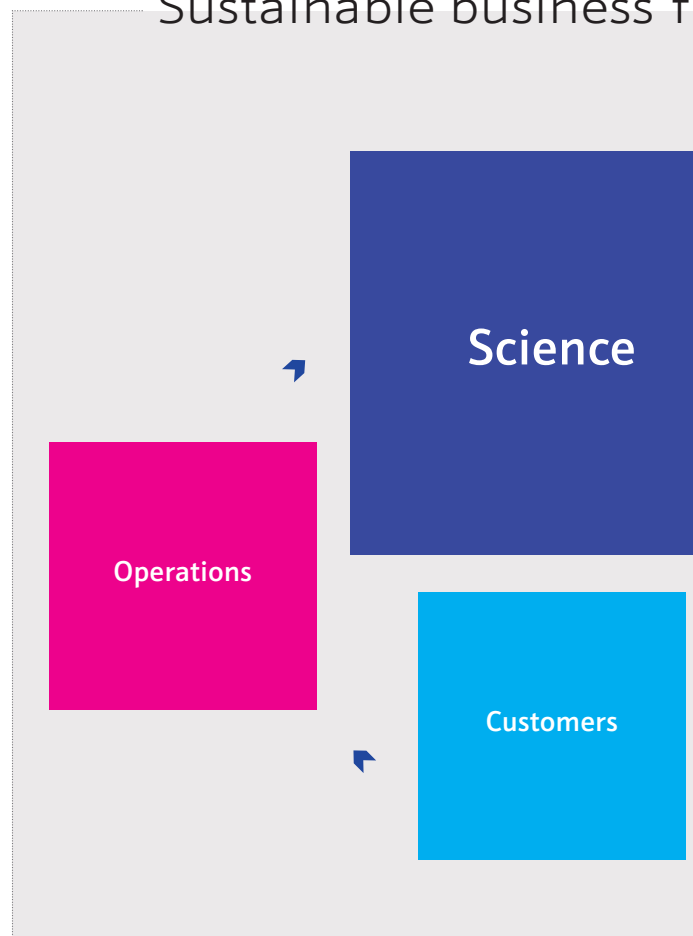
We have a global network of manufacturing plants, application centres and laboratories.

People

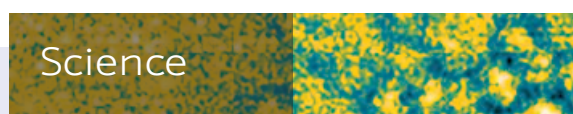
Our 14,000 people bring the talent, expertise and innovative thinking needed to drive growth and efficiency in JM.

We create sustained value and growth through the effective use of our resources and our relationships. We act in line with our core values which, together with our sustainable business goals, drive us towards our vision for a cleaner, healthier world.

Sustainable business f



How we use it



Science

Our science has been established over many years. We invest in it and in our scientific talent. Our skill and knowledge is acknowledged across the scientific community and amongst customers.

We have a set of nine core science capabilities (see page 26) which we use across JM. They provide us with fundamental insights about materials, their design and then the control of their activity through chemical and functional manipulation.

Our competitive advantage is in combining knowledge of the fundamental science with commercial and scalable solutions, potentially customised for each and every customer.

This combination enables us to outperform in our target markets, and creates high barriers to entry.

Our customers choose us because of our technology.

➤ Pages 25 to 31



Customers

Our science directs where we play. We apply it in technology driven markets and generate high margins from it. This drives high returns.

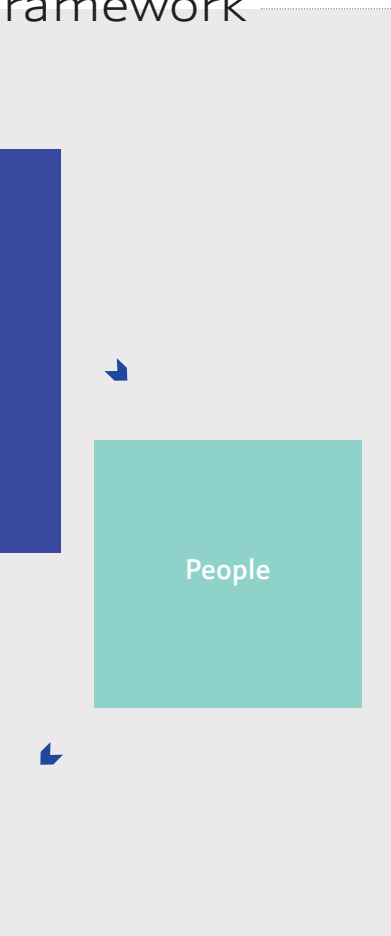
Our customers are mostly other industrial companies, operating in the transport, energy, chemicals and healthcare segments.

We work closely with them to develop solutions which enable them to bring their products to market faster, improve the performance of their products and reduce their environmental impact.

We provide them with functional components that help them create more sustainable products and solutions. We also provide specialist services such as the refining and recycling of pgms and process technology used to design chemical plants.

Collaboration and strong relationships with our customers are crucial in providing a high quality tailored service. Together, we put our inspiring science to work to enhance life.

➤ Pages 32 to 37



The value we create

How we measure value

Outcomes	Key performance indicators Pages 22 to 24
For society Cleaner, healthier world	Operational carbon footprint Positive impact of JM's products
For shareholders and other stakeholders Attractive returns Taxes paid to authorities	Sales growth Underlying operating profit margin growth Underlying earnings per share ROIC Average working capital (excluding precious metals)
For our people Strong culture Employment and opportunities	Health and safety Employee engagement
For our company Cash to reinvest in our science, infrastructure and people	Technology leadership through R&D investment



Operations

We continue to improve our global standards and systems to enable us to operate every aspect of our business efficiently: from strategy to supply chain, from innovation to IT.

Our global manufacturing operations create highly specified physical products for our customers.

We manufacture efficiently and responsibly to drive economic and environmental performance and have programmes in place to optimise our manufacturing assets.

We invest in our manufacturing capacity to meet customers' future demand and have the ability to flex our cost base if our markets slow.

We demand high returns from our investments, with a target of at least 20%, which drives continued improvement in operational efficiency.

Pages 38 to 47



People

Everyone in JM plays their part in taking ideas from the lab to full scale commercial success.

We hire the best people with the right skills and support them in an innovative culture that encourages them to develop and grow.

We are driven by values which means we always keep each other safe, work with clear intentions and respect, and do the right thing for our people and our planet.

They are supporting us as we are evolving to take decisions more quickly, to be more open-minded to new possibilities, to share more and stay confident through times of uncertainty.

Our values provide the strong foundation from which we are creating a cleaner, healthier world.

Our people are motivated by working for a company that is 'making a difference' and this is an important differentiator in attracting and retaining the very best.

Pages 48 to 59

Strategic Report

Shaping our strategy with our stakeholders

Our vision is for a world that's cleaner and healthier, today and for future generations and our strategy is designed to achieve it. Our stakeholders are crucial to our long term success. Their views inform and help shape our strategy. We work together with them as we execute it; they input into it and benefit from the value it creates.

 Pages 18 and 19: How we create value

We always seek to engage with and listen to our stakeholders to understand their views. We tailor this in different ways for our different stakeholders so that it encourages them to share with us what they expect or need from us, or tell us about any concerns.

Customers

By working closely with our customers, we aim to provide them with the best solutions and excellent service.

Investors

JM is listed on the London Stock Exchange and is a constituent of the FTSE 100. We provide investors with fair, balanced and understandable information about the company, its performance and prospects. We encourage two way conversation and regularly seek their feedback.

Governments and trade associations

We inform and contribute to debate, mostly in areas where our science and technology expertise can have a positive impact. We see our role as being a technical expert.

Why we engage

Understanding customers' complex problems helps us research, develop and apply our science to give them the best solution to their challenges.

By providing open and transparent information and engaging in two way dialogue, investors are able to make informed investment decisions.

Policy and regulatory changes affect many aspects of our business. They create a framework in which we must operate and their impact on our customers can provide opportunities for growth.

Our impact

We provide class leading scientific solutions that contribute to a cleaner, healthier world.

Feedback from investors forms part of the board's strategic discussions.

By sharing information about what is technically possible, we have provided useful insight for policymakers in areas such as vehicle emissions legislation.


 Pages 32 to 37

 Page 23

3 **5**

 Page 55

 Pages 97 and 98

 Pages 22 to 24

 Page 55

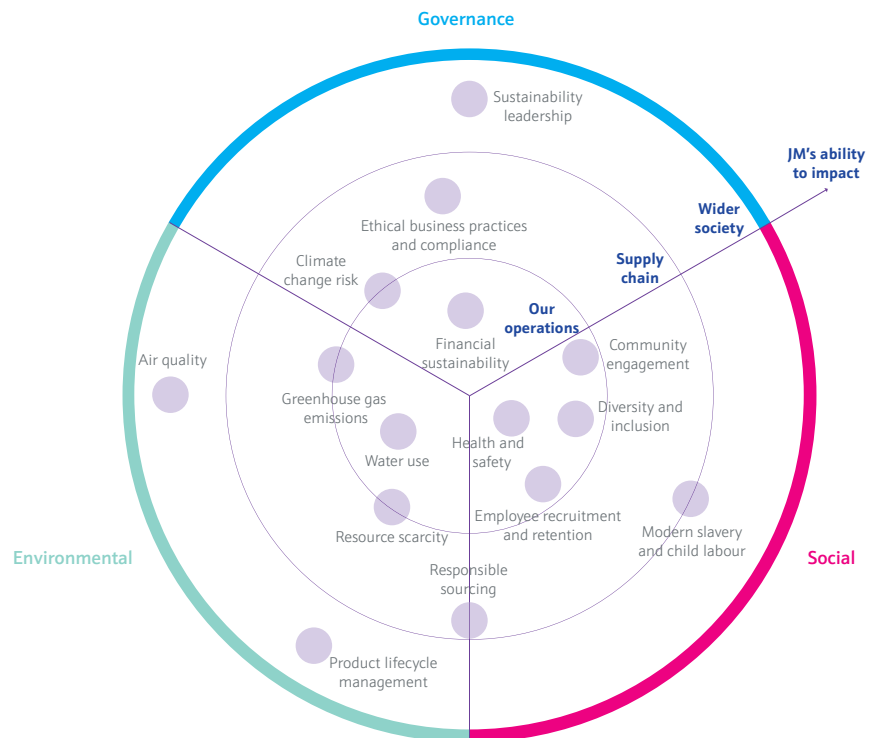
What matters most

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. From it we define our material areas. We review them every year, either by engaging with our stakeholders through an external consultancy or by conducting our own internal review. In 2017/18 we carried out an internal review which considered feedback from stakeholders gained through our interactions with them during the year.

➤ Pages 204 and 205: GRI Standard Content Index

Materiality map

The map below highlights the areas of focus for JM which we have identified as key to our business and most important to our stakeholders.



Suppliers and other partners

We work closely with our core suppliers. We also participate in collaborative scientific programmes with other companies and academic experts.

Dialogue with suppliers is essential to mitigate risks in the value chain and ensure a responsible approach. Collaborative relationships with other science experts in industry and academia furthers our technical expertise.

Our Supplier Code of Conduct aims to ensure responsible behaviours in our value chains. Our scientific collaborations create mutually beneficial outcomes for JM and our partners.

➤ Pages 28 and 29

➤ Pages 40 to 42

4

Our people

Our people drive our business. We want them to be engaged with our vision and to feel confident that they are coming to work in a safe, ethical and inclusive environment.

High levels of engagement and enablement in a safe, sustainable and supportive culture contributes directly to JM's success.

Our employee engagement survey helps us to focus on the areas that matter most to our people.

➤ Pages 48 to 59

➤ Page 24

1

2

Communities

Our operations are part of local communities around the world. We strive to be a good citizen and provide high quality employment opportunities.

We engage with communities to understand how we can make a positive impact, in line with our vision for a cleaner, healthier world.

Our community investments around the world support local projects through provision of cash and through volunteering.

➤ Pages 54 and 55

6

Strategic Report

How we measure performance

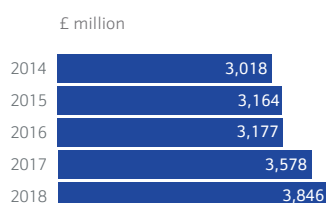
We have ten key performance indicators (KPIs) which we use to measure our financial and non-financial performance.

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.



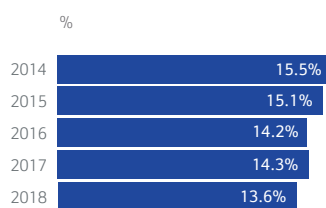
Performance in 2017/18

In 2017/18, sales grew by 8% to £3,846 million including a translational foreign exchange benefit of £33 million. Excluding this, sales grew by 7% (2016/17: 3%), with good growth in Clean Air, Efficient Natural Resources and Health partially offset by lower sales in New Markets.

➤ Pages 60 to 73

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 add products for our customers, and as we introduce new products through innovation to serve our customers' changing needs.



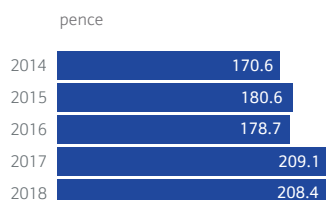
In 2017/18, underlying operating margin declined to 13.6% (2016/17: 14.3%). This was due in part to lower margin in Efficient Natural Resources, impacted by reduced licensing income year on year and where we invested in the business to improve its effectiveness and efficiency. Margin also declined in Health as we took actions, with associated costs, to optimise our manufacturing footprint.

➤ Pages 60 to 73

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:

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

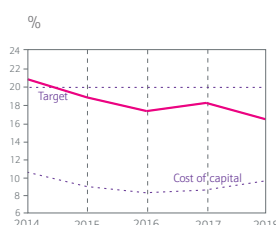


This year, underlying earnings per share decreased to 208.4 pence due to underlying operating profit growth of 2% offset by higher net finance charges and a higher underlying tax rate. A reconciliation from underlying profit for the year to profit for the year attributable to equity shareholders is given in note 4 on page 153.

➤ Page 153

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 capital employed, defined as equity plus net debt. ROIC for individual sectors is calculated using average monthly segmental net assets as the denominator.



The group's ROIC decreased from 18.2% to 16.4%, mainly due to an increase in the UK pension fund asset and higher precious metal working capital through the year.

➤ Page 73

Average working capital (excluding precious metals)

Average working capital days (as defined on page 191) 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.

62 days

Our average working capital days (excluding precious metal) improved by 7 days. This reflects our continued focus on, and disciplined management of, working capital across JM.

➤ Page 73

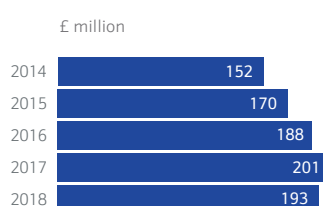
Group non-financial objectives

Science

Performance in 2017/18

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.



The group's research and development expenditure decreased this year by 4% to £193 million, although our output was maintained, as we increased our focus and discipline in investing into areas of higher potential future growth.

➤ Pages 25 to 31

Customers

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).

% sales from products contributing to UN SDGs

85.8%

In 2017/18 the percentage of sales from products that positively contributed to the UN SDGs was 85.8%. Our sustainable business goal is to increase this to >90% by 2025.

➤ Pages 17, 35 and 202

5

We are developing a KPI relating to a common, groupwide customer satisfaction measure (see page 35). We aim to report this KPI next year.

Operations

Operational carbon footprint per unit of production output

Our operational carbon footprint, reported in tonnes of carbon dioxide equivalent (CO₂ eq), includes Scope 1 and Scope 2 emissions. We normalise our carbon emissions based on production output. The denominator is defined as 'tonnes of manufactured product sold externally' and only sold products manufactured on JM premises are included. A detailed definition of this KPI is provided on pages 201 and 202.

CO₂ eq emissions intensity

3.4

This year the group's operational carbon footprint per unit of production output reduced from 3.8 to 3.4 tonnes CO₂ equivalent per tonnes of output. This is due to concerted action across our operations as described on pages 39 and 40.

➤ Pages 39, 40, 47, 201 and 202

3

We are developing a KPI relating to the Overall Equipment Effectiveness (OEE) of our manufacturing operations. This measures the percentage of manufacturing time that is truly productive. We aim to report this KPI next year.

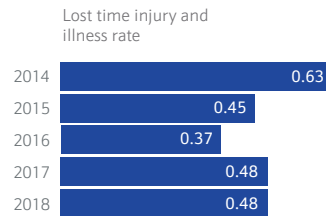
Strategic Report

People

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 (LTIIIR) 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 201.



The group's LTIIIR was unchanged this year at 0.48 although we continued to focus on improving behavioural safety across JM. We continue to build a world class health and safety culture. However, this year we saw our performance plateau. Actions have been taken and new measures put in place to ensure that we improve our performance.

➤ Pages 49 to 51: Our approach to health and safety

1

Employee engagement

An engaged workforce is a key driver of performance. Our global yourSay survey, carried out every two years, looks at the key drivers of employee engagement. Further details are provided on pages 52 to 55.

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

%
61%

Our employee engagement score in November 2016 was 61%. This was our first ever survey and we will carry out our second in September 2018.

➤ Pages 52 to 57: Further details of what we've been doing to engage our people over the last year

2

Sustainable business goals

Progress towards four of our six sustainable business goals is described in the above KPIs. Our progress towards the remaining two goals is as follows:

4 Our responsible sourcing goal measures improvements in sustainable business practices in our supply chains. We track the percentage of Tier 1 strategic suppliers assessed and compliant with JM's Supplier Code of Conduct. 2017/18 is our first year of measurement. In the year, 11% of Tier 1 strategic suppliers were assessed and of those 11%, 73% were compliant with the JM code.

6 Our community engagement goal measures the cumulative number of volunteer days undertaken by JM's employees. Our target is 50,000 days by 2025. In 2017/18, the first year of our goal, our employees undertook 678 volunteer days.

Science

World class science and technology is at our core. We have world class scientists and we use our world class expertise to solve complex problems for our customers, drive growth for JM and help make the world cleaner and healthier. In a world which is becoming increasingly challenging, our expertise in science and our ability to scale it up, is a competitive advantage. That competitive advantage enables us to build close collaborative relationships with current and future customers.

Strategic Report

We apply our science and technology expertise in high margin, technology driven growth markets.

We choose markets where the combination of our broad expertise and our customer focus gives us leadership. We then sustain our leadership positions through a virtuous circle of investment in research and development.

Our science and technology is our source of competitive advantage

We invest in it and in our talent. Our skill and knowledge are acknowledged across the academic and commercial scientific community and amongst our customers.

We have nine core areas of world class scientific capability, developed over many years. Together they give us the ability to provide fundamental insights about materials, their design and then the control of their activity through chemical and functional manipulation.

But it is not just about these scientific capabilities alone. Our competitive advantage is in combining knowledge of the fundamental science and technology, with commercial and scalable solutions, potentially customised for each and every customer. This combination allows us to outperform in our target markets and creates high barriers to entry.

We focus on the complex and the difficult. And we don't compete on price – we win based on our technology. Our scientific capabilities give us the opportunities to drive growth.

World class science capabilities



Cleverly applied



Value for JM

Solutions for customers



eLNO: solving complex problems for the automotive battery market

Enabling people to breathe cleaner air is close to our heart and evident in many of our current markets and products. As alternative powertrains, such as battery powered vehicles, become more mainstream and governments legislate to support their adoption, our researchers are at the forefront of technological advances and development of materials – providing customers with the performance and consumers with the confidence required of battery powered vehicles. Adoption of battery powered vehicles will have a positive impact on cleaner air, and that's important to us.

Last September, we announced our investment in automotive battery materials and the new cathode material – eLNO™.

We developed this material through a truly collaborative programme, from nine locations across the UK, Germany and North America, applying our knowledge of base metal chemistry, formulation and testing, modelling and electrochemistry across the materials supply chain. Our relationship with the automotive industry, and understanding their requirements for energy density, power, lifetime and security of supply for materials, have focused our effort on the key enablers for this technology. Our innovation delivers a step change in energy density that, in the end, improves both performance and cost to drive mass electric vehicle adoption across vehicle platforms.

More than a materials manufacturer, we are committed to using our core competencies to understand electrode structure and applications testing to further drive up energy density of our cathode materials. Together, our knowledge of materials engineering, coatings science and electrochemistry span all aspects important to battery material performance.

This deep appreciation of how the cathode material operates and the structure and function of the materials at an atomic scale means we can model and predict how changes to the material affect performance. Combined with applications testing we understand how our materials perform under different operating conditions which enables us to deliver the material's performance, lifetime and safety specifications required by our customers.

We use this expertise to optimise our materials for different automotive customers and platforms. Working with our teams on formulation, scale up, applications testing, and manufacturing means we can translate these insights into a deliverable product. In 2016, the battery market represented 50% of the global cobalt demand, compared to 36% of the global lithium demand. With the recent increase in cobalt prices, our ability to thrift cobalt, much like we've done in platinum group metals in autocatalysts for well over 40 years, is a key market differentiator for JM.

Strategic Report

Innovating to realise value

Innovation is realising value from knowledge. We do this by identifying a customer need and understanding the value that can be delivered through applying our science. This could be a new technology in a new area or a next generation product developed through refining and optimising. We focus on solutions for cleaner air, improving people's health and the most efficient use of our planet's natural resources. Our strength comes from the interrelationship of our world class science capabilities and the value they deliver when applied to a solution to a customer's complex, difficult problem.

We do not innovate in isolation and it's our strength of understanding across the value chain that accelerates our progress. We work closely with universities around the world to supplement our knowledge. We also sponsor students through their PhDs which allows us to access a stream of talented young scientists and engineers at the forefront of scientific discovery.

We are proud of our science and technology. Success comes from combining our core capabilities with smart manufacturing to develop new products and processes. This approach is important from initial R&D right through to customer support and collaboration.

Our broad science capabilities enable us to design new materials. Our deep expertise in characterisation and modelling underpins everything. We use this capability to understand processes and chemistry at atomic level. Then, by combining it with our access to world class capabilities in computational modelling, we can predict how materials and catalysts will behave, deliver results faster and supply better performing, longer lasting, more cost effective products.

Opening innovation with a new approach to collaboration

We believe that collaboration and diversity are central to effective innovation. Bringing in new skills, fresh thinking and different perspectives is crucial. If you can combine and apply that breadth of knowledge and knowhow, you can create exponential value.

Among the many industry verticals in which we operate, the agricultural sector is familiar to us. We bring our world leading catalytic science to the manufacture of fertilisers and other agrochemical intermediates. Now we are exploring ways to use our broader capabilities, from formulations and coatings to advanced manufacturing techniques, to help develop new opportunities and address critical market challenges in the agriculture market. There is no monopoly on great ideas.

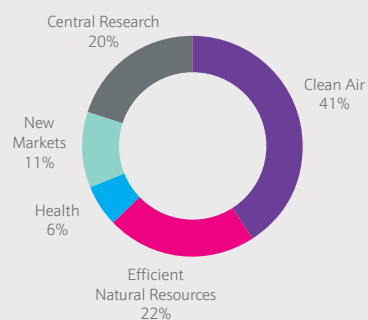
That's why, alongside the work we do within JM, we're building external partnerships with activities like our AgTech pilot programme with Cranfield University. Earlier this year, we sought applications from entrepreneurs, start-ups or businesses especially working in certain specific agricultural areas. Three companies were chosen and given an opportunity to develop their product or idea within an intense programme of collaboration and scientific and management support.

Investing in the areas of highest potential growth

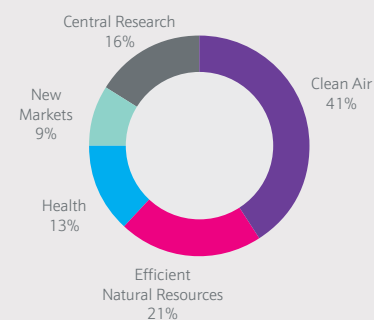
Science lies at the heart of our company. We invested £193 million in R&D in 2017/18, including £18 million of capitalised R&D, which represents 5% of sales. Our spend was 4% lower than last year, although our output was maintained, as we invested with greater discipline and efficiency into areas of higher potential return.

To ensure our R&D investment is accelerating revenue growth opportunities as effectively as possible, we apply a high level of rigour to manage and prioritise our R&D programmes. Delivery of our vision for a cleaner, healthier world requires an innovation strategy to prioritise and manage our technology investments. By looking at our strategic aims as an organisation, we can map the technologies, areas of expertise and investment we need.

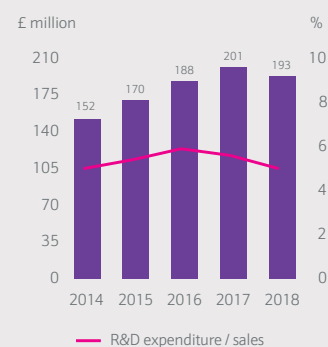
R&D employees



Distribution of R&D expenditure



Gross R&D expenditure



The commercial and technical leadership teams work closely to ensure objectives are aligned.

We apply active R&D portfolio management with stage gating processes and a cross cutting approach for discovering new innovations and customer solutions. This ensures we're creating new sources of growth through innovation and aligning our investments to drive higher returns. This requires a strong relationship between R&D and new business development to drive opportunity assessment in new technologies and new markets, in line with our group strategy. Our Chief Technology Officer ensures that we have the right expertise and the right oversight to investigate the opportunities in our businesses and deliver customer focused technology.

The project portfolio is underpinned by a robust New Product Introduction (NPI) process, and is reviewed to ensure it will deliver our growth ambitions from the next generation of products, to step-out technology. Having this visibility of our R&D investments means we can make sure the balance of projects is right to meet our strategic growth plans.

The majority of our 1,450 science and technology employees are based in our businesses, developing products and processes for our customers. They are supported with fundamental science from our corporate research facilities in the UK, USA and South Africa (as detailed on the map below). Together we collaborate to deliver world class science that our businesses can convert to customer solutions.

The research we undertake covers development of the next generation of products in close liaison with our customers, through to supporting the advancement of our underpinning capabilities and fundamental research to keep us at the forefront of our fields. Externally, we partner with other organisations in funded programmes supported by the UK, EU and USA, giving us access to a wider talent pool of exceptional scientists, and allowing us to explore new opportunities through collaboration whilst sharing risk.



Savannah, USA

- Zeolite design and manufacturing support
- Analytical chemistry



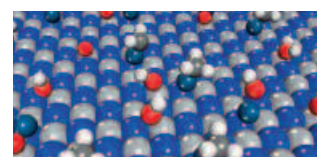
Billingham, UK

- Manufacturing science centre
- Zeolite powder R&D
- Reactor engineering



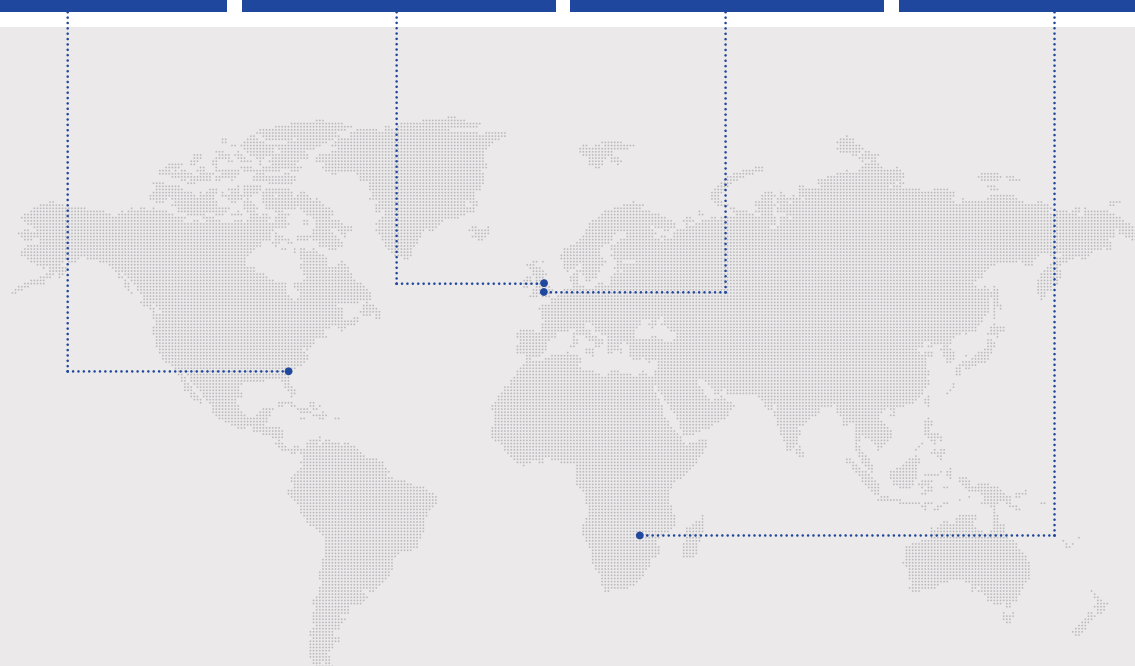
Sonning, UK

- Catalysts and materials
- Advanced materials characterisation
- Refining



Pretoria, South Africa

- Computational modelling
- Materials design



Applying our science to new areas

Platinum group metal (pgm) chemistry is an area of deep and longstanding expertise for JM and we look for new areas where our experience can bring benefit. One such example is an escape hood used by first responders to protect them from carbon monoxide (CO) poisoning. The problem with conventional solutions was that the catalyst for removing the CO gas was deactivated by components in the carbon adsorbent used in the masks.

Through accessing our breadth of science capabilities and collaboration with our customer, Avon Protection, a novel pgm catalyst on a specially designed support was developed. Begun as a project funded by Anglo Platinum, our scientists screened a wide range of established and innovative materials for ambient temperature CO oxidation to find the best catalyst for use under these challenging conditions.

Our analytical experts were called in to extensively characterise the catalyst to evaluate its behaviour under different conditions. This enabled our scientists to understand the interactions between the pgm and the support and then optimise the pgm concentration whilst maintaining activity for CO reduction, which led to reduce costs.

For manufacture and scale up, our pgm and materials experts collaborated with their JM colleagues with expertise in process optimisation and powder forming to meet the customer's requirements. The outcome was a route to scale up and manufacture established in line with customer specifications and expected customer demand.

Using our catalysts, Avon Protection were able to develop the award winning Avon Protection NH15 Combo Escape Hood, a stable and lightweight hood which provides portable protection from chemical, biological, radiological and nuclear (CBRN) poisoning. In addition, and uniquely in such a small and lightweight device, it provides protection from CO poisoning.

To date, JM has provided enough catalyst for 40,000 respiratory protection devices, providing reassurance to emergency personnel who find themselves in dangerous situations daily. Thanks to JM's catalyst, these front-line people have at least 15 minutes of breathable air, providing time to get themselves to safety.

Clever science is not all we do. At JM we develop technology solutions to complex problems which involve engineering and design of processes and reactors. Being able to do this alongside our knowledge of materials and reactions means we can gather the insight needed to make innovative changes. We applied this approach to the development of a new reactor for Fischer Tropsch technology to economically produce sustainable fuels from feedstock sources such as renewable biomass, municipal solid waste (MSW) and flared associated natural gas.

In collaboration with BP we combined expertise in catalyst development, catalyst manufacture, plant design, process development, process design and modelling to develop an optimised Fischer Tropsch catalyst with a unique reaction enhancement device (which we call a CAN) inserted into a multi tubular fixed bed reactor. The reactor was designed to carefully manage heat transfer and pressure drop. The catalyst particle size was optimised to give excellent activity and selectivity without compromising the functionality of the reactor.

This work took many years to come to fruition, but has resulted in a system that delivers three times the productivity of a conventional multi tubular fixed bed reactor. This reduces capital expenditure by half and reduces ongoing plant operating costs. This also makes the technology more attractive and economical from small scale suitable for MSW based projects, to world scale natural gas based projects.

We are proud to have been double award winners with our partner BP, landing the Research Project Award and the Oil and Gas Award at the prestigious IChemE Awards in November 2017.

We are now progressing to build commercial size units and to licence the technology from small to large units worldwide.

Chemical reactors: innovation by design

Customers

Collaboration and strong relationships with our customers are crucial in providing a high quality tailored service. Together, we put our inspiring science to work to enhance life.

We work closely with them, applying our science and technology to develop solutions which enable them to bring their products to market faster, improve the performance of their products and reduce their environmental impact. This creates value for them; and it creates value for JM – through high margin products from which we generate strong returns.

Our Commercial Excellence programme (page 35), launched in 2017/18, is a key enabler of our strategy. Through it we will deliver an enhanced experience all round for our customers and at the same time, create more value for JM.

In serving our customers, we also contribute to making the world a cleaner, healthier place. Through our new sustainable business goal 5, we are quantifying the positive impact our products and services have and aim to double that between now and 2025.

Sustainable business goals

Sustainable products

5

Putting our inspiring science to work for our customers

The markets we serve are directed by our science and are driven by our technology. As a result, we create leading technology positions, often in niche global sub-markets that form part of larger markets.

The markets we serve aggregate into four main global economic segments, each crucial to the development of prosperity and wellbeing. 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).

Beyond these we also think about the critical raw materials and commodities used in these spaces.

Segment trends and dynamics

Transport

The automotive industry continues to grow. Light duty vehicle (LDV) production reached almost 95 million units in 2017/18¹ and is expected to pass 100 million units in the early 2020s (~2.4% compound annual growth (CAGR))¹. Asia is fuelling this expansion, with Europe and America growing at a more subdued pace. Heavy duty vehicle (HDV) production was 3.3 million units in 2017/18¹. This remains a cyclical market with growth in Asia underpinning current expansion. Whilst vehicle production is a growth driver for JM, next generation, tighter emission control legislation in the European, North American and Asian markets is an additional, more significant opportunity for us.

Beyond current evolution pathways, the emergence of new powertrain technologies, innovative vehicle ownership and access models, along with a rising degree of connectedness and automation, is transforming the mobility landscape. Analysts expect a move away from pure internal combustion engine (ICE) vehicles over time, with hybrid, battery electric and / or fuel cell vehicles becoming more common.

This transition is not expected to be quick, with most market evolution studies showing a gradual uptake of alternative powertrains in LDVs through the 2020s. The transition for HDVs is expected to be more gradual. Alternative powertrains are also starting to appear in other forms of transport (e.g. trains) and industrial applications (e.g. fork-lift trucks). For JM, this means expanding our offering, applying our science to develop solutions to enable and deal with the expected uptick in demand and a potential shift into new applications.

Energy

Fossil fuels remain the dominant global energy source today (~85% of primary energy²), but the rise of renewables, the drive for energy efficiency, along with the possibility of cost effective energy storage is changing that dynamic. Most analysts expect natural gas to become the fastest growing fossil fuel (~1.5% CAGR for piped gas and ~3.0% CAGR for liquefied natural gas²), with the share of coal and oil in the world's energy mix falling. This implies growth in renewables and other low carbon fuels (including nuclear). For JM, this evolution touches our applications in the stationary energy space across several other products and services. We remain focused on this market as it will also potentially inform us about changes in the interconnected transport and chemicals markets.

Chemicals

Oil demand is predicted to grow by around 0.7% between 2015 and 2035², with production rising from ~96 million barrels per day (mmbbls/d) to ~106mmbbls/d in 2035². Growth in natural gas is expected to be stronger, rising at around 1.6%². This would take gas demand from 336 billion cubic feet per day (Bcf/d) in 2015 to around 462 Bcf/d in 2035².

Downstream products have benefited from these low input prices, but those advantages are beginning to pass and the perception about overcapacity / low utilisation rates remain. Petrochemical end markets are expected to grow over the coming years with compound annual growth rates of between 2% (fertilisers) and 7% (engineered polymers)³. New capacity additions in the US (gas price advantage), Middle East and Asia are expected over the coming years. Associated pricing changes linked to demand shifts may also impact the chemicals markets in which we play (e.g. methanol, ammonia).

These evolutions impact the profitable pathways and catalytic transformation routes that we try to serve. As a business, we will continue to target the highest growth and most profitable segments to ensure that critical raw materials are used and transformed in the most efficient manner possible.

Sources

1 LMC Automotive.

2 BP Energy Outlook, 2018 (www.bp.com/en/global/corporate/energy-economics/energy-outlook.html).

3 IHS Chemicals.

Strategic Report

Healthcare

The global population continues to rise with people living to an older age. To service this trend, a range of interventions are being requested. Additional medications are required to keep people healthy for longer, additional pressure is put on scarce food and water resources, more devices are being used to improve quality of life. However, the pressure to deliver these interventions at a low cost is growing.

The global pharmaceuticals market is expected to grow at 6% per annum, from \$650 billion today to more than \$820 billion by 2020⁴ and with growth in that market outstripping global GDP growth (of ~3% per annum over the period⁵). The largest markets remain the US and Europe, which together account for about two thirds of the global market. The market for generic pharmaceuticals accounts for about one third of the total pharma market today and is forecast to experience equivalent or higher growth rates than the pharma industry overall (ranging from 5 to 9% between forecasts⁴).

JM will continue to focus on how we can serve this growing market through our differentiated science and technology, helping to deliver the products that our growing population requires.

Critical raw materials

Within the evolving market dynamics described above, commodity prices will play an important role. We already see the commodity cycle starting to turn with higher metal prices seen during the 2017 calendar year. Oil prices are starting to rise (moving beyond \$70 per barrel for the first time since late 2014), while gas prices, especially in North America have remained subdued at around \$3/mmbtu (US Henry Hub). Beyond these traditional commodities we are also seeing upward pressure on the key inputs to battery cathode materials (e.g. lithium in 2017, cobalt and nickel more recently). These prices and their movements will impact decisions about how our key end markets evolve and which technologies / pathways come to dominate over time. JM will continue to focus on the most efficient use and transformation of critical raw materials and we will position our business (including our refining expertise) to respond and react to these trends.

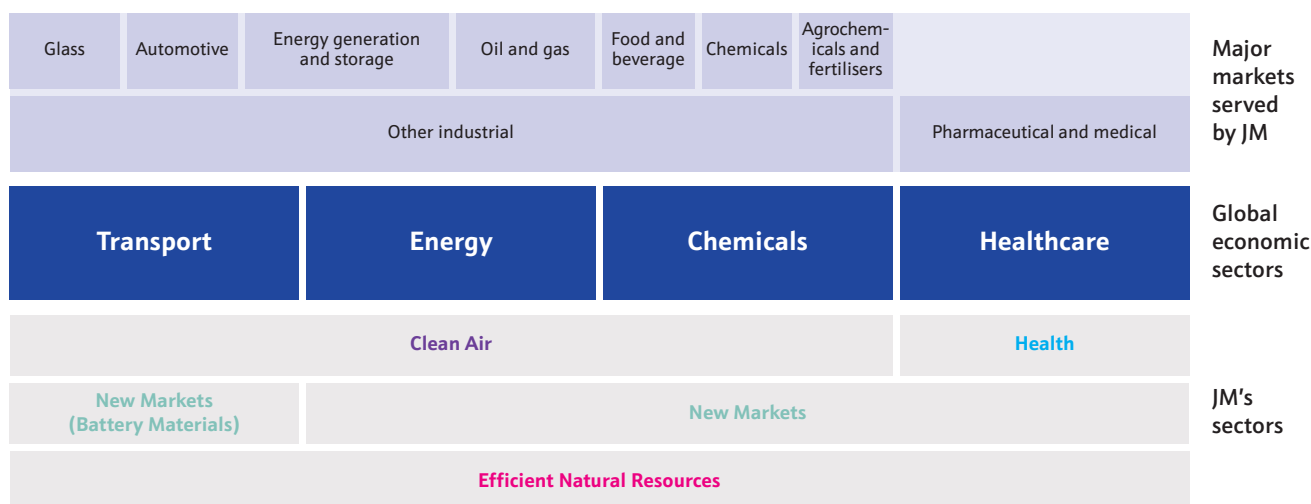
Sources

⁴ EvaluatePharma.

⁵ BP Energy Outlook, 2018 (www.bp.com/en/global/corporate/energy-economics/energy-outlook.html).

The breadth of JM is a source of strength

The four economic segments we serve are undergoing major change; change that is driven and enabled by technology. We apply our scientific skills, via our sectors, into markets within these segments to create new products and services that improve lives, improve efficiency and reduce environmental impact.



- Our Clean Air Sector abates emissions from the transport, energy and chemicals segments.
- Our Efficient Natural Resources Sector has businesses supplying products and processes that conserve scarce resources, enabling the manufacture of chemicals, fertilisers, fuels and glass using less energy and fewer raw materials.

It also has our platinum group metal recycling business.

- Our Health Sector draws on core capabilities in complex chemistry, manufacturing and scale up to create solutions for niche areas within the pharmaceutical industry.
- Our New Markets Sector applies our science into emerging opportunities across all segments.

This breadth is a source of strength for JM. The markets and segments we serve are amongst the most important in the world economy, are universal and supported by strong macro drivers. Maintaining this broad market exposure and managing the balance of our business across these segments of the world economy is part of our strategy.

The four segments are complementary. Many of the customers we serve operate in two adjacent segments: for example, fuel companies also have chemical operations; chemical companies manufacture pharmaceutical ingredients. We bring market, technical and regulatory insights from each segment and apply it to the adjacent segments. These insights drive business development.

What we sell and how we work with our customers

Across all our markets, we have two fundamental customer offerings.

1. **Functional components** that our customers incorporate into the products they manufacture. These components are fundamental to the performance of our customer's product. Examples are: electrode tips for cardiac ablation, emission control catalysts for engines, active pharmaceutical ingredients for pain treatment, protective coatings for automotive glass, cathode materials for batteries.

For these types of product, most of what we sell we have developed and formulated specifically for an individual customer's application, in collaboration with our customer.

2. **Process technologies** that our customers use to enhance the efficiency, economics and sustainability of their manufacturing processes. In these cases, our technology is used to make the customer's product rather than being part of the finished product.

We develop manufacturing processes, including the catalysts that enable them, both for customer-proprietary products (e.g. pharmaceutical actives) and for chemicals and fuels (e.g. methanol, ethylene glycol). For processes we develop ourselves, we either licence to our customers or operate them ourselves in our own facilities. When we develop processes for customer-proprietary products we work under contract development agreements.

Our Pgm Refining and Recycling business uses a JM-developed and operated process. We provide a service for our customers (including other JM businesses) where we transform their materials to produce high value product.

Across these offerings, our customers, in the most part, value the performance of our technology in their applications. The performance of our products delivers different advantages to our customers by:

- Translating directly into the performance of their product.
- Enhancing the reliability of their production.
- Increasing their efficiency.
- Enabling them to reduce the overall cost of their product.

Maximising this performance advantage through codevelopment is the basis of the way we work with our customers. This collaborative development requires strong, long term relationships based on mutual commitment, risk sharing and trust.

In addition to performance, customers also come to JM for additional sources of value: speed and efficiency in development, reliability, responsiveness in problem solving, security and flexibility.

We work with our customers across a range of markets, understanding the needs of each sector and customer. This approach gives us a business that is balanced and robust. Through serving broad markets, the opportunities to apply our science and technology are greater and our contribution to a cleaner, healthier world is increased.

Driving commercial excellence

We have distinctive scientific and technical capabilities which we translate into solutions for our customers. It is important that, together with providing them high quality products and service, we capture our fair share of the value we create for customers.

Our Commercial Excellence programme is focused on doing just that. It is a key enabler of our strategy and was launched in 2017/18. The overall objective of the programme is to deliver value by building the commercial capability across JM; enhancing our ability to make value based data driven decisions; measuring and responding to customer satisfaction; improving our sales and marketing processes and leveraging digital technology where appropriate.

The programme has made good early progress. We are investing in growing our people and our commercial function. We will be launching our commercial academy this coming year to support the development of our commercial people across JM. We are also improving the consistency of our data analytics to inform our commercial decisions.

We have started work to establish a consistent measure of customer satisfaction across JM so that we can enhance the experience our customers have when buying from us. The programme is on track to deliver benefits over the coming year.

Measuring our impact beyond customer value

The value we create for our customers drives growth in our business and returns for our shareholders. But our products and services have a much broader positive impact, making our air cleaner, improving people's health and conserving the world's natural resources. We want that positive contribution to grow.

As part of our new sustainable business framework we have set a goal to double the positive contribution of our products by 2025. This, our sustainable business goal 5, has two streams by which we will track our progress.

The first shows our global impact by measuring the absolute and percentage of JM's sales that have a direct contribution to the UN Sustainable Development Goals. The percentage measure is a key performance indicator for the group as detailed on page 23.

The second relates to JM's vision for a cleaner, healthier world. Our goal is to at least double:

1. The tonnes of pollutants (oxides of nitrogen, carbon monoxide, hydrocarbons, particulate matter) removed by our products, thereby making the world cleaner.
2. The number of lives impacted by our pharmaceutical products, thereby making the world healthier.
3. The quantity of greenhouse gases removed or reduced (CO₂ equivalent) by our products, thereby taking climate action.

Our baseline measures are outlined on page 17.

We are excited to introduce our sustainable business goal 5. It will be a positive driver for our business performance and, crucially, provides a tangible measure of progress towards our vision for a cleaner, healthier world.

Long term view Technologies for clean transportation – JM brings insight as the powertrain evolves

Automotive powertrain technology has seen many developments in the 50 years that Johnson Matthey has been involved in, shaped largely by societal requirements for cleaner vehicles. The coming decades will see even bigger changes. JM is in a uniquely powerful position to understand these changes and to grow our business further by providing new technologies to enable them.

Our insights into these new demands are broad and deep. We understand the big trends in regulations, in driver expectations, in the strategies of vehicle manufacturers and in the capabilities of the new technologies available to the manufacturers. These trends determine the demand for our technologies.

Understanding our customers and their value chains

Johnson Matthey brings deep insight into how these market trends translate into performance requirements for all our automotive powertrain-enabling products and the technical support our customers need. We work from market needs, through system performance requirements and into the design of materials at the atomic scale. We can then scale our science from the lab, through vehicle testing, to production processes for millions of engines a year – which itself requires intimate understanding of our customers' preferences and their ways of working.

A key JM strength is our relationship with vehicle manufacturers, built on 50 years of collaboration at all stages of technology development from design, through application, scale up, testing and into mass production. We understand how they work, their time cycles and their technology needs.

Our relationships up the supply chain are equally important. Securing and managing reliable, ethical supplies of metals and other raw materials will be just as important for batteries as it is for our emission control catalyst and fuel cell businesses. The automotive supply chain is highly integrated, but is evolving, with more emphasis on lifetime stewardship and circular supply chains. JM has the experience and structures for this way of working from our precious metal businesses, including recycling emission control catalysts.

As the supply chain evolves, we stay aware of who is making the critical decisions and on what basis. Decisions on required performance standards, technology selection, supplier selection and system optimisation are made between different functions within companies and between companies and different stages in the supply chain. We maintain a broad set of contacts in order to participate fully in this decision making process.

An 'all options' approach to technology

As we plan for success in future powertrain markets, the experience that JM applies to technology road mapping is very broad. We supply all the transport applications currently using internal combustion engines, everything from scooters to the largest container ships. Thus, we know the performance demands and design cycles for the full range of land and water based transport. We combine this with our practical experience of all the options for clean energy storage and powertrains, across combustion engines, batteries and fuel cells. We believe that over time, everything will become electrified but in different ways, at different speeds and to different degrees. Internal combustion engines will remain important in all transport sectors for decades, increasingly in hybrid systems, and fuel cells will come in too – particularly for heavy and long haul vehicles. The world will need all options and all options represent opportunities for JM.

This 'all options' view shapes our strategic planning process. It determines the portfolio of technologies and businesses that we develop. It determines the way that we use our understanding of the various alternative technologies to develop and market the technologies. It determines the flexibility we maintain in resource planning to place bets on the most promising technologies and retain the options we need to maintain our strong position in the market regardless of the shape of future demand.

Following policy and regulation

In looking at where JM's scientific and manufacturing capabilities can create most value as powertrain technologies evolve, a vital perspective for us is regulations. Standards are set for new vehicles and limits on pollutant emissions have been the primary driver for JM. They will be in the future, too, but other regulatory and policy areas are becoming equally important. There are four aspects of policy that we follow and interpret:

1. Although our catalyst technology has enabled a 100-fold reduction in emissions from vehicles since the 1970s, many cities around the world still suffer from poor air quality caused in part by vehicle exhaust gases. Therefore, new vehicle emissions regulations will continue to tighten and will be a significant driver of demand for our products. The most important trend for the future is not the further reduction of the headline emissions limits, although this will continue, but in the shift to testing and compliance regimes that better reflect emissions in 'real world' use. These new tests require higher system performance across a wider range of conditions and as a result, demand more JM technology.
2. In recent years, regulations on the efficiency of new vehicles, as measured by CO₂ emissions, have become an equally important factor in powertrain design. More efficient engines demand more efficient emissions control – for example, exhaust gas temperatures are lower on more fuel efficient vehicles, so the catalysts need to work at these lower temperatures. Hybrid powertrains place new demands on the after-treatment system. Electric vehicle investment and introduction is being driven by fleet CO₂ limits, creating new demand for battery materials and fuel cells.
3. As well as the regulations on new vehicles, the market is shaped by incentives for drivers to buy low or zero emission vehicles. These may be financial, in the form of purchase grants or preferential tax rates. In some countries, drivers of low emission vehicles are granted perks such as access to bus lanes. These incentives shape demand in local markets and can be important in the early adoption of new technologies.

4. For the future, we see cities as increasingly important in driving and shaping demand for clean vehicles. In most parts of the world, city authorities are responsible for ensuring air quality. To meet legal requirements and the expectations of their citizens, they are increasingly offering incentives for cleaner vehicles and applying penalties or even bans to dirtier ones. We've been working with cities for decades to improve their air quality, retrofitting emissions control to buses and supporting Low Emission Zones.

Knowing where the greatest air quality problems are, where the political will to solve them is strongest and what the practical technologies are to address the problems efficiently, enables JM to see where the next market demand will be.

Total cost of ownership is key

We assess the regulatory landscape but we are careful not to lose sight of what technology can be practically and profitably incorporated in a vehicle and what the people who buy the vehicles most value. The market is constrained by two simple and related principles: people can't buy it if the manufacturers aren't offering it and manufacturers can't sell it if people don't want it. Consequently, we believe that the total cost of ownership will continue to be the primary criterion in vehicle purchases. As such, we assess the effect of each new technology on the cost of developing, manufacturing, fuelling and maintaining each class of vehicle.

When it comes to zero emission vehicles, we consider a third constraint: people won't buy it if they can't recharge or refuel it. As such, we are monitoring and participating in projects to develop infrastructure for charging battery electric vehicles and for refuelling fuel cell electric vehicles.

Seeing the whole system, from well to wheel

Our market view on transport trends is not confined to vehicle technology. JM has fuels related businesses and technologies too. These have an important part to play in reducing emissions from transport and, at the same time, give a perspective on the environmental impact of transport that greatly strengthens the view we have on vehicle technology.

JM has fuel processing expertise and our process catalyst technology is important for making the hydrogen that removes sulphur from fuel. By combining the views we gain from the fuels value chain with our vehicles knowledge, we understand the full impact – environmental, economic, consumer – of all the potential technical solutions. JM has technology for the manufacture of synthetic fuels, bio fuels, gaseous fuels and, particularly importantly, hydrogen. Uniquely, we have technology for all the major manufacturing paths for hydrogen. Being able to see the whole system, 'well to wheel', we can assess costs and trade-offs and we can see how these translate into the potential demand for our technologies.

Future mobility models

Finally, we make sure that we pay attention to the way that vehicles will be used in the future because this will affect the way they are bought and the way they are designed. Cars bought to be used in fleets of shared vehicles may be designed with the same considerations that now apply to commercial vehicles – cost per mile, durability, availability / up-time. It is important that we understand which aspects of our very successful heavy duty business we will need to apply to light duty. Autonomy will be an enabler of shared mobility and will also lead to a change in drive cycles and vehicle design, so autonomous vehicles will have different power requirements. Connectivity, as well as being an enabler of vehicle autonomy, provides new opportunities for monitoring and regulating vehicles and their emissions in use. In turn, this is likely to promote the adoption of more low emission technologies.

Our automotive facing businesses have been designed from inception to anticipate and respond to change. Change brings continuous demand for new technology, and it is in the development and application of new technology that JM creates value.

We cannot accurately predict the rate of growth in electric drivetrains but we foresee a period of fundamental transformation in the automotive market. It brings opportunities for us to advance our business and our vision for a cleaner, healthier world. And JM is embracing it, knowing that we are uniquely well placed to understand and deliver the technologies the market will require.

Operations

Our vision for a cleaner, healthier world demands us to operate our business responsibly and with a relentless focus on efficiency and excellence. This cuts across everything we do: from common systems and core processes to the way we manage and drive the environmental performance of our assets.

Sustainable business goals

Low carbon
operations

3

Responsible
sourcing

4

Driving responsible and effective operations

As a global group, we seek to maximise synergies across our businesses so we put in place standard processes and ways of working where it makes sense for us to do so.

Our focus is end-to-end operational efficiency; it's not cost-cutting and it's not a project. Through this we are driving sustained improvements across every aspect of how we run our business, and therefore the benefits are broader than cost.

This approach has two main themes. Firstly, we're simplifying and automating common processes. It doesn't deliver monetary savings per se, but it frees up our people to target them against our biggest business opportunities.

Secondly, we are ensuring common standards and ways of working across JM. This will improve our performance by accelerating the best of JM around the group rapidly.

Simplifying and automating

This year we have continued to invest in upgrading our core IT systems to reduce complexity across the group and make us more agile and responsive to our customers. We are introducing a global business solution to standardise and simplify business processes, data and systems across JM. The single groupwide platform supports all our global operations, giving us a full view of all our businesses. Implementation is on track and we will start our roll out during 2018/19. We expect to be complete by end 2021/22.

Common standards and ways of working

Group led excellence programmes are in place to target specific areas where we see an opportunity to rapidly make efficiency gains by ensuring common standards and ways of working across JM. A group led approach enables us to deploy best practice quickly and effectively across our operations.

Manufacturing Excellence, which has been in place since 2012, encourages a continuous improvement culture to enhance the efficiency and long term profitability of our manufacturing operations. Progress is measured against ten criteria. The highest performing

sites can work towards Silver, Gold or Platinum levels of status. Since 2012, over £100 million in savings have been delivered collectively by sites that have achieved those levels.

Procurement is a key global activity and by managing it with a strategic and category led approach, significant savings can be achieved. Professionalising procurement within JM not only reduces cost, but it also means that we manage our suppliers better, which has many additional benefits, including reducing supply chain risk. We purchase state of the art equipment which meets the latest environmental, health and safety standards.

We have activated a Procurement Excellence programme with the goal of saving more than £60 million over the next three years. Our annual purchases, excluding precious metal and substrate, are about £1.5 billion. These purchases are made across 118 sites, historically with each site accountable, for the most part, for its own purchases. This has, in the past, limited our ability to consolidate our understanding of purchases across the group.

Over the last year we have begun to move to a global procurement strategy and have started to capture this data on a consistent basis to fully understand where the procurement opportunity lies. We have begun to execute against this opportunity and have made excellent early progress in bringing together our existing procurement community and in building new capability to ensure that we capture it in full. We will continue to roll out our global procurement function during 2018/19 to realise savings and enhance our supply chain performance.

Responsible operations

Our technology is used by customers every day to create products that have a direct benefit on the environment, preventing millions of tonnes of pollutants from entering the atmosphere. We also have a responsibility to ensure the way we make these technologies is responsible and environmentally conscious too.

In the course of our now completed ten-year strategy, Sustainability 2017, we halved our operational carbon footprint and our use of energy and water per unit of sales. These efforts, combined with those in our Manufacturing Excellence programme, delivered bottom line savings of £142 million.

But now we want to go further. Building on the impressive achievements of Sustainability 2017, we have set ourselves more stringent targets to 2025 and are incorporating a stronger external focus.

In developing our six goals for sustainable business to 2025, we defined two goals that are linked to our operations, both at group and site level. One is our goal to reduce our greenhouse gas emissions by 25% per unit of production output (goal 3), an ambition that forms part of our approach to low carbon operations. The second is to improve sustainable business practices in our supply chains (goal 4).

Three of our four other goals – covering health and safety (goal 1), employee engagement (goal 2) and volunteering in the community (goal 6) – are explained in the People section of this report on pages 48 to 59. Goal 5, which aims to increase the positive contribution of our products to a cleaner, healthier world, is explained in the Customers section of this report on page 35.

3 Climate change action through reducing greenhouse gas emissions

We have set ourselves a new carbon intensity goal in which we aim to reduce our greenhouse gas (GHG) emissions per unit of production output by 25% (sustainable business goal 3). Monitoring our emissions as a function of production output, rather than sales, will allow us to capture any operational efficiency improvements more authentically. The new carbon intensity goal also reflects the type that companies are setting in order to qualify as a Science Based Target using the Sectoral Decarbonisation Approach.

Strategic Report

Our ambitious target was based on an assessment of potential installations and energy procurement opportunities across our sites and a consideration of the targets being set by peer companies.


We are including Scope 1 and 2 (direct and indirect) emissions in our goal, which covers our entire use of fossil fuels, electricity from all sources and emissions of all major GHGs. To improve our data collection and help drive improvements, we have installed a groupwide environmental data reporting tool to our sustainability management platform, Enablon. The tool was operational from 1st April 2018 and enables us to increase the frequency of our internal reporting.

In recent years, we have increased our use of renewable energy on our sites. For example, at our pgm refinery and chemicals plant at West Deptford, New Jersey, USA, we source 17% of our electricity from an adjacent photovoltaic plant, saving 861 tonnes of GHG emissions in 2017/18. Also in the US, all our sites in the Philadelphia region will be purchasing zero carbon electricity from grid suppliers from April 2018; this is expected to reduce the group's carbon footprint by 7% over the next year. And five of our UK sites (Royston, Brimsdown, Sonning, Swindon and Edinburgh) have been purchasing renewable electricity (wind power) from the National Grid since April 2016, making CO₂ equivalent emissions savings of over 40,000 tonnes in 2017/18. This has been achieved through an agreement with Ørsted, who supply Renewable Energy Guarantee of Origin (REGO) certified wind power from the West of Duddon Sands Offshore Wind Farm near Blackpool and the London Array Offshore Windfarm in the River Thames estuary.

In Skopje, Macedonia, our site installed a new waste water treatment plant in 2017. The factory first opened in November 2013 and had been growing. Consequently, the previous waste water treatment plant was unable to meet the demands of the site in terms of quantity and type of waste water handled – it could only treat sanitary water. This left the site having to send over 300 m³ of effluent to neighbouring Serbia every month – a distance of 450 km.

The Skopje site worked with waste water specialist EnviroChemie to create a treatment facility specific to the site's needs. In the first year of operation (July 2017 to March 2018), the new plant has achieved 162 tonnes of CO₂ savings and cost savings of over €900,000.

Other examples of our work to reduce energy use and emissions include our platinum group metal fabricated products plant in Royston, UK, where we have made a 655 MWh reduction in energy use. This was achieved through a comprehensive package of measures including installing solar photovoltaic panels, replacing a furnace and upgrading the lighting and pump scheduling. We are also making good use of solar energy at five sites, while at our Royston, UK site we are linking solar panels to our air conditioning systems to reduce energy consumption. One of our sites has a wind turbine and we have also refurbished office buildings increasing insulation, installing LED lighting and replacing the windows to improve working conditions whilst saving energy.

 Page 45: More on our greenhouse gas performance

Understanding potential impacts of climate change on our business

We disclose our environment, social and governance (ESG) performance through the 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/cpd-investor

We also participate in benchmarking studies to deepen our knowledge and compare our progress against our peers. A changing global climate brings with it a number of risks and opportunities for Johnson Matthey, which we continually consider and review annually as part of our CDP disclosure. The most significant of these continue to be environmental legislation and water availability.

Johnson Matthey is also a signatory of L'Appel de Paris (the Paris Pledge for Action), committing us to play our part in delivering the agreement's ambition to limit global temperature rise to 2°C. Our sustainable business goal 3 supports this.

Water risk

Water is an essential resource. The World Resource Institute (WRI) reported in June 2016 that in the industrialised world, fresh water is becoming scarcer due to increased demand and higher pollution levels. Availability is often transient, dependent on changing weather patterns.

A reliable supply of fresh water is required by all our manufacturing sites and, often in considerably greater quantities, by our strategic suppliers. To examine our exposure, we periodically undertake water stress surveys of our business. We also report our principal water risk publicly through the annual CDP Water survey.

 matthey.com/cdp-water

In 2016/17 we conducted a survey using the World Business Council for Sustainable Development (WBCSD) Global Water Tool™ (version 1.3). Of the 66 principal sites surveyed, 15 were identified as being in regions of extreme water stress. Our water usage in most of these locations is very low. However, there are four where we are close to using the locally available freshwater supply per capita: Taloja, India; Yantai, China; New Mexico, USA; Brimsdown, UK. We are using the data from the survey to prioritise water conservation projects for the sites that are at the greatest risk of an interruption to supply.

Our facility in Taloja, India was assessed by the WBCSD Water Tool survey to be our highest water stressed manufacturing plant. To meet the ever increasing demands of the local waste water treatment facility that treats all waste water on the industrial park in which our facility is located, we are in the early stages of installing a water treatment / recycling plant with the aim of making the plant 'zero liquid discharge' (ZLD).

Our largest risk to water is in our supply chain, where we are exposed to industries that are significant water users, such as mining and agriculture. The next step is to gather the exact locations of our strategic suppliers' facilities and evaluate them with the WBCSD tool.

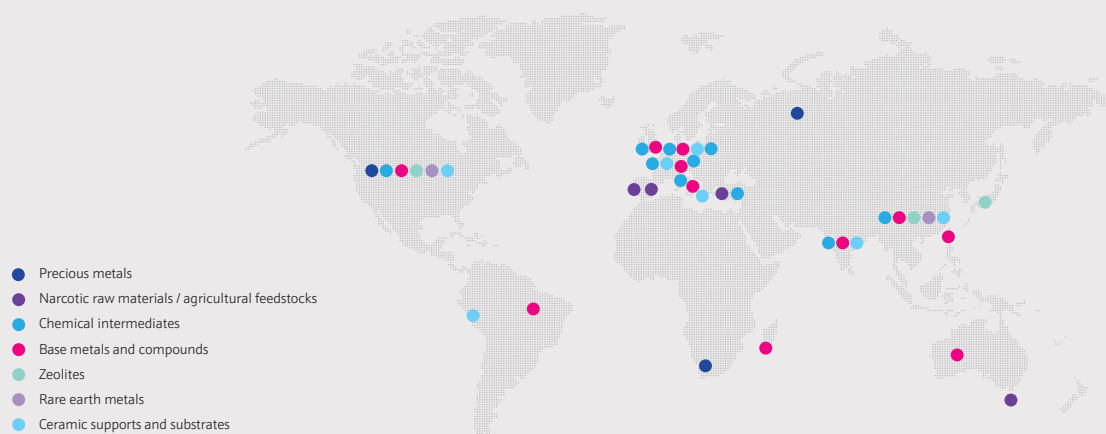
4 Responsible sourcing

The second part of our operational sustainable business goals concerns responsible sourcing. Under goal 4, we aim to improve sustainable business practices in our supply chains. Through collaboration, we will ensure full compliance with our minimum standards from strategic Tier 1 suppliers.

This due diligence is not new to us but it is the first time we have framed it as a formal sustainability goal, with clear measures to show our progress. Our goal is to achieve compliance among 100% of our Tier 1 strategic suppliers by 2025.

Where we source strategic raw materials

We procure goods and services globally and our supply chains are multi-tiered. Sourcing of strategic materials is a principal risk (see page 79) 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. The countries we rely on for these materials are highlighted in the map below.



Several factors have led us to select responsible sourcing as a goal. Regulation of supply chains is increasing, for example in the areas of conflict minerals and modern slavery. And we are aware that some of our suppliers are located in high risk countries. We launched our Supplier Code of Conduct in September 2017; it is available on our website in English, German, Japanese, Polish and Mandarin. We will report annually on the numbers of strategic Tier 1 suppliers assessed and of those, how many meet our responsible supplier compliance criteria. We have put in place a Supplier Sustainable Development Programme (SSDP). This business tool enables us to classify risk in our suppliers, determine what level of due diligence is required, identify corrective actions and follow up on progress. We will track the number of suppliers that have signed up to the code and the number assessed during the last three years.

In 2017/18, 97 supplier sustainability assessments were undertaken across our sectors. These comprised formal on-site audits, desktop assessments and supplier

self-assessments. These assessments represent approximately 30% of JM's direct materials spend with suppliers. The table below represents the responses from JM's sectors. We have not identified any incidences of child labour or forced labour in our value chain.

In 2017/18, 26 strategic Tier 1 supplier assessments were undertaken to check compliance against the JM Supplier Code of Conduct. This represents approximately 11% of suppliers classified in this way. Of those assessed, 73% were in compliance with the expectations of JM's code.

Modern slavery

Research from the Walk Free Foundation shows that over 40 million people worldwide are trapped in some form of modern slavery, including forced labour. This is an important social issue and JM is proactively taking steps to ensure high ethical standards throughout our value chain, including through our sustainable business goal 4 on responsible sourcing.

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.

The UK Modern Slavery Act 2015 requires UK listed companies to make an annual statement describing the steps they have taken during the year to ensure that slavery and human trafficking are not taking place, either in their businesses or their supply chains.

Our annual statement is posted on our website and details the steps we are taking. They include our policies and codes (including our code of ethics and confidential 'speak up' line), details of our supply chain governance team and the Supplier Sustainable Development Programme. In order to improve standards in our supply chains, in 2017/18, we have undertaken a risk mapping exercise and identified suppliers where we need to focus our attention.

Sustainable business topic of concern	Number of suppliers assessed for this concern	Number of new non-conformances identified in 2017/18	Total number of non-conformances open at 31st March 2018
Child labour	97	–	–
Forced labour	97	–	–
Wages and working hours	97	3	3
Discrimination	97	–	–
Freedom of association	82	–	–
Health and safety	97	45	25
Environmental	82	5	2
Other – anti-bribery and corruption, supply chain standards	35	5	2

Strategic Report

The criteria considered in the assessment included industries that are considered high risk, country corruption risk and country modern slavery risk. By undertaking this due diligence, we can understand and address potential impacts on human rights and ensure that there is no enslaved labour within our supply chains.

Conflict minerals

The term 'conflict minerals' refers to tin, tungsten, tantalum and gold which originated 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.

We have established a process for due diligence of all conflict minerals based on the Organisation for Economic Co-operation and Development (OECD) Guidelines which 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.

Of the smelters identified throughout all tiers of our supply chain, 89% are listed as conformant with the Responsible Minerals Assurance Process (RMAP) assessment protocols on the RMI (Responsible Minerals Initiative) database and we expect this to increase as more refiners and smelters join the programme and become RMAP-conformant. We 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 around 70 customer requests for information.

We are also extending our minerals supply chain due diligence activity to include cobalt. Cobalt is used in a range of applications from battery technology, industrial catalyst to health care. At present the Democratic Republic of the Congo (DRC) holds about 50% of the global reserves of cobalt. 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 a number of human rights concerns.

A number of voluntary responsible supply chain schemes for cobalt are springing up but they are not yet harmonised or universally applied; we are currently evaluating participating actively in the Responsible Cobalt Initiative.



matthey.com/conflict-minerals

The pgm supply chain

One example where we are taking a proactive approach is in the platinum group metal (pgm) supply chain. We have worked closely with some of our automotive customers to address concerns that they raised relating to the pgm supply chain in South Africa. A collaborative visit facilitated by JM, resulted in direct dialogue between the pgm mining companies, JM and these key customers. This allowed our customers to see and hear first hand the challenges of operating within that industry and in the complex South African economic, social and political context. A clear action plan has been agreed.

In addition, we have worked with peer pgm fabricator companies to develop a single consistent due diligence approach to be taken by all when assessing pgm supply from South Africa. This fabricator working group, liaising through the International Platinum Group Metals Association (IPA), is establishing a systemic 'one mine, one audit' approach from late 2018. This will ensure supply chain partners are assessed and audited in a more consistent, efficient and effective manner. Ultimately, this will lead to improvements in standards of business conduct throughout the value chain.

Our business is highly diverse, both in the range of our manufactured products and the markets we serve. Our supply chains are correspondingly complex and we are aware that we still have a significant amount of work to do in improving sustainable business practices in those supply chains. Our supply chain governance team, which is integrated into our Procurement Excellence programme, is driving this forward.

Product lifecycle management

The products we sell to our customers often form an important part of the end product supplied to the user. For example, we supply catalytic coated substrate as a component for engine emission control systems for car manufacturers.

The catalyst is incorporated into the catalytic converter in the exhaust system of a car which is bought by the end user who drives it. We do not manufacture the car, but we are concerned with the whole life of the catalyst until the end of its life, and beyond, e.g. to recovery of components for subsequent reuse.

This 'whole life' responsibility is what we call product lifecycle management, also known as product stewardship. We set ourselves high standards: our 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 external stakeholders want assurance that the potential impacts – on the environment, our employees and downstream users – are well managed. Some stakeholders are starting to demand that chemical companies like ourselves move towards safer chemistries.

Internally, our product lifecycle management supports our value of protecting people and the planet. More pragmatically, it is essential to our business that we identify and mitigate any risk to our portfolio. Our social licence to operate depends on our compliance with safety regulations and, of powerful importance, our voluntary stewardship of our products all the way down the value chain.

It is important we design in green chemistries at the start of a product's life. Recently we have developed a sustainability checklist as part of our New Product Introduction (NPI) process. The checklist contains a series of questions about health and safety, environmental, social and financial issues which must be answered before the project can progress to the next stage of the NPI process. The checklist is now being evaluated by teams in JM's sectors.

Our management systems

We implement our product lifecycle management through well established systems to ensure the sound management of our products throughout their lifecycle. We have groupwide policies and guidance which align our approach with the global framework set by the Strategic Approach to International Chemicals Management (SAICM) to promote chemical safety around the world. The Strategic Approach, begun in 2006, is hosted by the UN Environment Programme.

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. Potential new products are assessed at an early stage of their development against safety and regulatory criteria, with higher hazard products being put through more detailed assessments. Finally, business compliance with lifecycle management policies forms part of our environment, health and safety (EHS) audit.

Our three areas of focus

As part of our work on product lifecycle management, we have three current areas of focus. The first is active horizon scanning which identifies proposed regulatory developments that could impact our sites and products and the raw materials we use. Linked to this is our second area of focus: early identification of new regulatory pressures for our customers that our existing or new technologies may be able to overcome.

Our third area of focus is 'high hazard' substances – chemicals with significant potential to harm human health or the environment and how we ensure appropriate investment in researching less hazardous alternatives. On the basis of elevated concern on a substance's hazards, regulators may require companies to generate extensive data packages to underpin detailed risk assessments. If a true risk is identified they could take action that effectively eliminates use of the substances in that market. All of our businesses could be affected by these changes and we follow developments closely.

Our policies, especially on NPI, emphasise the expectation that we actively investigate the availability of safer alternatives to our use of high hazard substances. For example, our Finnish business identified a risk to its portfolio as a critical component of its resin bead manufacturing process would face severe restriction in Europe due to it being considered a substance of very high concern (SVHC). Unlike our key competitors, rather than apply for authorisation to continue use of this hazardous substance, which would be an expensive and time consuming process with an uncertain and time-limited authorisation outcome, we decided to alter our manufacturing process.

The development work took time and money, but the project to move to a safer process gained financial support from the Finnish authorities. Customers were fully informed of the rationale for the change; we retained their orders and they in turn retained theirs.

Pgm user guide

During the year JM provided significant input into a comprehensive user guide to pgms. 'Safe Use of Platinum Group Metals in the Workplace' was published by the IPA in December 2017 and is intended to advance awareness of the hazards and risks associated with occupational exposure to pgms and how to manage them effectively. This is an important and directly relevant piece of work, as many JM sites handle pgms, and one of the eight occupational illnesses reported in 2017/18 related to pgm exposure. The user guide provides practical advice on workplace monitoring, the medical surveillance of workers, control measures, training and regulatory controls. It is available on the IPA website and we have advised our sites to consider the new guidance in their pgm management programmes, subject to local law.

The IPA guide is the most visible of our recent efforts in this area, but we continue to work with peer companies in trade associations and consortia to develop best practice on stewardship.

Priority substance management

We have set up a committee to review certain high hazard substances of relevance to JM in order to ensure there is appropriate recognition of the risks from developing new products using these substances. The PARS (Prior Approval Required Substances) Committee decides on whether the risks (i.e. EHS, sustainability, financial, reputational) are sufficiently high that a senior leader is required to issue a time-limited approval to use the substance in NPI projects. The committee has reviewed its first tranche of substances and has concluded that a small number of relevant substances either face regulatory pressures of sufficient magnitude in the foreseeable future, or are sufficiently hazardous that they should be PARS listed. Although focused on NPI, existing uses of a PARS substance will consequently face additional scrutiny.

We use or manufacture only a very limited number of substances considered regulated¹, or of international concern². As a proportion of our portfolio, approximately 5% of products consist of, or use in their production, such substances.

Looking ahead to the next year, we plan to improve our audit programme for product lifecycle management. At present, it forms part of the EHS audits of our sites. We are now reviewing how we manage our product lifecycle work across the group and will embed our findings in a more targeted audit programme on this specific issue. This will enable us to be proactive across all our sites and businesses and to provide more consistent information to our customers. And in the medium term, we recognise that we have more work to do on end of life solutions for our products, with, among other things, improved recycling.

As the UK prepares to leave the EU, we have made plans for Brexit and are in a good position to manage the effects on our European operations. We are actively supporting the UK government in understanding the potential impact of the various options being considered.

Product lifecycle performance

We made good progress during 2017/18. We completed our 1 to 100 tonne per annum substance registrations for our operations in the EU in good time for the May 2018 deadline under the REACH requirements (the European Regulation on the registration, evaluation, authorisation and restriction of chemicals). Work is also progressing on preparing registrations for a small number of priority chemicals in South Korea. In the US, the US Toxic Substances Control Act (TSCA) was recently subject to a major update and we have responded to the resetting of the TSCA Inventory per the deadlines.

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 2017/18, 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

¹ e.g. SVHCs 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.

Environmental performance

Environmental performance summary

		2018	2017	% change
Operational carbon footprint (Scope 1 and 2 market method)	thousand tonnes CO ₂ equivalent	445	469 ¹	-5
Energy consumption	thousands GJ	5,104	5,147 ²	-1
Electricity consumption	thousands GJ	2,055	1,955	+5
Natural gas consumption	thousands GJ	2,722	2,872 ²	-5
Total waste sent off site	tonnes	71,787	70,200 ^{3,4}	+2
Total hazardous waste sent off site ⁵	tonnes	44,020	43,542	+1
Waste to landfill	tonnes	6,271	6,894 ³	-9
Water withdrawal	thousands m ³	2,729	2,643	+3

¹ Carbon footprint data for 2016/17 has been restated using updated methodology to be used to 2025, see further details on page 201.

² Restated to reflect updated conversion factors.

³ Excludes 17,682 tonnes of uncontaminated soil from a construction project in Redwitz, Germany in 2016/17 which was classified as non-hazardous waste to landfill under local law.

⁴ Restated to include additional waste stream omitted last year.

⁵ Excludes hazardous waste sent for beneficial reuse.

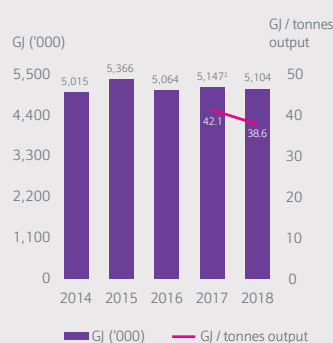
All percentages and ratios in this section are calculated on unrounded numbers.

We have group policies, processes and systems in place to manage our environmental performance and help us realise continuous improvement. In addition to process improvement efforts, the efficiency and longevity of equipment are considered in purchasing decisions and for large capital expenditure projects.

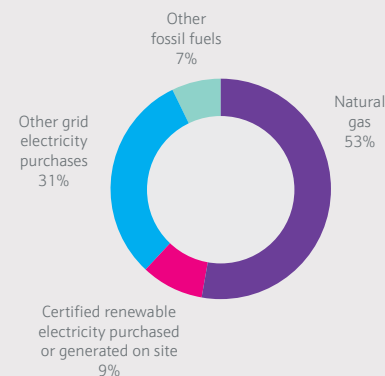
The company also provides environmental policies on areas including emissions to atmosphere, energy management, waste management, protection of waste water discharge systems and discharges to surface and ground water. These policies provide the guiding principles necessary to ensure that high standards are achieved at all our sites around the world.

All our major manufacturing sites are required to maintain certification to the ISO 14001 environmental management system as a means of setting, maintaining and improving standards. The group also requires new or acquired sites to achieve ISO 14001 certification within two years of beneficial operation or acquisition; 89% of such sites are ISO 14001 compliant.

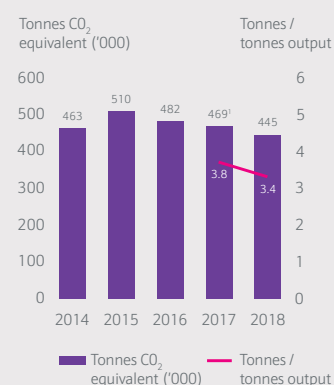
Energy consumption



Energy consumption



Carbon footprint



² Restated to reflect updated conversion factors.

¹ Restated using updated methodology to be used to 2025, see further details on page 201.

Going beyond this, 12% of our manufacturing sites are also ISO 50001 compliant. ISO 50001 builds on ISO 14001 and looks specifically at the development of energy management systems to systematically and continuously improve energy efficiency. Our manufacturing sites in Macedonia, South Africa and our major sites in Germany have all achieved this standard.

Every year we undertake a comprehensive review of group environmental performance across all our manufacturing, R&D facilities and large offices that are under our financial control.

Energy consumption

Group product output grew by 8% in the year. By contrast we recorded a 1% absolute decrease in energy usage within our facilities this year.

The make-up of our energy purchases changed in 2017/18 as our combined heat and power (CHP) plant in Royston, UK was out of service for much of the year as we are replacing it with a new CHP. Electricity usage across the group rose by 5% whilst gas usage declined by a similar amount. 0.2% of our electricity came from local solar power facilities that are not grid connected, a 14% rise on last year (see further details on page 40). In total, 467,960 GJ (21%) of the electricity we consumed during the year came from certified renewable energy sources for which JM is in possession of the associated Renewable Energy Certificates.

3 Greenhouse gas emissions


We report greenhouse gas emissions from our manufacturing processes and energy usage in accordance with the 2015 revision of the Greenhouse Gas Protocol (www.ghgprotocol.org). Our total operational carbon footprint is based on:

- Scope 1 emissions – generated by the direct burning of fuel (predominantly natural gas) and process derived greenhouse gas emissions (CO₂, N₂O, CH₄ and refrigerants).
- Scope 2 emissions – generated from grid electricity and steam use at our facilities.

Although we dual report our Scope 2 emissions, in 2017/18 we have switched to using Scope 2 calculated by a market based method. This reflects the emissions of the electricity we are actually buying more accurately than using location based emissions factors. Market data is available for 57% of our sites and is obtained from local suppliers, energy contractual documents and website declarations. At 80% of sites where competitive electricity purchasing markets are operational, the carbon intensity of electricity we purchased was lower than the national or regional average. Thus, Scope 2 carbon footprint calculated by the market method is 10% lower than the location based method.

21% of grid electricity was purchased on zero carbon tariffs in 2017/18. We expect this percentage to increase in 2018/19 as several of our Pennsylvania area sites switch suppliers.

Our absolute carbon footprint using the market method decreased by 5% in 2017/18. Using less gas and processing cleaner feeds in our pgm refinery yielded a 6% reduction in our Scope 1 carbon footprint. We purchase zero carbon electricity at many of our UK sites. A reduction in the carbon intensity of our electricity purchases around the globe led to a 4% drop in Scope 2 emissions, despite a 5% increase in electricity usage. Relative to production output, our carbon footprint decreased by 12%.

 Pages 39 and 40: Details of our actions to reduce greenhouse gas emissions

Carbon footprint

	2018 thousand tonnes CO ₂ equivalent	2018 % of total carbon footprint	2017 thousand tonnes CO ₂ equivalent ¹	2017 % of total carbon footprint
Scope 1	215	48%	229	49%
Scope 2 (market based method)	230	52%	240	51%
Scope 2 (location based method)	279	56%	286	56%
Scope 3 (from electricity transmission and distribution)	20	n/a	22	n/a
Total operational carbon footprint (Scope 1 and 2 market based method)	445	100%	469	100%
Total operational carbon footprint (Scope 1 and 2 location based method)	494	100%	515	100%

¹ Restated using updated methodology to be used to 2025, see further details on page 201.

Strategic Report

Other emissions to air

Emissions from our operations are typically licensed by local regulations and are generated from a number of sources including combustion processes, materials handling and chemical reactions. All sites monitor emissions to ensure compliance with local regulations and set their own absolute targets aimed at reducing significant emissions as part of their local environment, health and safety improvement plans.

Significant developments were made in systems to abate emissions to air. In Germany, new ammonia abatement systems were installed and in China both oxides of nitrogen (NOx) and volatile organic compound (VOC) abatement systems are being installed. The total investment for these systems is around £6.4 million. The VOC abatement system in China was our Clean Air Sector's first VOC abatement system, which allows JM to go beyond compliance and protect the local atmosphere. New government legislation in China means that all our sites in Shanghai will be subject to mandatory NOx, oxides of sulphur (SOx) and VOC reporting going forward.

In 2017/18, our reported NOx (NO + NO₂) emissions were 383 tonnes, up 10% on the previous year due to an increase in production in our Catalyst Technologies business. Our total SO₂ emissions decreased by 13% to 44 tonnes due to change in the type of material processed through our pgm refinery in Brimsdown, UK.

Our emissions of VOCs decreased by 24% to 101 tonnes. This mainly resulted from a review of the efficiency of the vacuum pumps scrubbing the emissions at our Health Sector's sites.

Our emissions to air data disclosed here are comprised of data from 39% of our manufacturing sites. Within these numbers, we believe we have captured our material emissions across the group but will be working to increase coverage of our emissions to air reporting over the coming year to confirm this.

Waste

In 2016/17 we introduced a more detailed reporting system for waste disposal across the group, allowing us to better track and report the considerable efforts our sites are making in minimising their waste streams and disposing of waste in the most responsible way. We continued to focus on better waste reporting this year and have needed to restate our 2016/17 data to include some waste streams that were previously omitted. We have had our reporting of total solid waste and total hazardous waste data externally assured for the first time in 2017/18.

We disposed of 71,787 tonnes of waste via third parties in 2017/18. Of this 79% is liquid waste, largely dilute aqueous waste coming from our UK pgm refineries. 65% of our total waste sent off site was classified as hazardous waste. 96% of our hazardous waste is very dilute aqueous waste, 65% of which comes from our pgm refinery in the UK and is tankered off site for treatment by third parties; we are actively investigating alternative ways to deal with this waste stream in future years. Only 1,822 tonnes of our hazardous waste is solid material that is not reused or recycled after it has been sent off site. 2% of our hazardous waste was shipped internationally for disposal. This is a 33% drop on last year due to less waste being shipped internationally, mainly from our Clitheroe, UK site.

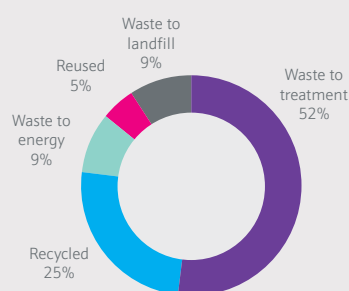
Of the total waste sent off site for treatment, 5% was sent for reuse by others, 25% for recycling, 9% for energy recovery and 9% was sent to landfill. The remainder was sent directly to third parties that offer a variety of treatment and incineration services.

We also incinerated 7,075 tonnes of waste within our own facilities, principally waste sent to our refineries for precious metal recovery.

Other emissions to air

		2018	2017	% change
NOx	tonnes	383	348	+10
SOx	tonnes	44	51	-13
VOC	tonnes	101	132	-24

Where our waste goes



Total waste to landfill



¹ Excludes 17,682 tonnes of uncontaminated soil from a construction project in Redwitz, Germany which was classified as non-hazardous waste to landfill under local law.

Water withdrawal

Water withdrawal increased slightly this year to 2.7 million m³, a 3% increase in absolute terms but a 5% decrease relative to production output. 91% was supplied by local municipal water authorities, 7% was abstracted from groundwater and 2% was abstracted from fresh surface water.

40% sites operate their own waste water treatment facilities treating 1.2 million m³ of waste water per year, a 3% increase on last year. 27% of the water treated on site is recycled back into our processes rather than being discharged as effluent, reducing the sites' water demand. Our Clitheroe, UK site is leading our initiatives, recycling 64% of its water treated on site.

Our total effluent increased by 1% to 1.6 million m³ in 2017/18 after data from 2016/17 was restated due to inaccurate billing to our Germiston, South Africa site by its local authority. 86% of our total effluent was discharged to local authority sewers after treatment and in accordance with local discharge consent agreements. The remainder was discharged to surface water courses after treatment and within quality limits set by local water authorities.

Our total consumption (water withdrawn less water discharged) was 1.1 million m³, a 7% increase on last year. More information is available on our website in our CDP disclosure.



matthey.com/cdp-water

The chemical oxygen demand (COD) test is commonly used to indirectly measure the amount of organic compounds in water and is a useful measure of water quality. In 2017/18 the group discharged organic chemicals equivalent to an average COD of 197 mg/L into water courses, as regulated by local emission limits at each manufacturing facility.

This average COD was calculated from readings collected at sites representing 65% of our total water discharged. Some of our sites use a different measure of water quality which cannot be translated directly to a COD calculation and are therefore not included in this measurement.

Environmental incidents

Johnson Matthey has a robust and effective management system that requires all sites to report environmental incidents to our Group EHS department. All spills that occur on unmade ground or near drinking water sources are classified as significant. One site (Royston, UK) has self-reported an incident to the local authorities in 2017/18 which is still under investigation.

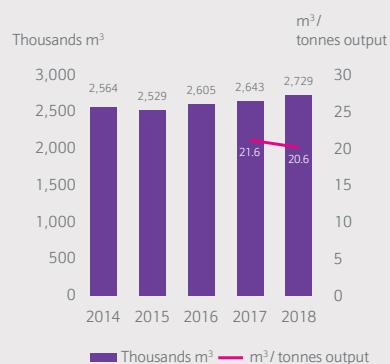
During 2017/18, we received one fine for an environmental permitting requirement breach, which had no environmental impact. This was at our Clean Air plant in Shanghai, where we had begun work to construct a new production line prior to receiving an environmental permit from the Environmental Protection Bureau. The permit was granted retrospectively but the business was fined RMB 1.998 million (approximately £220,000). The management error that led to the breach was subsequently investigated and actioned.

Environmental performance – priorities for 2018/19

More regular reporting by sites throughout the year (using the recently launched Enablon reporting tool) will enable areas of improvement to be identified and implemented more quickly. It will also allow us to report data from a greater proportion of sites for some areas, such as other emissions to air.

Additionally, we will review and update some environmental policies and their associated guidance.

Water withdrawal



Environmental spills

Location	Volume (litres)	Material	Impact
Royston, UK	2,000	Chemicals	Under investigation



People

Our people are key in delivering our strategy and achieving our vision. We want to harness their commitment to our sustainability goals. At the same time, we want them to be confident that they are coming to work in a safe and healthy environment, with a strong ethical culture, clear values and a positive approach to diversity and inclusion.

Sustainable business goals

Health and safety

1

Our people

2

Community engagement

6

Our values

Protecting people and the planet

Acting with integrity

Working together

Innovating and improving

Owning what we do

Creating the right culture

No compromise on health and safety; doing the right thing without question; engaged and enabled people, ready to play their part.

Three of our 2025 goals relate to people and cover health and safety, employee engagement and volunteering in the community. They continue work already in place and build on our achievements. For example, under our Sustainability 2017 programme, we reduced lost time injury and illness rates by 25% and occupational health incidents by 75%. But now we are setting the bar higher for ourselves and there are significant new inclusions in our targets.

As a company handling chemicals and hazardous materials, we must maintain and continuously improve our health surveillance systems and preventative actions.

1 Keeping our people healthy and safe

Our vision is for a cleaner and healthier world. As we embark on our sustainable business framework, health and safety – and our aspiration to zero harm – heads the list of our six new goals to 2025. We are building on decades of hard work to enhance health and safety. However, we saw our performance plateau in 2017/18 so much remains to be done in an area where both leadership and employee awareness must always be active and alert.

During the last year we created a strategic environment, health and safety (EHS) leadership committee that developed and approved a three year EHS roadmap, taking us up to 2021. We have analysed our current position in key areas such as process safety, lifesaving policies, occupational health and EHS capability and have defined where we want to be by 2021. These clear targets and the interim milestones will shape our activities over the next years.

Our roadmap to 2021 has four main elements: leadership and personal ownership, managing key risks, management processes and the effectiveness of our EHS staff. While formal tasks have been set for all four elements and their components, what underpins the whole roadmap is personal engagement with the plan.

We expect our leaders to 'walk the talk', for example, through site visits and getting involved in questions, conversations and updates.

We also expect our line managers to take responsibility and give continuous emphasis and clarity on health and safety requirements. And employees are being empowered to participate actively in EHS activities. We are placing a special emphasis on what we call high potential learning events, where we can draw lessons from incidents and risky behaviour. Across JM, everyone is required to follow five clear and simple safety principles and with a health and safety element a 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.

We have designated a core group of our health and safety policies as 'lifesaving policies'. These policies cover known dangers, where policy breaches could endanger life or lead to serious injury. We have eight lifesaving policies covering areas such as process isolation, permit to work, driving, working at height, guarding dangerous machinery and isolating electrical equipment, and have refreshed them during the year. They are available in local languages and we are providing guidance to our sites on how to implement them, using tools such as e-learning, gap assessments and internal audits. The first e-learning module was an overall awareness on all eight of our lifesaving policies and was completed by about 8,000 staff who had access via e-mail. For staff without e-mail, internal briefings were carried out.

The main causes of injuries across JM are slips, trips and falls, hand injuries and ergonomic problems. We have set a behaviour standard in order to prevent injury, the task now is to ensure that employees remain aware of their personal safety at all times, and that of their colleagues. We know from our EHS audits which sites have the highest rates of injury and where they stand in meeting our behaviour standard. To improve performance on these sites, we have introduced safety improvement plans.

These are special short term safety plans specific to a particular site based on its risk profile and EHS performance in lagging and leading indicators. These special plans are over and above our annual EHS plans.

My Team, My Responsibility

We have continued to implement My Team, My Responsibility, the training programme that builds on our EHS behaviour awareness programme and aligns with our EHS behaviour standard. The training supports work we have already done to encourage employees to take personal responsibility for safety. Team leaders receive training on how to deliver the interactive programme. Back at their local site, team action plans are developed, along with how they will be tracked. These are later submitted to a third party consultancy for audit. The aim of the programme is to help us identify preventative measures to avoid incidents from happening in the first place. It also builds the skills and confidence of team leaders, removes employee reluctance to speak up and make the right behaviours second nature. We plan to complete the implementation of this by end of 2018.

Process safety risk management

One area of special concern for us is process safety risk management (PSRM), which is all about how we safely manage our most hazardous processes. We are committed to improving safety by embedding process safety capability in our sites through training at all levels. We have completed PSRM training for 96 of our senior executives and also 312 of our site leadership teams. This training was developed with Cogent Skills in the UK and meets the national training standards for process safety. A PSRM experts group has been established which holds regular meetings to discuss strategy and implementation.

Strategic Report

During the year we have updated our own PSRM Policy which defines 'applicable processes', i.e. those with high hazards such as flammable gas and toxic liquids, and also provided detailed guidance for this. We have completed maximum credible event (MCE) studies and gap assessments against our PSRM Policy. We also have developed a process safety audit protocol and audited selected sites.

The focus for the coming year is the completion of the action plans from the MCE studies and the gap assessments against our PSRM Policy, training our process safety champions and embedding process safety indicators. We are also reviewing the resources we have on PSRM and plan to meet the requirements for these with in-house capabilities or through external recruitment.

Occupational health

Occupational health also remains important for us. While the number of occupational illnesses reported each year remains low, we remain vigilant on both known and recently emerging types of illness.

Our approach to occupational health is covered at the group and business level. At group level, for example, we set policy and provide guidance for the management of chemical exposure, which is implemented at our sites. Chemical exposure is a major area of focus for us and incidents are declining.

We continue to conduct work on key areas such as platinum salt exposure because platinum salt sensitivity can occur in some, but not all, employees who are exposed to certain types of platinum salts during the course of their work. We have improved our management of platinum salts and are working with the International Platinum Group Metals Association (IPA) to gain a better understanding of the epidemiology of those at higher risk of sensitisation.

We are seeing an increase in mental health incidents involving stress and we are responding with research and planned action. Following a pilot survey, we identified three factors that are leading to stress in our workplaces: work relationships, work pressures and organisational change. Until recently, companies have not recognised sufficiently the toll that mental health issues are taking. In the UK alone, over 11 million working days a year are lost because of a mental health problem, with one in four people affected.

We are putting in place employee assistance programmes (EAPs) in all of our major countries to support our people. EAPs are voluntary, work-based programmes that offer free and confidential assessments, short term counselling support, referrals and follow-up services to employees who have personal and / or work related problems.

Ergonomics and the prevention of musculoskeletal disorders also remain an area of focus for us. These are tackled at the level of our businesses based on guidance that is provided at group level.

Driving improvement

We provide ongoing training on health and safety to maintain employees' awareness towards known risks and advise on the top injury trends. Our Enablon health and safety reporting platform is used for reporting and analysing risks, which helps us target areas of concern.

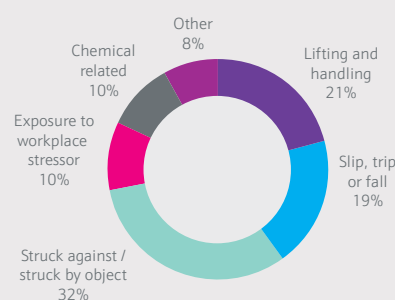
In September 2017 we held a three day conference and training session in North America, attended by 23 EHS professionals and 23 operational staff. During the conference attendees shared best practice, networked and obtained a deeper understanding of the JM EHS strategy, enabling them to better drive EHS performance in their areas.

We have an ongoing programme of regular EHS assurance audits which are undertaken using global protocols. In 2017/18, we undertook 26 audits at our manufacturing and R&D facilities.

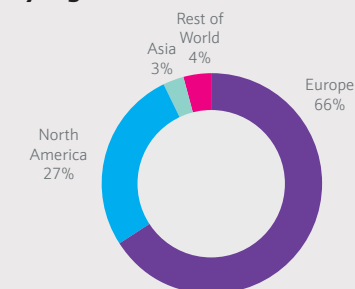
44% of our manufacturing sites are compliant with BS OHSAS 18001, the internationally recognised British Standard that sets out requirements for occupational health and safety management good practice.

In addition, our group occupational health and policy director visits up to five sites a year to audit their occupational health programmes. Occupational health consultants have been appointed in Europe, India, the US and China. They provide help in identifying local problems and implementing solutions.

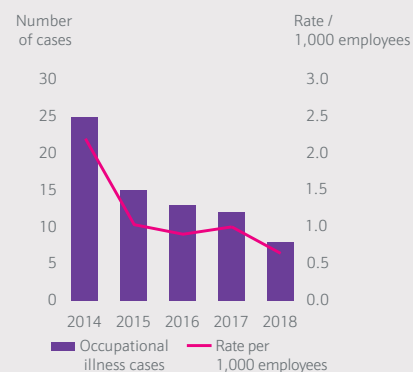
Lost time injuries and illnesses by event type



Lost time injuries and illnesses by region



Occupational illness cases



All of our manufacturing sites have formal health and safety committees to help monitor, collect feedback and advise on occupational safety programmes. They are led by site senior management and meet on a regular basis to cascade plans and ideas to and from our workforce. Over half of our manufacturing sites have a formal joint worker-management health and safety committee comprised of representatives from both staff level and management grades, covering 67% of employees globally.

Health and safety performance

Our renewed emphasis over the last year has led to a slight improvement in our TRIIR and occupational illness performance. However, our LTIIR of 0.48 was the same as last year. Over the same period, our TRIIR improved from 1.00 to 0.93, a decrease of 7%. There was a total of 68 lost time accidents and illnesses across the group during 2017/18. There were no employee fatalities in the year; the last employee fatality at Johnson Matthey occurred in July 2015. Our performance is summarised in the charts below.

Our construction projects use a contractor workforce and we work hard to ensure the safety of all contractors who work for us. Overall, contractor LTIIR dropped from 3.15 to 0.74. We saw a rise from six lost time incidents involving contractors during 2016/17 to eight during 2017/18.

The drop in contractor LTIIR was due to improved classification and reporting of contractor hours worked, which increased from 381,359 during 2016/17 to 2,171,462 during 2017/18. There were no contractor fatalities in 2017/18; the last one occurred in October 2010.

The number of occupational illnesses reported during 2017/18 was eight, giving a rate of 0.64 illnesses per 1,000 employees in 2017/18 (compared with 1.0 in 2016/17). Of the eight, six were in Europe and two were in North America. By gender, five were males and three were females. No contractor illnesses were reported in 2017/18.

Our overall number of occupational illnesses remains very low and we expect to see annual fluctuations as the figures are subject to statistical variation. We use a health scorecard system developed by the UK Chemical Industries Association to monitor our health performance. This year 64 sites completed the scorecard questionnaire, compared to 69 sites the previous year. Of these, 64% reported average scores of A or B (which corresponds to best practice), the same figure as in the previous year; 30% reported average C scores (which corresponds to our current minimum target score), compared to 26% in the previous year; and 6% reported an average D score (below our current minimum standards), compared to 9% the previous year.

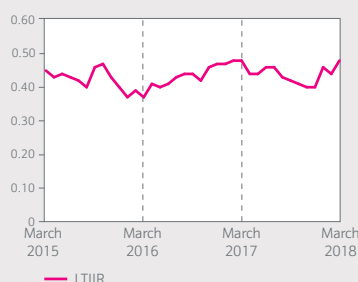
The survey continued to reveal mental wellbeing programmes as the least well performing area of occupational health. It was also the lowest performing topic from sites reporting A and B scores. We are aware of a rising incidence of mental ill health and are conducting internal research to help tackle the problem and provide proactive guidance (as described above).

Alongside our other health and safety performance metrics, we also monitor our OSHA severity rate. The severity rate from the US Occupational Safety and Health Administration (OSHA) is a calculation that gives us an average of the number of lost work days per recordable incident and as such, provides an indication of how critical each injury and illness is. The premise is that an incident that resulted in an employee missing time from work to heal and recover has greater significance than one where the employee can immediately return to work. It is therefore a useful metric for us as we strive to reduce the severity of the incidents that occur at our facilities by improving our workplaces and our behaviours to avoid incurring these more significant incidents.

	2017	At 31st March 2018
OSHA severity	11.2	12.2

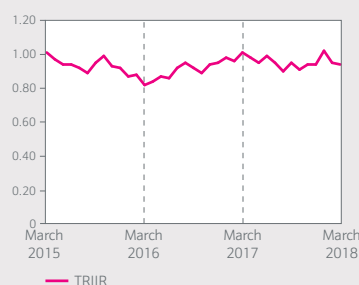
Lost time injury and illness rate (LTIIR)

per 200,000 working hours in a rolling year



Total recordable injury and illness rate (TRIIR)

per 200,000 working hours in a rolling year



Trade union committee representation

31 of our manufacturing sites have active trade unions and 26 of them have a trade union representative on their local health and safety committee. 22 sites have formal trade union agreements that cover health and safety topics (listed in the table below).

Topics covered by trade union agreements

Topic	% of sites covered
Use of personal protective equipment	86
Participation of worker representatives in health and safety inspections and investigations	82
Training and education	95
Complaints mechanisms	64
The right to refuse unsafe work	95
Periodic inspections	82

Strategic Report

Our People Strategy

We want our people to feel that JM is a great place to work, where working safely is a priority, where diversity is valued, and working collaboratively is very much encouraged, all within an environment that promotes growth and development.

Our aim is to become an employer of choice. We have refreshed our company brand, making it more relevant to existing employees and new recruits. Linked to this is our employee value proposition (EVP); this is the essence of how we position ourselves as a company with a unique set of benefits which an employee receives in return for the skills, capabilities and experience they bring to Johnson Matthey. We have begun work on our EVP and plan to develop it further in the coming year.

Guiding our HR practices is our people strategy, which has five pillars:

- attracting and recruiting talent;
- developing and supporting our people;
- rewarding and retaining them;
- embedding our culture and values; and
- supporting change.

The last year has seen considerable progress.

We have launched our first ever JM wide global graduate development programme. The two-year programme has been rolled out in the UK, the US and China, with programme managers in each of the countries. We select high calibre graduates from partner universities who are deployed in one of three disciplines – science, engineering and operations or commercial. Graduates work on stretch projects with defined objectives for three eight-month rotations. After the third rotation, we will consider permanent placement in JM based on what is appropriate for the next phase in their career development. We are making a significant investment in the programme to make it a highly positive experience for the new recruits in the expectation that they will want to make their future careers with us. Alongside this we are improving the consistency of our global recruitment processes and we have launched a single recruitment website for JM. We are also developing a global onboarding programme for all new recruits.

To support our business and growth ambitions, it's important for us to ensure our people understand the career development opportunities that exist across JM. We are also keen to unlock the potential we have within the company and ensure that all employees are enabled to reach their career aspirations.

With this in mind, over the last year we have undertaken a job classification project to enable us to develop a new globally consistent framework of career paths and a common, globally applied job grading system.

All sectors and global functions have been working together to identify the various different roles we have within the organisation and to systematically classify them into a common structure that will operate globally across JM.

We have classified the various roles across the organisation into:

- Job families – a broad grouping of jobs where the type of work performed and knowledge, skills and expertise are related (e.g. Finance); and
- Job disciplines – a narrower grouping of jobs with similar characteristics within a given job family (e.g. Accounting and Control is an example of a job discipline within the Finance job family).

This job classification forms the basis on which CareerPath frameworks and Global Grade systems are established. The CareerPath framework is a tool to help give employees better clarity on the different career steps available in Johnson Matthey across different functional areas. In the past, it has been difficult for people to know how to progress in JM because of a lack of common CareerPaths across our different businesses, countries and functions.

We are piloting a new R&D CareerPath framework that focuses on career steps within the R&D job family. This CareerPath highlights key accountabilities and competencies (technical and behavioural) that are expected at each career level in the R&D job family so it can enable better career aspirations, more meaningful career conversations about opportunities for development and how to match ambitions with the needs and goals of JM as a whole. Once the pilot is complete, we will create CareerPaths in all other job family areas within JM.

We develop employees at all levels of our organisation so that they are equipped with the knowledge and skills our company needs and to improve their career satisfaction.

With a fresh look at the JM strategic drivers and skills needed for the future, we are developing a new leadership development strategy. This includes a series of programmes designed to shift mindsets towards those required for leading through

change. These will be targeted across our leadership pipeline, from first time managers to executives, and will seek to equip leaders to deal with the full range and context of JM's business operations.

This past year we have launched a new pilot development programme for middle level leaders and redesigned the development programme for our senior level executives. This senior executive programme will launch in 2018, along with a new pilot development programme for employees taking on a leadership role for the first time.

As part of our strategic pillar to develop and support our people, we are developing an enhanced approach to performance management under a programme called Inspiring Performance. The decentralisation of our sites meant that, in the past, performance management was handled at a local level, with a lack of global consistency. We are now well advanced in a programme of improving performance management and ensuring it is globally consistent for our management and staff level employees.

We are committed to inspiring, growing and investing in our people, cultivating a continuous feedback culture that empowers employees and leaders to set stretching and achievable outcomes that meet strategic goals. The business goals in JM, and of each of our sectors and global functions are cascaded down so that employees are able to link their personal objectives to business objectives – aligning company and individual aspirations so that our people can see how they can contribute to JM's goals.

We continue to work to ensure that our reward and benefit packages are in line with the location markets. In the past year, we have realigned our UK Pension Scheme to make sure it is more sustainable for the future.

We are working to develop our global wellbeing framework further so that we can support our employees in the areas of emotional, financial, physical and social wellbeing.

There is clear evidence that wellbeing programmes do impact attraction and retention and play a significant role in ongoing employee engagement. As a result, well designed and coherent wellbeing programmes go beyond their proven ability to improve healthcare risks and are now more firmly linked to the business metrics that are a product of a competitive EVP.

In the last year, we reshaped our business into four new sectors. Change is always unsettling to employees and our HR team is providing support to our people as our business transformational change programmes are implemented.

We are taking a holistic view and approach to managing change. We are creating communications toolkits across the businesses and functions to support them in helping employees to understand our new strategy and the reasons for change. The toolkit breaks down the core messages and explains how to cascade to our people.

2 Employee engagement

The driving force behind JM is our employees who bring our inspiring science to life every day. Their engagement, last measured in 2016, is evident, but we know we can do better and have made it one of our sustainable business goals. We plan to ensure that Johnson Matthey is truly inclusive, fostering employee engagement and development within a diverse and global workforce (goal 2).

Clear values are essential for securing engagement. As part of our strategy review during 2017/18, we recognised that our previous set of values did not fully support our new strategy and were sometimes confusing. Following internal research and feedback, we have developed a refreshed set of values. They are defined as:

- protecting people and the planet;
- acting with integrity;
- working together;
- innovating and improving; and
- owning what we do.

For each of our values, we have also defined the four or five types of behaviour needed to achieve them, expressed as actions. The behaviours will help people to know what is expected of them and 'what good looks like'. The new values were launched in April 2018 and a programme of work to embed them is underway.

Engagement survey

Our first global employee engagement survey was conducted in November 2016 and managed for us by employment consultancy Korn Ferry Hay Group. Overall, we scored 61% for employee engagement and 62% for employee enablement, slightly below the industry average. These form the baseline for our sustainable business goal 2.

'Engagement' encourages our people to contribute actively to our success, while 'enablement' measures how we are creating an environment where people can perform at their best.

The survey revealed 'health and safety' and 'doing the right thing' as company strengths. However, we received mixed ratings on clarity around our strategy and the openness and transparency of communications across the company. We made these priorities for action and have developed a far reaching, two-year engagement programme. Our second engagement survey will take place in September 2018.

JM200

In 2017, the company celebrated its 200th anniversary.

 Pages 56 and 57

It provided an opportunity for employees to unite as one company to celebrate our success and the positive contribution we make through our science to a cleaner, healthier world.

At the end of our anniversary year, we held an awards ceremony at the Royal Institution in London. The new 'JM200 Awards' recognised the best examples of our people applying Johnson Matthey's values and vision in their everyday work.

The awards, which are set to become an annual event, brought together over 100 shortlisted employees from around the world in an evening of celebration and networking, together with – most appropriately – live science experiments.

2 Diversity and inclusion

Diversity and inclusion (D&I) forms part of our drive towards wider employee engagement. There is convincing research from consultants CEB (now Gartner) and McKinsey that companies with high levels of diversity and inclusion see greater employee contributions to the organisation and experience improved retention and morale.

We also believe that it is ethically right and are committed to developing a truly inclusive culture. That means providing equal opportunities for everyone, regardless of their ethnic origin, age, disability, religion, gender identity or sexual orientation.

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.

 matthey.com/diversity

We have set up a D&I taskforce and developed a D&I action plan, which launched with JM's D&I month in May 2018.

The D&I action plan has five elements: training and development; standards; data; leadership accountability; and recruitment. Among our targets we plan to add awareness training for the organisation, include D&I content in all our leadership development courses, make D&I part of our global induction process and provide training in unconscious bias for employees involved in recruitment. We will track our progress against this detailed D&I plan using our own criteria with the aim of achieving 100% completion of the plan by 2025 (our sustainable business goal 2).

Employee resource groups

There is much for us to do to become a truly diverse and inclusive organisation but we have made a good start. We have set up two employee resource groups (ERGs). The first is Pride in JM (inviting LGBT+ membership, together with 'allies' or supporters), which launched in October 2017. Pride in JM is working to create a network of LGBT+ role models and foster inclusivity. It also aims to become an employer of choice, with a place in the top 100 index of UK charity Stonewall (with whom we are partnering) within three years.

Strategic Report

Our second ERG is a women's group, Netw@rked, launched in Royston, UK in July 2017. A global group is now being formed with the aims of networking, personal empowerment and increasing the proportion of women in the company to reflect the talent pool in society.

The groups have been welcomed by employees – "vital to both increasing confidence and awareness of various groups", in the words of one employee. Next on our list is the formation of a disabilities employee resource group.

Gender pay gap report

In March 2018, we published our first gender pay gap report, covering UK employees. It showed a median gender pay gap of 9.2%, reducing to 4.7% if pay before any salary sacrifice deductions for voluntary benefits is considered. Our figures compare favourably to the average pay gap for UK companies, which is of 18.8%.



matthey.com/gender-pay-gap-17

We are working to close the gender pay gap and gender imbalance through our D&I action plan. We are also boosting our investment in apprentice and graduate outreach and encouraging more women into these roles in STEM areas (science, technology, engineering and mathematics).

Over the next year, we plan to roll out our unconscious bias training to our ethics ambassadors, hiring managers and the HR function. We will also complete our global flexible working policy and roll it out.

Ethics and compliance

A strong culture of 'doing the right thing' will be critical to achieving our vision and strategy. Our aim is to eliminate ethical lapses and breaches of compliance and in doing so, turn our reputation for doing the right thing to our strategic advantage.

Our ethics and compliance strategy 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.

One of the main ways we promote an ethical culture at JM is through our global code of ethics, 'Doing the Right Thing', which is central to the way we act as a company. The code is available in 22 languages and contains information and resources that enable our employees to make the right choices in line with

our values and demonstrate the highest standards of integrity and ethical behaviour. We plan to refresh our existing code during 2018 in line with best practice.

We have a network of over 85 ethics ambassadors who play an important role in bringing our code of ethics to life, supporting senior leaders with their responsibilities for ethics and compliance and promoting a good ethical culture. In March 2018, we hosted a global conference for our ambassadors to share experiences, best practices and shared challenges whilst strengthening the ethics ambassador network.

Within Johnson Matthey we promote a 'speak up' culture encouraging everyone to speak up when they have a concern or are unsure about something. We encourage individuals to do this through their local management, ethics ambassador, or HR or legal function wherever possible. We also provide employees (and third parties) with an independently run speak up helpline (which can also be accessed online) where concerns can be raised. This helpline also allows individuals, where local law permits, to remain anonymous. The helpline is available to everyone and not just Johnson Matthey employees. 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 continually look to improve the way we do things in JM.

During 2017/18, 144 speak ups were received and investigated which, given our size, is in line with the industry norm in terms of volume (see charts on page 59). We view the increasing numbers as a positive reflection of the confidence in and awareness of the process and many recommendations arising from investigations have been actioned in our businesses.

Everyone within Johnson Matthey has undertaken training on our global code of ethics. Additionally, targeted compliance training is provided to people whose roles expose them to specific risk areas. We regularly review our training and communications materials and methods for delivery to ensure they remain relevant to the risks our business and employees face.

In order to have an effective ethics and compliance programme we have developed, and continue to review, a compliance programme framework

applied to each risk area. These risk areas include bribery and corruption, data protection, export controls and sanctions, conflicts of interest, competition / anti-trust, financial crime (including the new Corporate Criminal Offence of failing to prevent the facilitation of tax evasion), modern slavery (see pages 43 and 44 and activities regulated by the UK Financial Conduct Authority).

Data protection is now subject to sweeping change in Europe, thanks to the EU General Data Protection Regulation (GDPR), which came into force in May 2018. We have an ongoing programme of work to ensure that we are in line with GDPR. Upholding high standards of data privacy and information security is a key focus of our business and we will continue building on this to enhance the privacy culture throughout our organisation.

We are part way through a strategic review of all the third party intermediaries (TPIs) JM uses, initially looking at those that are the highest risk. Focusing deeply on these relationships and, where appropriate, challenging the rationale for them enables us both to mitigate and better manage bribery risks associated with using them, as well as realise commercial benefits from cost savings and improved direct knowledge of our customers and how they operate.

6

Engaging with the community

We have a long tradition of community engagement. We work with charities, organisations and schools to help develop the local economy, protect the environment, promote science education and enhance health and nutrition.

In 2017/18, we donated £680,000 to charities, a small decline on the previous year. The major elements of our spend were on STEM education and on health and nutrition. We have a policy which entitles all our permanent employees to two days of paid leave each year, during normal working hours, to support projects and charities in their local communities.

During the year, our people took 678 paid volunteering days. Using the group average cost of an employee per day, this is equivalent to £152,000 in in-kind giving to our local communities. 53% of volunteers' time was spent supporting STEM education in local schools, 14% was spent working on local community development and 12% on contributing to the education of disadvantaged people.

Now, as part of our sustainable business framework, we are reinvigorating our commitment to community investment and hope to increase the number of sites that are active in their local community. We have set ourselves a formal target to increase our volunteer work with local communities; our 2025 goal is 50,000 cumulative volunteer days (goal 6). We are encouraging HR teams and general managers at our sites to promote employee volunteering and are asking employees themselves to identify opportunities for local volunteering that aligns with our strategic aims.

We have set up a new online system on our employee intranet, MyJM, to make it easier for employees to record their volunteering activities. We have also updated our Community Investment Policy and Volunteer Guidelines.

We have continued to support the global children's development charity, Plan International. Together we are working on an education programme in Sierra Leone to train women teachers. In a country where 73% of girls have dropped out of school by the age of 11 and with 92% of teachers being men, there is an overwhelming need for more female teachers to ensure girls are not left behind in their education. Working with Plan International and the Open University, the programme is on track and it is estimated that over 120,000 children will directly benefit over the next ten years. In March 2017, 480 women enrolled in teacher training

college and JM has supported the cost of their tuition fees, learning materials and transport. So far, 476 of them have graduated to their second year. After their third year of training, these young women will be qualified to teach in primary schools. During the year we donated £28,000 to Plan International in support of this, and other projects.

We support employees' fundraising efforts for good causes and match donations up to £1,000 per employee per year (up to a total of £70,000 per annum for the group as a whole). In the last year, employees raised £38,000 for charities and JM matched their contributions. These company-matched contributions are included in our total company donations figure.

Communicating with external stakeholders

We maintain ongoing communications with our external stakeholders and update them on our activities through regular publications (including this report), our website, surveys and topic specific meetings. We outline details of our major stakeholders on pages 20 and 21.

We are also active members of a number of trade associations which help us to understand, inform and contribute to issues and discussions that are relevant to our stakeholders. Associations we have worked with in 2017/18 include the UK Chemical Industries Association, the Diesel Technology Forum, the Society of Motor Manufacturers and Traders,

the Association for Emission Control by Catalyst, the International Platinum Group Metals Association, the European Precious Metals Federation, the Platinum Group Metals Health Science Research Group of the International Precious Metals Institute in the US, Eurometaux (which represents the European non-ferrous metals industry) and CEFIC (the European Chemical Industry Council). Shareholders are an important stakeholder group. We meet with our major shareholders regularly, as described in the Corporate Governance Report.

 Pages 97 and 98

For investors particularly interested in ethical and socially responsible investments, we meet with specialists from their organisations to discuss sustainability and corporate social responsibility (CSR) issues where applicable and participate in key sustainable investment benchmarking studies. These include the Carbon Disclosure Project (CDP), the Dow Jones Sustainability Index (DJSI), FTSE4Good and Business in the Community.

In March 2017, we received an 'AAA' ESG rating from investment index provider MSCI for the fifth consecutive year. This is the highest possible rating for a company's risk and performance against a range of environmental, social and governance (ESG) factors, and one that places us above our chemical industry peers. We are a constituent of the FTSE4Good UK 50 Index.

Community investment summary

	Investment in 2017/18 £'000	%
Direct expenditure		
Donations to Plan International	28	3%
Other corporate donations	272	33%
Donations by sites to local charities and community projects	380	46%
Indirect expenditure		
Employee volunteering	152	18%
Total group	832	

39% of our sites had a site-specific local community engagement and development plan that was active during the year. Topics included in the plans were:

Community engagement topic	% sites including topic in their plan
Social impact assessments, including gender impact assessments	23%
Environmental impact assessments and ongoing monitoring	64%
Public disclosure of results of environmental and social impact assessments	23%
Local community development programmes based on local communities' needs	82%
Stakeholder engagement plans based on stakeholder mapping	27%
Broad based local community consultation committees and processes that include vulnerable groups	32%
Works councils, occupational health and safety committees and other worker representation bodies to deal with impacts	50%
Formal local community grievance processes	23%



Chasing the Sun

For 24 hours, we followed the sun.

Sites from Melbourne in Australia to San Diego, USA marked JM's bicentennial year in a way that reflected the local culture at their site and the diversity across the company. We captured events in a live 24 hour broadcast whilst employees shared their experiences with each other through photos, videos and social media posts.

Our vision was at the heart of the celebrations, with many sites planting trees to mirror our commitment to a cleaner, healthier world.

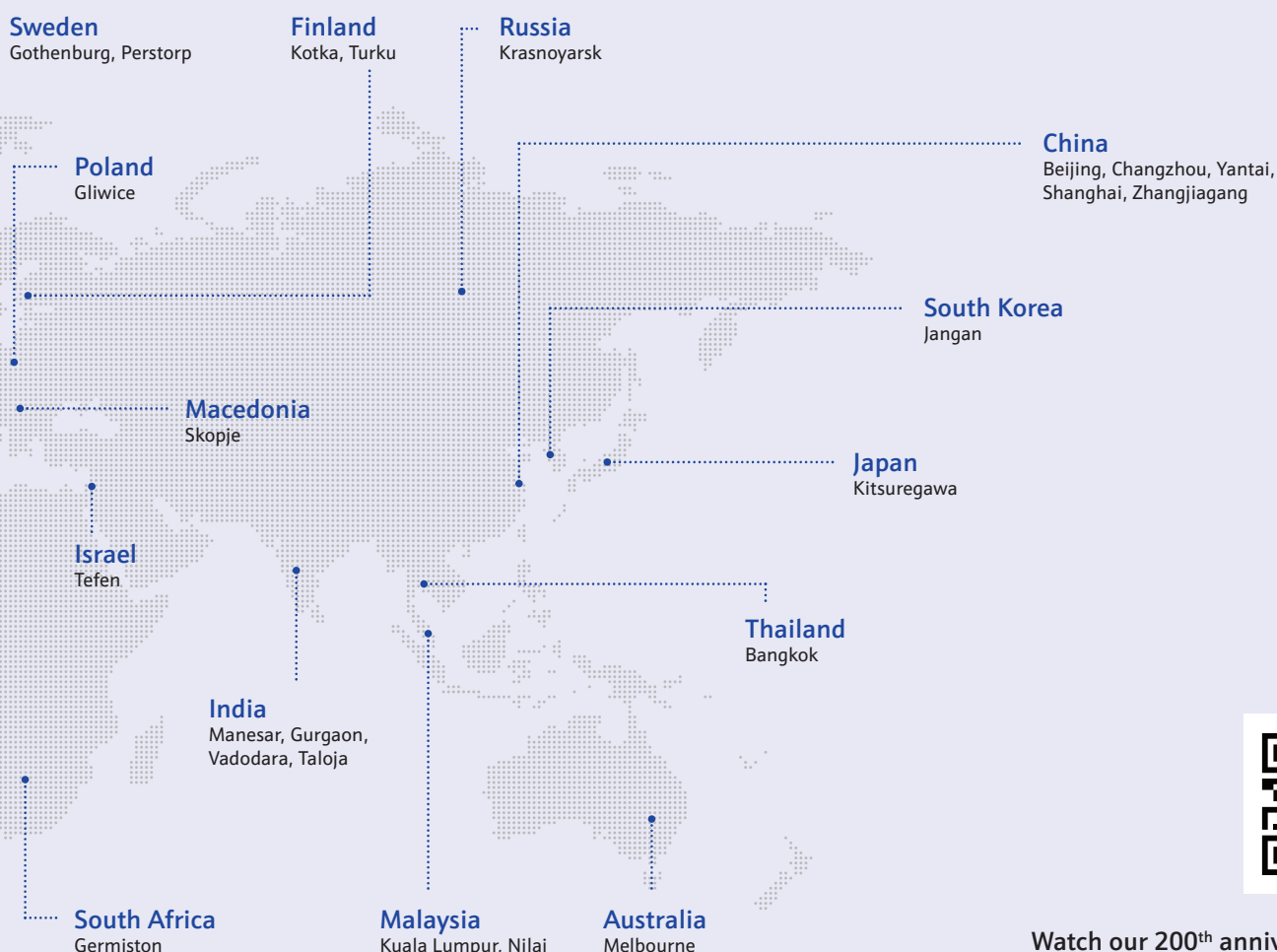


Celebrating 200 years of inspiring science

2017 was Johnson Matthey's 200th anniversary; an impressive milestone worthy of a unique celebration.

It was an opportunity to engage and involve our people in our rich heritage, our strategy for growth and mark our commitment to making the world a cleaner and healthier place.

On 19th July 2017, the 200th day of our 200th year, employees from our sites across the globe came together as one JM.



Watch our 200th anniversary video

Recognising JM and its people

2017 was full of memorable events. We published a book of our history, opened the market at the London Stock Exchange and shared historical memorabilia at our Annual General Meeting.

We closed the year by honouring perhaps the most important part of JM: the achievements of our people. The 'JM200 Awards' celebrated the incredible efforts and successes of our employees and were a fitting way to close our 200th anniversary year.

Strategic Report

People performance data

Governance and Human Resources

As a global company, we maintain progressive HR standards backed by group policies. Our HR activities meet local statutory requirements and we often go beyond them to recognise best practice. Our global HR policies are applied across our sites and are supplemented by local policies. Site specific policies and procedures are explained at inductions and through staff handbooks.

Our HR policies and risks are reviewed in accordance with our governance framework, with the board responsible for overseeing the overall people strategy. In addition, the Nomination Committee oversees talent and succession decisions and the Remuneration Committee deals with remuneration policy.

There were no significant fines or non-monetary sanctions for non-compliance with laws and regulations during the year.

New employees by age category

	Aged under 30			Aged 30 to 50			Aged over 50			Total	Total
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Europe	210	100	310	209	168	377	46	28	74	465	296
North America	114	53	167	98	37	135	40	10	50	252	100
Asia	111	25	136	175	52	227	6	0	6	292	77
Rest of World	21	6	27	27	13	40	0	0	0	48	19
Total group	456	184	640	509	270	779	92	38	130	1,057	492

Attendance

Levels of attendance were reduced slightly this year. The average number of days lost per employee in 2017/18 due to sickness and unplanned absence was 5.7 days, up from 4.8 days in 2016/17. This represents 2.2% of lost time per employee in the working year.

Average number of people employed

The following tables set out the average number of people employed by Johnson Matthey and the net change in the number of people employed during 2017/18 by geographical region and by employment contract.

Average headcount 2017/18

	Permanent employees			Temporary contract employees			Total
	Male	Female	Total	Male	Female	Total	Total
Europe	4,614	1,751	6,365	176	124	300	6,665
North America	2,376	649	3,025	18	11	29	3,054
Asia	1,597	382	1,979	18	10	28	2,007
Rest of World	400	183	583	8	2	10	593
Total group	8,987	2,965	11,952	220	147	367	12,319

Annual change in people employed

During the year 459 people left our business through redundancy. This included reductions in New Markets (Battery Materials) in China and Canada, in Health in Europe and North America, as well as reductions due to a reorganisation following the formation of Efficient Natural Resources. We support our employees during their redundancy transition with practical help to find new roles, which often includes a mix of counselling and training in job search techniques, CV preparation and interview techniques.

Net change between average headcount 2016/17 and 2017/18

	Permanent employees	Temporary contract employees	Total net change
Europe	+215	+4	+219
North America	+7	0	+7
Asia	-172	-4	-176
Rest of World	+47	+8	+55
Total group	+97	+8	+105

Employee turnover by region

The high level of employee commitment and loyalty to the group continues to bring strength to our businesses. Voluntary staff turnover was low compared to many other organisations at 9.1% (2016/17: 8.9%). The total employee turnover figure increased slightly to 12.8% from 12.3% in 2016/17.

The following table sets out the employee turnover in 2017/18 by geographical region. The employee turnover figure is calculated by reference to the total number of leavers during the year expressed as a percentage of the average number of people employed during the year. The analysis does not include agency workers not directly employed by Johnson Matthey.

	Aged under 30			Aged 30 to 50			Aged over 50			Total leavers	Employee turnover	Voluntary employee turnover
	Male	Female	Total	Male	Female	Total	Male	Female	Total			
Europe	96	58	154	228	130	358	157	48	205	717	10.8%	7.9%
North America	91	31	122	162	45	207	101	32	133	462	15.1%	10.8%
Asia	98	18	116	174	47	221	11	2	13	350	17.4%	11.6%
Rest of World	9	4	13	28	5	33	0	2	2	48	8.1%	4.9%
Total group	294	111	405	592	227	819	269	84	353	1,577	12.8%	9.1%

Gender diversity statistics

The table below shows the gender breakdown of the group's employees as at 31st March 2018.

As at 31st March 2018	Male	Female	% Male	% Female
Board	6	3	67%	33%
GMC	6	3	67%	33%
Subsidiary directors	95	10	90%	10%
Senior managers	180	60	75%	25%
New recruits	1,057	492	68%	32%
Total group	9,462	3,253	74%	26%

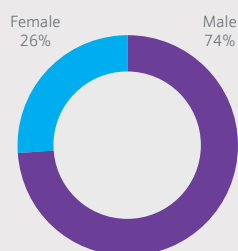
Some individuals are included in more than one category.

Gender of people employed by employment type

As at 31st March 2018	Full time % Male	Full time % Female	Part time % Male	Part time % Female
Europe	73%	27%	25%	75%
North America	79%	21%	50%	50%
Asia	82%	18%	0%	100%
Rest of World	68%	32%	20%	80%
Total group	76%	24%	28%	72%

Percentage of people employed by gender

As at 31st March 2018	% Male	% Female
Europe	71%	29%
North America	78%	22%
Asia	82%	18%
Rest of World	68%	32%
Total group	74%	26%



Trade union representation

26% of our employees (2016/17: 26%) belong to a recognised trade union. We have positive and constructive relations with all the recognised trade unions that collectively represent our employees. The following table sets out the average number and percentage of employees who were covered by collective bargaining arrangements and represented by trade unions by geographical region in 2017/18. During the year no working time was lost due to employee action.

	Permanent employees	Represented	% Represented
Europe	6,365	2,138	34%
North America	3,025	514	17%
Asia	1,979	97	5%
Rest of World	583	308	53%
Total group	11,952	3,057	26%

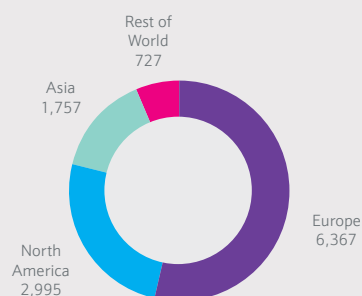
Speak up reports

In 2017/18 there were a total of 144 speak up reports, an increase of 92% on the 75 cases in the previous year (see page 54). 63% of these were closed in the year. We consider the increase in the number of speak ups to be a signal of the increasing confidence in and awareness of our speak up processes since the launch of our code of ethics in 2015.

Concern / allegation raised	Number of cases
Bribery and corruption / supply chain	15
Business and financial reporting	2
Computer, email and internet use	4
Confidential information and intellectual property	8
Conflict of interest	17
Discrimination including harassment and retaliation	63
Environment, health and safety	16
Fraud	7
Misconduct or inappropriate behaviour	6
Other or general query	4
Violence or threat	2

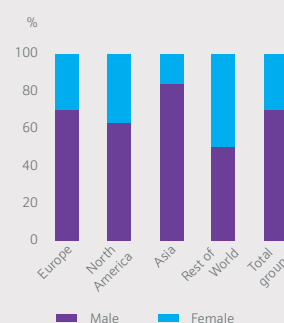
Code of ethics training by region

number of employees



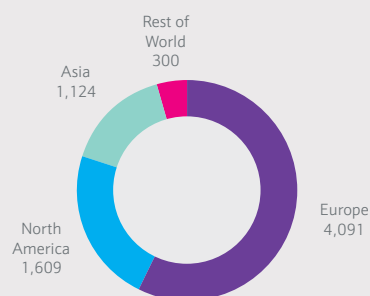
Average number of contractors employed

	Male	Female	Total
Europe	608	264	872
North America	48	28	76
Asia	107	21	128
Rest of World	23	23	46
Total group	786	336	1,122



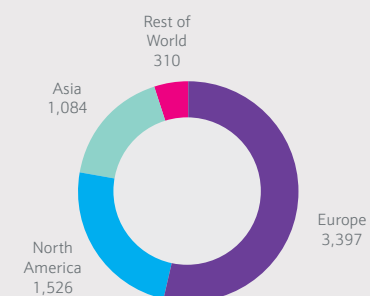
Anti-bribery and corruption training by region

number of employees



Competition law training by region

number of employees



Financial performance review

Johnson Matthey had a good year. We have made significant progress in executing our strategy and delivered a financial performance in line with our expectations at the start of the year.

Group performance review

Reported results		Year ended 31st March		% change
		2018	2017	
Revenue	£ million	14,122	12,031	+17
Operating profit	£ million	359	493	-27
Profit before tax (PBT)	£ million	320	462	-31
Earnings per share (EPS)	pence	155.2	201.2	-23
Ordinary dividend per share	pence	80.0	75.0	+7

Underlying ¹ performance		Year ended 31st March		% change	% change, constant rates ²
		2018	2017		
Sales excluding precious metals (Sales)	£ million	3,846	3,578	+8	+7
Operating profit	£ million	525	513	+2	–
Profit before tax	£ million	486	482	+1	-1
Earnings per share	pence	208.4	209.1	–	

2017/18 highlights

Underlying performance

- Sales grew 7% at constant rates², slightly ahead of our expectations with 8% growth in the second half.
- Underlying operating profit was flat at constant rates, impacted by the US post-retirement medical plan credit (PRMB) in the prior period. Excluding this, operating profit grew 4%³.
- Underlying EPS was flat as translational foreign exchange benefits were offset by higher net finance charges and a higher underlying tax rate.
- Free cash flow of £136 million (2016/17: £230 million) was impacted by the expected working capital outflow.
- Average working capital days excluding precious metals reduced by 7 days for the year to 62 days.
- Return on invested capital (ROIC) decreased from 18.2% to 16.4%, mainly due to an increase in the UK pension fund asset and higher precious metal working capital through the year.
- Strong balance sheet with net debt of £679 million; net debt (including post tax pension deficits) to EBITDA of 1.1 times.

Reported results

- Reported revenue was up 17% primarily driven by higher precious metal prices.
- Reported operating profit of £359 million. This includes major impairment and restructuring charges of £90 million (see page 71 for details) and a £50 million charge relating to a legal settlement as announced in February 2018.
- Reported EPS was therefore down 23%, reflecting the lower operating profit, partly offset by a £24 million tax credit in relation to the change in US tax legislation.
- Cash inflow from operating activities of £386 million.
- Recommended final dividend up 7% to 58.25 pence reflecting continued confidence in our prospects.

Notes:

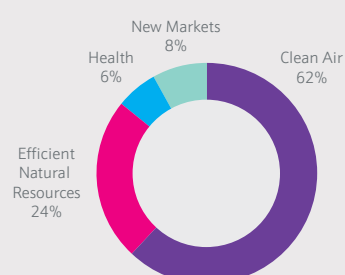
¹ Underlying is before amortisation of acquired intangibles, major impairment and restructuring charges, profit or loss on disposal of businesses, gain or loss on significant legal proceedings together with associated legal costs, significant tax rate changes and, where relevant, related tax effects. For reconciliation see note 4 on page 153.

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 2016/17 results converted at 2017/18 average exchange rates.

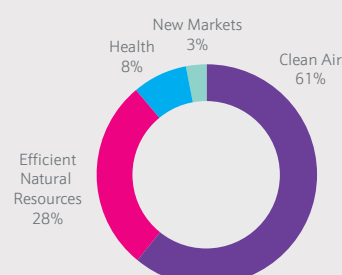
³ See page 72 for further details of performance excluding the 2016/17 US post-retirement medical plan credit.

For definitions and reconciliations of other non-GAAP measures see page 191.

Sales by sector



Underlying operating profit excluding corporate



Strategic Report

Sector performance review

Performance summary by sector

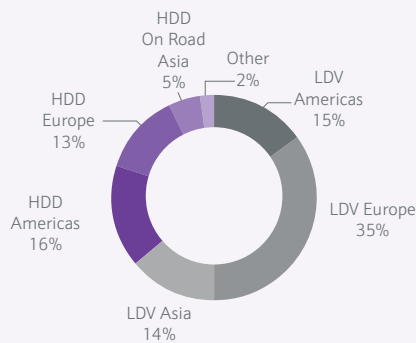
Clean Air

£2,454m **£349m**

Sales¹ +9%²

Operating profit³ +7%²

Sales¹ by business



Heavy Duty Diesel (HDD)
34%

Light Duty Vehicles (LDV)
64%

- 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

Customer profile

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

Major competitors

- BASF
- Umicore
- Cataler

Margin 14.2%

Return on invested capital 30.8%

Employees 5,470

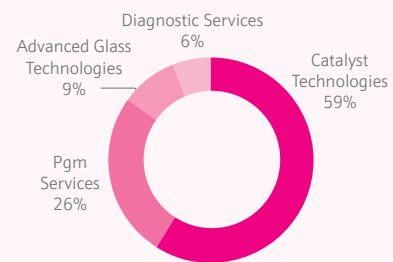
Efficient Natural Resources

£956m **£158m**

Sales¹ +4%²

Operating profit³ -4%²

Sales¹ 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** – marketing, distribution, refining and recycling of pgms, fabricates products using precious metals and related materials and manufactures pgm chemicals
- **Advanced Glass Technologies** – precious metal pastes and enamels primarily for the automotive industry

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
- Albemarle
- Umicore
- Clariant
- Grace
- Ferro
- BASF
- UOP
- DuPont
- Lurgi
- Heraeus

Margin 16.5%

Return on invested capital 12.0%

Employees 3,711

¹ Sales excluding precious metals.

² At constant rates (see note 2 on page 61).

³ Underlying (see note 1 on page 61).

Health

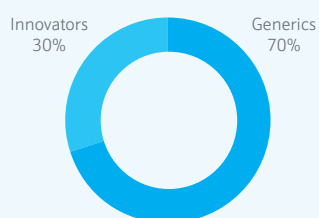
£247m

Sales¹ +6%²

£44m

Operating profit³ -13%²

Sales¹ by business



- Leading provider of complex chemistry solutions to generic and innovator pharmaceutical companies
- Develops and manufactures active pharmaceutical ingredients (APIs) for a variety of treatments
- Operates in the large and growing outsourced small molecule API market
- Providing solutions to the complex problems of both generic and innovator companies

Customer profile

- Multiple small and large branded generic pharmaceutical companies
- Innovative pharmaceutical companies developing novel products

Major competitors

- | | | |
|-------------|-----------|-----------|
| • Noramco | • Cambrex | • Hovione |
| • Francopia | • AMRI | • Almac |
| • Siegfried | • Alcam | |

Margin 18.0%

Return on invested capital 8.4%

Employees 964

New Markets

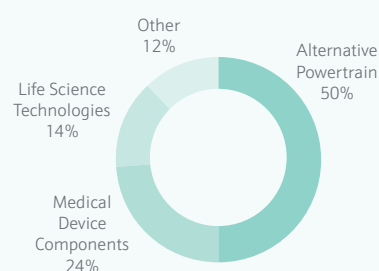
£312m

Sales¹ -2%²

£17m

Operating profit³ +34%²

Sales¹ 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 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 | • BMZ | • Heraeus |
| • BASF | • WL Gore | • Evonik |
| • LG | • 3M | |

Margin 5.3%

Return on invested capital 8.1%

Employees 1,714

Strategic Report

Operating results by sector

Clean Air

	Year ended 31st March			
	2018	2017		
	£ million	restated ¹ £ million	% change	% change, constant rates
Sales				
LDV Europe	855	828	+3	-
LDV Asia	351	338	+4	+4
LDV Americas	358	334	+7	+9
Total Light Duty Vehicle (LDV) Catalysts	1,564	1,500	+4	+3
HDD Americas	395	330	+20	+22
HDD Europe	320	259	+23	+20
HDD Asia	131	93	+40	+42
Total Heavy Duty Diesel (HDD) Catalysts	846	682	+24	+24
Other – stationary	44	42	+7	+6
Total sales	2,454	2,224	+10	+9
Underlying operating profit	349	318	+10	+7
Margin	14.2%	14.3%		
Margin excl. PRMB	14.2%	14.0%		
Return on invested capital (ROIC)	30.8%	30.7%		

¹ Restated to reflect a change in group structure.

Strong sales growth led by double digit growth in HDD catalysts in every region

- Light Duty Europe sales were flat but with a stronger second half. Very strong growth in gasoline offset by a decline in diesel.
- Light Duty Americas sales growth ahead of vehicle production driven by a favourable mix.
- Light Duty Asia sales growth ahead of vehicle production helped by higher substrate content.
- Sales of HDD catalysts were strong across the board and ahead of truck production, helped by a strong Class 8 market, ramp up of business wins in Europe and strong production growth in Asia.
- Excluding the US post-retirement medical benefit (PRMB) plan credit in the prior period, operating profit grew by 9% with margin improving by 0.2 percentage points to 14.2%.

Light Duty Vehicle (LDV) Catalysts

Our LDV Catalyst business provides catalysts for cars and other light duty vehicles powered by gasoline and diesel. The business grew ahead of global vehicle production.

In Europe, where diesel accounts for approximately 80% of our LDV business, we maintained sales as significant growth in gasoline offset slightly lower sales in diesel.

Sales of diesel catalysts were down 4%, mainly reflecting the impact of lower substrate costs which are passed through directly to customers.

Volume and sales growth excluding substrate were down 1%, broadly in line with market production which was flat year on year. One customer delayed a diesel platform launch from December 2017 to March 2018, which has affected the phasing of our share gains though we remain on track to reach circa 65% by March 2019.

In Western Europe, diesel accounted for 42% of new car sales in 2017/18 compared with 49% in the last financial year. Light duty commercial vehicles remain overwhelmingly diesel today. When these are included the overall share of diesel sales in Western Europe was 48% for 2017/18, compared with 54% in 2016/17.

Diesel's proportion of new car sales has continued to decline and in April 2018 represented 37% of sales. These trends do not change our assumptions of a diesel share of around 25% of total light duty vehicles and 20% of cars by 2025.

Across Europe, production of diesel light duty vehicles for 2017/18 was 10.1 million out of a total of 22.3 million, representing 45%. For 2016/17, 10.1 million diesel light duty vehicles were produced out of a total of 21.8 million, representing 46%.

Sales of catalysts for gasoline vehicles were up 23%, well ahead of the 4% growth in market production. We achieved volume growth ahead of market production and saw an improved sales mix as we applied our science to help customers with solutions for larger and more complex platforms.

As we have outlined, our growth in LDV Europe will be driven, in both diesel and gasoline, by a combination of share gains and increasing value per catalyst over the next few years. Sales in our Asia LDV catalyst business also grew ahead of market production driven by higher substrate content in China, which is passed directly to customers. Excluding substrate, our sales in Asia were flat.

Sales in our Americas LDV catalyst business grew well ahead of market production led by significant growth in sales of catalysts for diesel platforms, which have a higher value.

Heavy Duty Diesel (HDD) Catalysts

Our HDD business provides catalysts for trucks, buses and non-road equipment. The business had a very strong year, growing significantly ahead of market production in Europe and Asia and benefiting from strong production growth in the Americas, particularly for large (Class 8) trucks.

Our Americas HDD catalyst business saw very strong growth of 22% led by the continued recovery of the Class 8 truck market. Sales of catalysts for Class 8 trucks were in line with the 30% growth in production over the year. We expect the current high levels of production to continue until the end of the 2018 calendar year with year on year growth slowing significantly as it laps a higher base. Catalyst sales to smaller Class 4 to 7 trucks grew slightly.

Operating profit

Operating profit grew by 7% and margin was broadly maintained. Excluding the US post-retirement medical benefit plan credit in the prior period, margin improved by 0.2 percentage points. Margin was negatively impacted by an adverse platform mix in European Light Duty but this was more than offset by benefits from transactional foreign exchange and from operational gearing in our Americas HDD business given the strong sales growth.

Estimated LDV sales and production (number of light duty vehicles)*

		Year ended 31st March		% change
		2018 millions	2017 millions	
North America	Sales	20.8	21.1	-1
	Production	17.0	17.9	-5
Total Europe	Sales	20.7	20.2	+3
	Production	22.3	21.8	+2
Asia	Sales	44.1	43.1	+2
	Production	49.3	48.4	+2
Global	Sales	93.6	92.3	+1
	Production	94.6	93.3	+1

* Source: LMC Automotive.

Estimated HDD truck sales and production (number of trucks)*

		Year ended 31st March		% change
		2018 thousands	2017 thousands	
North America	Sales	540	479	+13
	Production	540	457	+18
Total Europe	Sales	457	425	+7
	Production	593	565	+5
Asia	Sales	2,019	1,650	+22
	Production	2,092	1,710	+22
Global	Sales	3,112	2,633	+18
	Production	3,321	2,801	+19

* Source: LMC Automotive.

Our European HDD catalyst business continued to outperform, growing sales by 20% in a market with only a 5% increase in truck production. This outperformance was driven by the ramp up of production from business wins in the last financial year and a continued increase in the proportion of our sales related to higher value products, both coated and extruded.

Our Asian HDD catalyst business continues to grow rapidly from a small base. Sales in China increased by more than 50%, led by high levels of truck production as the impact of loading limits continued to push demand for more trucks and an increase in the catalyst value per vehicle.

ROIC

Return on invested capital was maintained at 30.8%.

Outlook

Clean Air is expected to deliver a strong 2018/19 as significant share gains in Light Duty Europe come through. We will mitigate the additional costs from serving these share gains through increased efficiency in our manufacturing footprint and processes. We had previously expected that margin would be negatively impacted by up to one percentage point but we now expect to maintain margin in 2018/19.

Strategic Report

Efficient Natural Resources

	Year ended 31st March			
	2018	2017		
	£ million	restated ¹ £ million	% change	% change, constant rates
Sales				
Catalyst Technologies	564	542	+4	+3
Pgm Services	253	234	+8	+9
Advanced Glass Technologies	82	85	-4	-6
Diagnostic Services	57	58	-2	-2
Total sales	956	919	+4	+4
Underlying operating profit	158	163	-3	-4
Margin	16.5%	17.7%		
Margin excl. PRMB	16.5%	17.2%		
Return on invested capital (ROIC)	12.0%	13.4%		

¹ Restated to reflect a change in group structure.

Good sales growth with efficiencies driving margin improvement in the second half

- Sales growth driven by strong demand for catalyst refills and growth in Pgm (Platinum group metal) Services partly offset by the expected significant decline in licensing income.
- Excluding the US post-retirement medical benefit plan credit in the prior period, operating profit declined 2% and margin was only 0.7 percentage points lower at 16.5% despite the significant decline in licensing experienced in the year.
- We are starting to see the benefits of actions we have taken, including restructuring, destocking and product rationalisation, to improve the quality of the business.

Catalyst Technologies

Sales in our Catalyst Technologies business, which licenses technology and manufactures speciality catalysts and additives for the chemicals and oil and gas industry, grew 3%. Excluding licensing, the business grew strongly, outperforming its markets in aggregate.

As expected we saw a significant decline in licensing income. Licensing activity remained subdued with limited new plant builds, especially for the technologies we license. We do not anticipate any further decline in the business and whilst we see some early signs of improved activity in certain markets (e.g. methanol), we do not expect a material recovery in licensing income in the near term.

Sales of catalyst first fills were stable, supported in the second half by the increased activity in methanol driven by increased industry capacity coming on stream.

Growth was led by high single digit sales growth in refill catalysts and additives. Sales of refill catalysts to ammonia plants were strong, with customers having delayed turnarounds in 2016/17. Additives sales also grew strongly, mainly driven by deteriorating feed quality which resulted in increased demand for environmental additives to remove SO_x (oxides of sulphur) impurities. Sales of refill catalysts to methanol and hydrogen plants were lower due to the cyclical nature of our customers' orders.

Pgm Services

Sales in Pgm Services increased 9%. Our Pgm Refining and Recycling business benefited from higher pgm prices with average palladium and rhodium prices up 39% and 79% respectively, while platinum prices decreased 6%, compared to 2016/17. Volumes were up, supported by good demand for refining of autocatalyst scrap in North America, driven in part by higher metal prices. Our precious metal management activities benefited from the volatility in the precious metal prices over the year.

Sales of chemical products also grew strongly, supported by growth in our Clean Air Sector, which uses pgm materials in its catalyst products. Sales of industrial products containing pgms were down in the year as the business focused on rationalising its product portfolio.

Advanced Glass Technologies

Sales in our Advanced Glass Technologies business, which primarily provides black obscuration enamels and silver paste for automotive glass applications, declined despite a slight increase in global car production. The decline was principally due to destocking in the supply chain in China following a build-up of inventory at the end of the 2016 calendar year.

Diagnostic Services

Sales in Diagnostic Services were broadly flat as increased activity in the global reservoir market, leading to higher sales of our tracer technologies, was offset by lower equipment sales.

Operating profit

As expected, operating profit and margin declined. Excluding the US post-retirement medical benefit plan credit in the prior period, margin was down by 0.7 percentage points. In line with our strategy, we made significant progress in improving the efficiency and quality of our business. This came with some additional costs in the period, principally in relation to destocking. Additionally, as expected, licensing income was significantly down. These more than offset the benefit of higher precious metal prices, transactional foreign exchange and the delivery of the expected cost savings.

ROIC

Return on invested capital declined 1.4 percentage points to 12.0% impacted by higher precious metal working capital especially through the second half. This was driven by increased precious metal prices and reduced liquidity in these markets.

Outlook

In 2018/19, we expect slight sales growth and we will continue to improve the quality of our business as we focus our resources on areas of higher future growth. Operating profit will grow ahead of sales. In addition, we will also benefit from £7 million of cost savings in relation to the restructuring programme started in 2017/18.

Health

	Year ended 31st March			
	2018	2017		
	£ million	restated ¹ £ million	% change	% change, constant rates
Sales				
Generics	173	174	–	+1
Innovators	74	62	+19	+20
Total sales	247	236	+5	+6
Underlying operating profit	44	52	-14	-13
Margin	18.0%	21.9%		
Margin excl. PRMB	18.0%	20.9%		
Return on invested capital (ROIC)	8.4%	10.5%		

¹ Restated to reflect a change in group structure.

Good sales growth but operating profit impacted by inefficiencies in manufacturing

- Sales growth driven by active pharmaceutical ingredients (APIs) for innovators and non-controlled generics, but partly offset by lower sales of controlled generic APIs.
- Excluding the US post-retirement medical benefit plan credit in the prior period, operating profit declined 9% and margin was 2.9 percentage points lower at 18.0% as the benefits of improved pricing and increased profit shares were more than offset by higher manufacturing costs.
- As we build our platform for break out growth, we started to optimise our manufacturing footprint, including developing our new plant in Annan, UK, and announcing the closure of our Riverside, US plant. This optimisation has associated costs in the short term including higher operating costs in Annan and inventory write downs as we drive efficiency across sites.

Generics

In our Generics business, where we develop and manufacture generic APIs for a variety of treatments, sales were flat with a mixed performance in the business.

Sales of controlled APIs were down. Our speciality opiate sales grew strongly led by customer orders ahead of an anticipated product launch. However, this was offset by lower sales in relation to ADHD APIs in the US and to bulk opiates in Europe. Our sales of ADHD APIs were impacted by the end of a profit share agreement during the year along with increased competition in the US market which continued from the second half of 2016/17.

Non-controlled APIs grew strongly, driven primarily by an increased profit share contribution from dofetilide, which was launched by our customer in June 2016. This remained the only true generic on the market throughout 2017/18 but two competitors have now received US Food and Drug Administration (FDA) approval and are expected to launch in the first half of 2018/19. This will impact our sales and operating profit in 2018/19.

We invested £16 million in the year on our new API product pipeline. This development of a broader, deeper product portfolio continued in line with our plans to scale the business with three submissions for regulatory approval within the year.

Innovators

Sales in our Innovators business grew strongly. This was mainly driven by improved pricing and volumes of APIs for branded drugs in commercial production. We continue to invest in growing our innovator product pipeline utilising our chemistry strengths to develop complex APIs for our customers.

Strategic Report

Operating profit

Operating profit, excluding the US post-retirement medical benefit plan credit in the prior period, was down 9% and margin declined 2.9 percentage points. Improved pricing and increased profit shares benefited margin. However, these were more than offset by additional costs as we optimise our manufacturing footprint, including higher operating costs associated with our plant in Annan, UK coming on stream and inventory write downs as we drive efficiency across sites.

ROIC

Return on invested capital declined 2.1 percentage points to 8.4% driven by the lower operating profit.

Outlook

In 2018/19, sales in our Health Sector are expected to be broadly stable. However, operating profit will be down, particularly in the first half. Several API products with high margin or profit sharing agreements move into decline in 2018/19, reflecting normal product lifecycles of generics, while launches of new API products only have a small contribution in the year. The optimisation of our manufacturing footprint partly mitigates this decline, as it will generate a small net benefit in 2018/19 and a significant benefit once Annan is fully operational in 2020/21.

New Markets

	Year ended 31st March			
	2018	2017		
	£ million	restated ¹ £ million	% change	% change, constant rates
Sales				
Alternative Powertrain	156	160	-2	-7
Medical Device Components	74	69	+8	+8
Life Science Technologies	45	48	-7	-8
Other	37	31	+18	+19
Total sales	312	308	+1	-2
Underlying operating profit	17	12	+37	+34
Margin	5.3%	4.0%		
Margin excl. PRMB	5.3%	3.3%		
Return on invested capital (ROIC)	8.1%	6.2%		

¹ Restated to reflect a change in group structure.

Lower LFP sales led to a small sales decline; significant progress in developing eLNO

- Significant decline of lithium iron phosphate (LFP) battery materials was partially offset by strong growth in fuel cells and Medical Device Components.
- Excluding the US post-retirement medical benefit plan credit in the prior period, operating profit grew by 60% reflecting comparison against a £5 million impairment charge in the second half of last year.
- Significant progress in developing eLNO and our strategy to commercialise this market leading next generation product.

Alternative Powertrain

Our Alternative Powertrain business provides battery materials for automotive applications, battery systems for a range of applications and fuel cell technologies.

Sales were down 7% as the decline in LFP battery material sales more than offset significant growth in fuel cell products. As expected, the business grew sales in the second half following stronger orders for battery system products.

Sales of our LFP battery materials continue to be subdued as the number of platforms we serve is significantly lower than in previous years. This primarily reflects changes in electric vehicle tax incentives in China which has led to increased substitution of LFP by high energy materials. While a recovery in our LFP sales is expected in the medium term, led by demand for our next generation LFP for a range of higher value hybrid applications, we do not see a recovery in the near term given the current competitive landscape and price points.

We continue to make significant progress in the development of our ultra-high energy density battery material, eLNO, as discussed on pages 8 and 10.

Sales of fuel cell products grew by over 50% in the year, helped by increased volumes to stationary applications for existing and new customers. Sales of battery system products were flat following a strong second half as expected.

Medical Device Components

Our Medical Device Components business leverages our science and technology to develop products found in devices used in medical procedures. Sales growth was strong across product areas, including for example, components for cochlear implants to aid hearing. Growth was driven by customer growth as demand for our products across the world continues to expand.

Life Science Technologies

Our Life Science Technologies business provides advanced catalysts to the pharmaceutical and agricultural chemicals markets. As expected, sales were lower in the period reflecting lower sales to two large customers.

Operating profit

Operating profit grew by 34%, helped by comparison against a £5 million impairment charge last year. Excluding this, operating profit was flat as strong growth in medical device components and improved profitability in fuel cells was offset by the decline in LFP sales and by increased development costs for our eLNO battery material.

ROIC

Return on invested capital increased to 8.1% reflecting the improvement in operating profit.

Outlook

New Markets is expected to deliver sales and operating profit growth in 2018/19 led by continued growth in fuel cells and Medical Device Components and a stronger year for battery systems.

Financial review

Introduction

Johnson Matthey delivered results in line with expectations in 2017/18. At constant rates, sales grew 7% and underlying operating profit was flat. Further aspects of the group's financial performance in 2017/18 are outlined below.

Corporate

In line with our guidance, corporate costs in the period were £43 million which was an increase of £11 million from 2016/17. This was driven by additional spend on central programmes that will deliver operational excellence and efficiency across the group, including rolling out the global procurement programme, and higher legal costs.

Corporate costs are expected to be higher in 2018/19 reflecting further investment in group efficiency programmes and our IT systems.

Research and development (R&D)

We invested £193 million on R&D in the period, including £18 million of capitalised R&D, representing 5% of sales.

This was 4% lower than last year, reflecting more focused and disciplined investment into areas of higher potential return. Key areas of spend included next generation technologies in Clean Air, our Health API product pipeline and development of our eLNO battery 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 (see note 2 on page 61). The group does not hedge the impact of translation effects on the income statement.

The principal overseas currencies, which represented 86% of non-sterling denominated underlying operating profit in the year ended 31st March 2018, were:

Share of 2017/18 non-sterling denominated underlying operating profit		Average exchange rate Year ended 31st March		% change
		2018	2017	
US dollar	38%	1.328	1.308	+2
Euro	35%	1.134	1.191	-5
Chinese renminbi	13%	8.79	8.79	–



Anna Manz
Chief Financial Officer

We had a good year, delivering results in line with our expectations at the start of the year

In our first half, sterling decreased in value against most major currencies compared to the half year ended 30th September 2016. However, this partly reversed in the second half of the year especially in relation to the US dollar. This meant that overall the impact of exchange rates increased sales and underlying operating profit for the year as a whole by £33 million and £9 million respectively following an £86 million and £18 million benefit respectively in our first half.

If current exchange rates (£:\$ 1.354, £:€ 1.143, £:RMB 8.62) are maintained throughout the year ending 31st March 2019, foreign currency translation will have a negative impact of approximately £6 million on underlying operating profit. A one cent change in the average US dollar and euro exchange rates each has an impact of approximately £2 million and £2 million respectively on full year underlying operating profit and a ten fen change in the average rate of the Chinese renminbi has an impact of approximately £1 million.

Pgm prices

Higher average pgm prices benefited operating profit by around £15 million in the year in Efficient Natural Resources.

Reconciliation of underlying operating profit to operating profit

	Year ended 31st March 2018	2017
	£ million	£ million
Underlying operating profit	525	513
Amortisation of acquired intangibles ¹	(19)	(20)
Major impairment and restructuring charges ¹	(90)	–
Loss on disposal of businesses ¹	(7)	–
Loss on significant legal proceedings ¹	(50)	–
Operating profit	359	493

¹ For further detail on these items please see notes 5 to 8 on pages 153 and 154.

Legal settlement

As announced in February 2018, a lawsuit against a group company, Johnson Matthey Inc. was settled on mutually acceptable terms with no admission of fault. Under the settlement agreement, we have recognised a charge of £50 million in connection with resolution of the lawsuit. This charge has been excluded from underlying operating profit for the year ended 31st March 2018.

Major impairment and restructuring costs

We have taken restructuring and impairment charges of £90 million in the year, as we execute our strategy and build our platform for future growth. Cash spend was £13 million and in 2018/19 cash spend on restructuring is expected to be £10 million.

The implementation of our group restructuring programme resulted in costs of £43 million, which was below our previous guidance of £50 – 65 million. This programme delivered £12 million of cost savings in 2017/18. We remain on track to deliver around £25 million of annualised cost savings.

In March 2018 we notified employees at our Health Sector Riverside, US facility of our intention to close the plant, as we continue our strategic focus on speciality, low volume, complex APIs. The closure of Riverside led to a charge of £36 million. We expect the plant to cease production by the end of the first half of 2018/19. This is a key part of our plan to optimise our Health manufacturing footprint, which will deliver a small net benefit in 2018/19.

We have also impaired goodwill by £11 million relating to our Water Technologies business within New Markets reflecting lower growth assumptions for this business.

£ million	Impairment and restructuring charge	Associated total cash costs
Group restructuring programme	43	19
Health – Closure of Riverside, US	36	4
New Markets – Impairment of Water	11	–
Total	90	23


Loss on disposal of businesses

On 31st January 2018, the group sold its UK automotive battery systems business for net proceeds of £5 million which resulted in a loss on sale of £7 million. This is excluded from underlying operating profit.

Finance charges

Net finance charges in the year amounted to £38 million, up from £31 million in 2016/17. This was the result of higher precious metal funding costs.

We anticipate that net finance charges will be slightly higher in 2018/19 due to rising US interest rates and higher borrowing costs as we expand in China. These will be only partly offset by lower precious metal funding costs.

 The five year record can be found online at: matthey.com/five-year-record

Strategic Report

Taxation

The effective tax rate on reported profit for the year was 6.9%, a reduction of 9.8% from 2016/17.

The lowering of the US federal tax rate led to a revaluation of our US deferred tax assets and liabilities, which has resulted in a £24 million non-cash benefit in the income tax expense line in the income statement for the year ended 31st March 2018. Of this, £23 million has been excluded from the tax on underlying profit.

Tax on underlying profit was 17.7%, an increase of 0.7% from 2016/17.

We currently expect the tax rate on underlying profit for the year ending 31st March 2019 to be around 16%, due to changes in the US tax legislation.

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 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:

- 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.
- 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.
- 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. The board approves our tax strategy each year and reviews compliance against it on a regular basis. That way, our strategy will encompass any learning and remain relevant and consistent with our values. The tax strategy satisfies the requirements of UK Finance Act 2016. In line with our code of ethics and commitment to doing the right thing, together with the requirements of Part 3 of The Criminal Finances Act 2017, we are also taking steps to put in place adequate procedures to prevent the facilitation of tax evasion.

2016/17 US PRMB

Profit growth for the period was impacted by the comparison against a one-off gain of £17 million mainly following the implementation of an inflation cap on the US post-retirement medical benefit (PRMB) plan. The table below shows the impact of this by sector:

£ million	Year ended 31st March 2017 US PRMB gain
Clean Air	6
Efficient Natural Resources	5
Health	3
New Markets	2
Corporate	1
Total	17

The table below shows the performance excluding the impact of the PRMB:

Adjusted underlying operating profit growth	% change, at constant rates, excl. PRMB ¹
Clean Air	+9
Efficient Natural Resources	-2
Health	-9
New Markets	+60
Group	+4

¹ Excludes the translational FX impact on the PRMB as the impact is immaterial.

Post-employment benefits

IFRS – accounting basis

At the year end 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 £190 million, up from a surplus of £63 million at 31st March 2017. This increase in the surplus mainly reflects a reduction in obligations in the UK plan due to a 20 basis point increase in the real (after inflation) discount rate caused by rising corporate bond yields and falling market-implied inflation.

The cost of providing post-employment benefits in the year was £69 million, an increase of £23 million, mainly as a result of the impact of the £17 million one-off credit in the prior year in relation to the implementation of an inflation cap in the US post-retirement medical plan.

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 2015 revealed a deficit of £69 million, or £28 million after taking account of the future additional deficit funding contributions from the special purpose vehicle set up in January 2013. The latest valuation update of this section as at 1st April 2017 revealed a deficit of £67 million, or £22 million after taking account of the special purpose vehicle.

During the year a pension increase exchange exercise was conducted whereby current retirees were invited to exchange an inflationary-linked pension for a higher non-increasing pension.

The last triennial actuarial valuation of the cash balance section as at 1st April 2015 revealed a surplus of £2 million with the latest update as at 1st April 2017 showing a deficit of £3 million.

The latest actuarial valuations of our two US pension schemes showed a deficit of £11 million at 30th June 2017 up from a £2 million deficit at 30th June 2016.

The deterioration in the funding position of our defined benefit pension schemes is mainly due to a reduction in gilt yields and in the UK is also due to an increase in inflationary expectations, both of which increased the value placed on the liabilities.

Capital expenditure

Capital expenditure was £217 million for the year ended 31st March 2018, 1.4 times depreciation and amortisation (excluding amortisation of acquired intangibles). In the year, key projects included:

- A new Clean Air manufacturing plant in Poland to support demand from tightening legislation and the significant share gains made in European Light Duty diesel while also enhancing our efficiency and operating flexibility.
- Continued investment in a new pgm catalyst plant in Germany to meet future demand for a range of products in our Catalyst Technologies business.
- Investment in our Health manufacturing and development facilities in Annan, UK and continued investment in our Health API product pipeline.
- Upgrading our core IT business systems to drive efficiency across the group.

Capital expenditure was below our previous guidance of £285 million for the year due to more rigorous capital allocation and lower than planned spend on our Poland Clean Air plant caused by permitting delays.

Capital expenditure for 2018/19 is expected to be around £390 million as our investments into growth projects increases. Key projects include:

- Clean Air plants in Poland and China to meet the growing demand for our technology.
- Investment in our eLNO demonstration and commercial plants as we commercialise our market leading product.
- Upgrading our core IT business systems.

Depreciation and amortisation (excluding amortisation of acquired intangibles) is expected to increase by around £7 million in 2018/19 primarily as we start depreciation of our investment in upgrading our core IT systems.

Free cash flow and working capital

Free cash flow was £136 million. Within this, working capital outflows of £158 million were impacted by a precious metal outflow of £84 million driven by higher precious metal prices and volumes, and non-precious metal related outflows of £64 million.

Improvements in efficiency and better control of working capital have driven a reduction in working capital days as sales have grown. Excluding precious metal working capital days have improved to 50 days from 54 days at 31st March 2017. Average working capital days excluding precious metal decreased from 69 days to 62 days. Our target is for working capital excluding precious metal to be in the 50 to 60 day range.

Dividend

The board has recommended an increase of 7% in the final dividend to 58.25 pence per share. Together with the interim dividend of 21.75 pence per share this gives a total ordinary dividend for the year ended 31st March 2018 of 80.0 pence per share (2016/17: 75.0 pence per share). Subject to approval by shareholders, the final dividend will be paid to shareholders on 7th August 2018, with an ex dividend date of 7th June 2018.

Return on invested capital (ROIC)

ROIC declined to 16.4% from 18.2%, mainly due to an increase in the UK pension fund asset and higher precious metal working capital during the year. It was also impacted by higher levels of non-current assets reflecting increased investment to drive future growth.

Capital structure

Net debt at 31st March 2018 was £679 million. This is down £212 million from 30th September 2017 and is a decrease of £37 million from 31st March 2017. Net debt increases to £725 million when adjusted for the post-tax pension deficits. The group's underlying EBITDA increased to £681 million (2016/17: £665 million). As a result, the group's net debt (including post tax pension deficits) to EBITDA was 1.1 times (2016/17: 1.1 times) and, whilst below our target range of 1.5 to 2.0 times, ensures we have flexibility to invest further in the future growth of the business.

Contingent liability

Johnson Matthey has been informed of failures in certain engine systems for which the group supplied a particular coated substrate as a component for emissions after-treatment. The extent to which, if any, the reported failures are due to the coated substrate supplied by Johnson Matthey group companies has not been demonstrated. Potential solutions for the reported engine system issues and any associated costs have not yet been notified to the group. Johnson Matthey has not been contacted by any regulatory authority and no Johnson Matthey group company has been served with any contract dispute lawsuit, nor has any formal claim for recovery of identified costs been made at this point. Having reviewed its contractual obligations and the information currently available to it, the group believes that were it to be served with a contract dispute lawsuit, it would have defensible warranty positions in respect of its supplies of coated substrate for the after-treatment systems in the affected engines. If required, it will vigorously assert its available contractual protections and defences. The outcome of any discussions is not certain, nor is the group able to make a reliable estimate of the possible financial impact at this stage, if any.

Treasury policies, going concern and viability

Treasury policies and financial risk management

Group Treasury is a centralised function within Johnson Matthey 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.

At 31st March 2018 the group had cash and deposits of £329 million and £510 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 2018 are illustrated in the chart on page 75.

Of the committed bank facilities, £155 million has a final maturity date within the 15 months to 30th June 2019 (the going concern period). £53 million of these committed bank facilities were refinanced in May 2018 for a further two years with a long term relationship bank.

Going concern

The directors have assessed the future funding requirements of the group and the company and compared it to the level of long term debt and committed bank facilities for the 15 months from the balance sheet date. The assessment included a sensitivity analysis on the key factors which could affect future cash flow and funding requirements. Having undertaken this work, the directors are of the opinion that the group has adequate resources to fund its operations and so determine that it is appropriate to prepare the accounts on a going concern basis.

Viability

In accordance with provision C.2.2 of the UK Corporate Governance Code 2016, the directors have assessed the viability of the company over a longer period than the 15 months covered by the 'Going Concern' statement.

During the year, the board has carried out a robust assessment of the principal risks affecting the company, particularly those which could threaten the business model. These risks and the actions taken to mitigate them are described in the 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 dive reviews of principal risks. In each one, the board receives a presentation on the risk and mitigations from the GMC risk owner.
- Twice a year, a presentation is made to the board from the Group Assurance and Risk Director, explaining the process followed by management to identify, assess and manage risks throughout the business. At this time all of our principal risks are considered along with the linkages between them.
- Throughout the year, a number of deep dives into specific risk areas were conducted by the Corporate Assurance and Risk team, the results of which were presented to and discussed by the board.

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 Chief Financial Officer in conjunction with Sector Chief Executives. In addition, the board participates fully in the annual process by reviewing sector strategies throughout the year. During these reviews, the group's current position and its prospects over the forthcoming years are reviewed which allows reaffirmation of the group strategy.

The directors have determined that a three year period to 31st March 2021 is an appropriate period over which to assess the group's viability. As part of our long term planning, the group also prepares forecasts for longer periods than three years, but there is inevitably more uncertainty associated with longer time horizons. We have therefore chosen a three year horizon since this period is also aligned with our normal and well established business planning process which includes preparing and reviewing a three year plan each year.

In making the assessment, we have considered a number of severe but plausible stress scenarios linked to the group's principal risks. We have analysed the impact of the following three hypothetical stress scenarios plus all of them occurring at the same time.

Scenario 1: Business performance risks. Under this scenario we evaluated the possible impact from a faster than expected uptake of electric vehicles and the failure to grow existing businesses and to launch new products.

Scenario 2: Execution risks. This includes poor management of capital projects, significant production losses due to downtime at a major site and the inability to improve certain businesses or sites.

Scenario 3: External and macroeconomic risks. This scenario assesses the impact from a hard Brexit, cyber and IP related risks and from adverse events and movements in commodity markets.

All of our stress tests were derived through discussions with senior management and the board after considering our principal risks and uncertainties.

Our evaluation took account of the group's current financing arrangements and assumes that existing debt and borrowing facilities can be refinanced as they mature, but we have also considered the potential capacity for additional funding should this be required. Our stress testing showed that certain combinations of these hypothetical scenarios would increase JM's funding requirements substantially and risk breaching a key financial covenant, requiring additional funding and potentially mitigating actions in order to maintain sufficient headroom against the covenant limit.

However, we are satisfied that the mitigating actions and our capacity for additional financing will 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.

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.

Foreign currency risk

Johnson Matthey's operations are located in over 30 countries, 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 2018 are shown on pages 175 and 176.

Interest rate risk

At 31st March 2018 the group had net borrowings of £679 million of which 99% was at fixed rates with an average interest rate of 3.1%. The remaining 1% of the group's net borrowings was funded on a floating rate basis. A 1% change in all interest rates would have an immaterial impact on underlying profit before tax.

Precious metal prices

Fluctuations in precious metal prices have an impact on Johnson Matthey'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 exposures on metal trading.

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

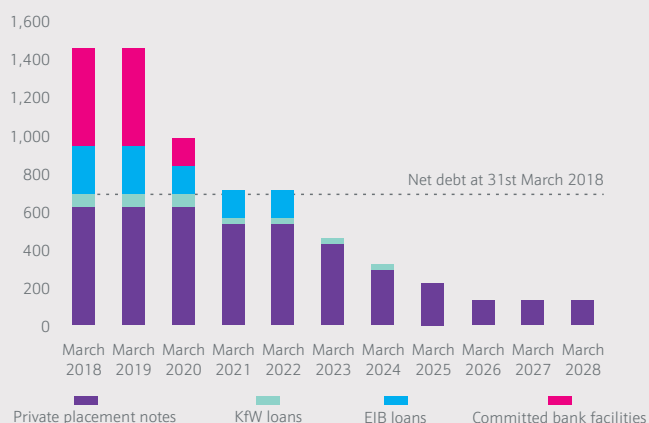
Credit risk

The group is exposed to credit risk on its commercial and treasury activities. In both cases counterparties are assessed against the appropriate credit ratings, trading experience and market position. Credit limits are then defined and exposures monitored against these limits. In treasury and precious metal management, these exposures include the mark to market of outstanding transactions and potential settlement risks.

 Pages 76 to 81: Our principal risks

Maturity profile of debt facilities

At 31st March 2018 exchange rates
£ million



Strategic Report

Risks and uncertainties

A holistic approach to managing risk

Our approach to risk management focuses on identifying key risks early and action to reduce the likelihood of these having a detrimental effect on the business. During the year we:

- Continued to strengthen our processes, monitoring and reporting capabilities so that risks continue to be appropriately identified and managed. As with all Johnson Matthey processes, we regularly review our approach to ensure that it continues to meet business needs and supports the effective management of risks while meeting the requirements of the UK Corporate Governance Code.

The effective management of risk enables Johnson Matthey to:

- Improve our decision making, planning and prioritisation.
- Pursue opportunities while keeping risks at an acceptable level in a rapidly changing external environment.
- Effectively deal with risks should they materialise.
- Consider risk and reward and implement controls in the areas that matter most to us.

All this helps us to deliver our strategic objectives.

Our risk framework

We operate a holistic risk management system that is applied throughout the business:



How we manage risk

Evolution of our framework

We recognise that risk management is an important part of our business and continually seek to improve our processes.

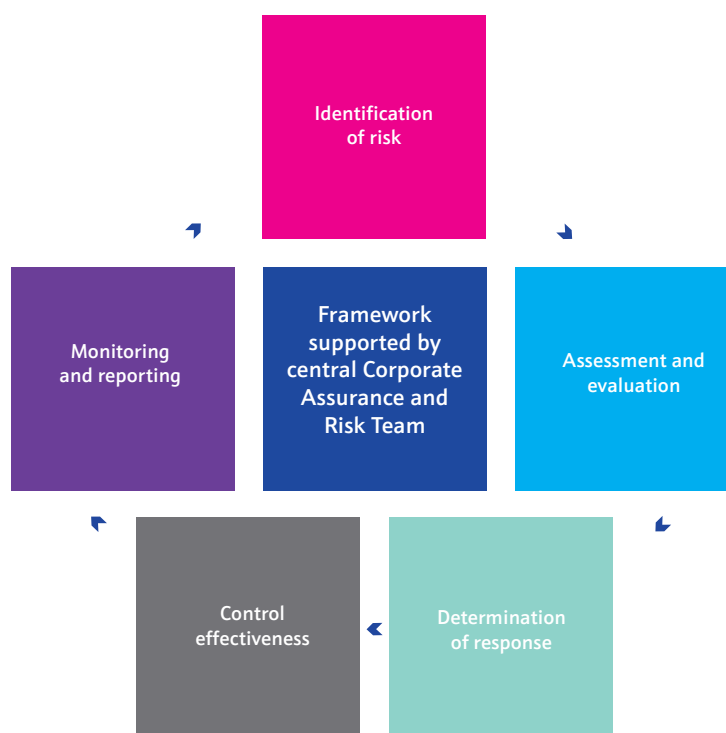
This year we have enhanced our existing processes by continuing to review and refine:

- Our bottom up risk management process, ensuring that our sectors have an embedded risk management process in their businesses which are consolidated and reviewed by the sector leadership twice a year. Training and facilitation is provided to support this.
- Our top down risk management process, to ensure that any risks not materialising through the bottom up process were captured through looking at the external environment and internal environment with the GMC and board.
- Following the revision of our strategy in 2017, we took a fresh look at our risks to confirm that these continued to be aligned to our strategy. With greater clarity of our strategic priorities, we have tightened our risks so that we can focus on understanding worst case scenarios that could threaten our business model, future performance, solvency or liquidity.
- Our approach has meant that we have effective risk related conversations and that these are embedded within the GMC and board agendas; and not just as specific discussions on risk.
- As a result of this activity, our assessment of our risks has changed, narrowing the focus towards the worst case scenario; and deeper more informed conversations that include constructive challenging debates.
- We have embedded risk mitigation monitoring in our business management processes. This therefore means that we are continually monitoring our mitigating activities as part of our normal course of business management and not waiting for a risk management process deep dive to flag progress against plan.
- Our new process puts significantly more focus on monitoring the quality of our mitigation plans. We have embedded continuous monitoring and improvement of the mitigation plans within the business, and ensure there is ongoing challenge to further improve effectiveness of the plans.

Our risk process

Our risk process is designed to support everyone, at all levels of the business, in identifying and managing risks.

All risks, whether they are identified at the most senior level or throughout the business, are described, analysed and reported using a standard framework. The central Corporate Assurance and Risk team acts as an advisory function and provides independent challenge and review. Each of our business functions also participates in the process, identifying any risks that may prevent them achieving their objectives and describing these in terms of cause and consequence. These are scored using a variety of impact measures, including financial, operational, reputational and people factors. Controls for each risk are described and assessed. Each risk, at every level, has a designated owner who is responsible for ensuring the described controls are effective and efficient. We continually review the level of risk throughout the business and complete a formal submission every six months for reporting purposes (as illustrated in our risk framework opposite).



Strategic Report

Our principal risks and uncertainties

Understanding why and how our principal risks change

The ongoing review of our principal risks ensures that we reflect on the challenges facing our business and the changes that we have made to our business in response to those challenges.

We continually map our principal risks and uncertainties to strategic and business plans to ensure that we have appropriate coverage of risks. Following the revision of our strategy in 2017, we took a fresh look at our risks to confirm that these continued to be aligned to the strategy. With greater clarity of our strategic priorities we have better focused our risks, understanding the worst case scenarios that could threaten our business model, future performance, solvency or liquidity.

As a result of these exercises, we have concluded that for the most part, the overarching areas of risk remain unchanged. In all cases we continue to review and refine the documented mitigations for each risk.

We have also changed our risk reporting to consider whether the risk profile is increasing, decreasing or remaining constant. We believe that provides our board and shareholders greater transparency in reporting compared to reporting the gross or net risk as high, medium or low.

Changes to our principal risks and uncertainties in 2017/18:

- Future revenue growth. Now this is the risk specifically associated with our failure to deliver against the growth opportunities identified in our strategy. Previously it was defined more broadly as the risk associated with revenue growth opportunities, investment decisions, significant capital investment, mergers and acquisitions and research and development activities.

- Applications systems and cyber security. This was added to our principal risks during the year. The external cyber threat is increasing with more sophisticated attacks on a wide range of organisations. The elevation of this risk ensures that the board has greater visibility of the actions we take to mitigate the risk.

Brexit

Whilst not a principal risk and uncertainty, Johnson Matthey continues to monitor closely the potential EU exit (Brexit) risks through our businesses. Our well established Brexit working group is composed of a number of functional experts who look to mitigate risks for a range of Brexit scenarios with a specific focus on trade, regulation and our people. Whilst there remains a great deal of uncertainty as to what Brexit will mean for the company, the Brexit working group is developing and implementing plans to ensure Johnson Matthey is able to navigate the best possible outcome for our people, our business and our customers.

The following table sets out the principal risks and uncertainties facing the group, the mitigating actions for each and an update on any change in the profile of each risk during the course of the year.

Our risks are not listed from greatest risk to lowest risk; we list our strategic risks first, followed by operational risks. As explained above, we added applications, systems and cyber risk this year. It is our newest risk and so it is listed last.

1 Existing market outlook

Risk and impact

The risk of a change to the outlook for our key markets is either unplanned or unforeseen and as a result we are poorly positioned to respond.

This risk would include legislative change, for example as a result of Brexit or changes in customer or consumer behaviour impacting our business.

Mitigation

- Strategic planning process in place to assess and understand trends across our sectors and markets with an understanding and assessment of the impact of economic and geopolitical uncertainty and legislative changes.
- Plans in place to execute mitigation strategies.
- Mechanisms to monitor changes and launch mitigation actions if required.

Changes since 2017 annual report

As we continue to strengthen our strategic planning process, the robustness of our scenario planning is also increasing. However, uncertainty will always be present in the external environment. This risk is unchanged.

2 Future growth

Risk and impact

To deliver growth as communicated in our capital markets day, we are making significant investments in key growth opportunity areas. This risk considers the potential failure to deliver this growth and create value.

Mitigation

- A clear strategy, which is continuously reviewed in the light of new information, and a business review process to track execution of that strategy.
- Appropriate investment in R&D, capital and talent identified to support realisation of the strategy.
- Ongoing monitoring and review of new technologies and market competitiveness.
- Project Management Offices (PMOs) in place to ensure appropriate governance in place and plans are delivering to expected timelines.

Changes since 2017 annual report

This risk has been refined to consider our key growth areas as described in our capital markets day. This risk is therefore not directly comparable with that reported in 2016/17.

3 Maintaining our competitive advantage

Risk and impact

Failure to maintain our competitive advantage in existing markets and, as a result, not meeting customers' evolving needs as efficiently as our competitors.

Mitigation

- Strong customer relationships, built around technical proposition, reputation in the market and a high level of technical service.
- Regular strategy reviews to retest the external environment.
- Embedding analysis of competitor strategy and benchmarking relative performance.
- Strong balance sheet to support significant ongoing investment in R&D.
- Active prioritisation of R&D and capital investment to areas of greatest opportunity.

Changes since 2017 annual report

This risk is unchanged. We will continue to evolve our position to maintain our competitive advantage.

4 Environment, health and safety

Risk and impact

In common with other similar manufacturing companies, the group operates in a challenging safety environment that is subject to numerous health, safety and environmental laws, regulations and standards.

If we fail to operate safely we could injure our people. We could breach applicable laws, regulations and standards which could adversely impact our employees, result in lost production time and could attract negative media and regulator interest.

Mitigation

- Setting the tone from the top with senior managers leading by example.
- Understanding of our business risk profile.
- Systems and processes to facilitate adherence to corporate policies, procedures and standards.
- Ongoing investment in the business to ensure that our equipment is appropriate.
- Training and awareness activities.
- Risk, audit and safety checks.
- Safety culture programme and behavioural standards.
- Investigations to determine the cause of incidents and accidents and the development of remediation plans.
- An independent hotline for employees to report concerns.

Changes since 2017 annual report

This risk is unchanged. Health and safety continues to be our priority and we take our responsibility for environmental impact very seriously.

5 Sourcing of strategic materials

Risk and impact

As JM has limited suppliers from which to source certain strategic raw materials, any significant breakdown in the supply of these materials would lead to an inability to manufacture and satisfy customer demand.

Mitigation

- Strengthening supplier relationship management, regular reviews to discuss supplier capacity constraints.
- Continuing to build expertise in supply chain, logistics, procurement and trade export controls.
- Supplier quality management processes.
- Safety stocks held in strategic locations.
- Research and development to consider alternative materials.
- Business continuity management, identification of critical failure risks and plans in place to manage these.

Changes since 2017 annual report

This risk is inherent in our Automotive and Health related businesses, where validated materials are utilised in our products. Risk landscape unchanged.

6 People

Risk and impact

To execute the JM strategy and deliver growth, we need to ensure that we have the breadth and depth of leadership and the appropriate capabilities.

Mitigation

- Assessment of skills and capability requirements.
- JM leadership values and behaviours.
- Robust talent management processes.
- Leadership development programmes.
- Building high quality personal development plans in place for all leaders.

Changes since 2017 annual report

With greater clarity of our strategic priorities we have tightened this risk to focus on the skills and capabilities we need now and in the future. We are investing in our leadership and growing talent through robust succession planning to build our future leaders.

Strategic Report

7 Security of metal and highly regulated substances

Risk and impact

On any given day, 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 performance impact, reduced customer confidence and potential legal action.

Mitigation

- Assay and other process controls.
- Stock takes to check inventories.
- Security awareness campaigns and training.
- Security management systems and site security systems.
- Audits of site security systems and process controls.
- Use of approved carriers for transit.
- Liaison with local law enforcement for high risk sites.
- Insurance coverage for losses from theft or fraud.

Changes since 2017 annual report

As reflected at the half year, we saw this risk increase in response to the impact of the metal price on our balance sheet.

8 Intellectual capital management

Risk and impact

Failure to identify and protect the group's intellectual capital or failure to identify third party intellectual capital rights could lead to a loss in business advantage, loss of freedom to operate and reputational damage associated with litigation.

Mitigation

- Business intellectual capital management strategy.
- Ensuring we maintain a data security strategy to protect our intellectual capital.
- Investment in cyber security (see risk 13).
- Annual research and development and intellectual property reviews.
- Monitoring of third party intellectual capital.
- Use of intellectual capital lawyers to provide specialist guidance.
- Training and awareness.

Changes since 2017 annual report

We are developing market leading intellectual capital, through intellectual property, in the battery materials and health markets, both of which are crowded and litigious. Although cyber risk to our business is considered separately, it is also recognised as a threat to this risk area. As such we are investing in our mitigating activity to manage our increased risk profile.

9 Failure of significant sites

Risk and impact

Potential risks include a disruptive event such as fire, flood or earthquake, a major incident at site level such as an explosion or other events such as geopolitical instability.

The consequences associated with this risk include the impact on our ability to manufacture goods and satisfy customer demand.

Mitigation

- Assessment of significant sites.
- Business impact analysis for sites covering all activities, e.g. supply chain, production, commercial etc.
- Building plans that enable a comprehensive response to an event and annual testing.
- Insurance of activities.

Changes since 2017 annual report

Risk landscape unchanged.

10 Ethics and compliance

Risk and impact

Failure to comply with ethical and regulatory compliance standards leading to reputational damage, to civil or criminal legal exposure for the company or for individuals or to risk of contractual breach.

Mitigation

- Code of ethics and tone from the top set by senior leadership.
- Use of subject matter experts, internal and external, to identify risks, set standards and provide advice and training.
- Suite of legal compliance policies and procedures to mitigate key ethics and compliance risks.
- Code of ethics in place supported by online training and formal acknowledgement.
- Global network of ethics ambassadors.
- Independent confidential speak up hotline for employees, contractors and third parties.
- Investigation / response to all matters overseen by an Ethics Panel.

Changes since 2017 annual report

This risk is reassessed on an ongoing basis in the light of the evolving regulatory and business background. In response, we review our policies, processes and controls and amend these as appropriate.

Examples of this include General Data Protection Regulations (GDPR) and the CCO (Corporate Criminal Offence).

11 Business transition

Risk and impact

To position the group for future growth and maximise available efficiencies, we continue to evolve the way in which we run our business. This includes standardising some activities across the group, directed by strong functional leaders, in order to ensure best practice is used and maintained across the group.

The risk is that we fail to achieve the benefits of these efficiencies, lose our business agility and / or fail to maintain a very high level of customer responsiveness.

Mitigation

- Strategic PMO in place to monitor progress and provide assurance across the workstreams.
- Programme management in place for key initiatives, with group owners cascading plans and agreed deliverables with business leads.
- Audit of key projects with third party assurance where appropriate.
- Communication and employee engagement plans associated with key initiatives.

Changes since 2017 annual report

Risk landscape unchanged. A number of programmes are in place to mitigate this risk.

12 Product quality

Risk and impact

Our products are used in a wide range of applications, processes and systems. The safety and quality of these products is crucial to ensuring they operate as intended.

Should a product fail to perform as expected, we could be responsible for consumer harm or exposed to liability claims. This could lead to loss of future business, reputational damage and loss of licence to operate.

Mitigation

- Regulatory framework for compliance in place.
- Developing robust new product introduction process and technical change processes.
- Developing robust manufacturing systems supported by standardised processes.
- Monitoring and reporting of quality performance, taking corrective action where required.
- Quality management systems in place supported by education and audit.
- Robust contract terms and conditions.

Changes since 2017 annual report

The regulatory environment continues to tighten and our customers are experiencing greater scrutiny which has created pressure for our business.

13 Applications, systems and cyber

Risk 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.

Mitigation

- Ensuring we maintain a data security strategy in line with the evolving threat.
- Investment in information security systems, monitoring and assurance in support of our data security strategy.
- Mapping of all at risk data and understanding of regulatory requirements.
- Maintenance of a breach reaction plan.

Changes since 2017 annual report

The external cyber threat is increasing with more sophisticated attacks on a wide range of organisations. Against this backdrop we are investing in our IT infrastructure to support a more efficient business and, in doing so, we are increasing the global consistency and connectivity of our applications and infrastructure. As such, we have decided to elevate the risk of cyber attack from within the risk of failure of a critical site to a principal risk in its own right, to ensure greater board visibility.



Contents

84	Board of Directors
86	Letter from the Chairman
87	Corporate Governance Report
99	Nomination Committee Report
103	Audit Committee Report
111	Remuneration Report
131	Directors' Report
135	Responsibility of Directors

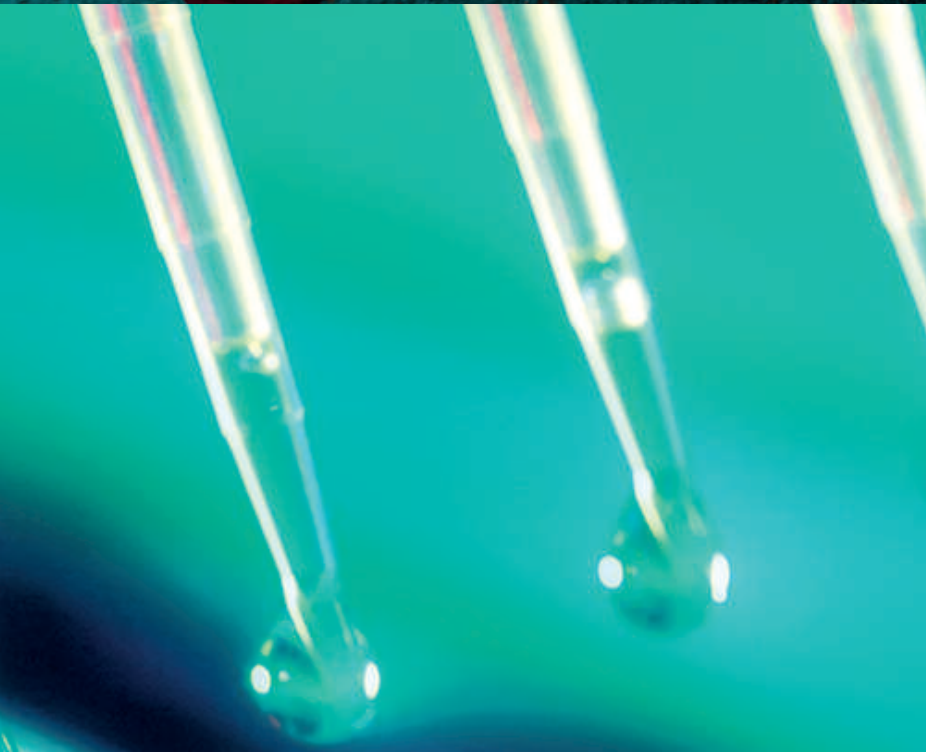


Governance



The Governance section, introduced by our Chairman, contains the Corporate Governance Report and details about the activities of the board and its committees during the year.

It also contains the Directors' Report and the statement on responsibilities of directors.



Governance

Board of Directors

From left to right

Tim Stevenson, OBE – Chairman

Appointed to board: March 2011

Experience

Tim was appointed Chairman in July 2011. He was Chairman of The Morgan Crucible Company plc from December 2006 to July 2012 and Chairman of Travis Perkins plc from November 2001 to May 2010. Tim has also sat on a number of other boards including National Express plc, Partnerships UK and Tribal PLC and was Chief Executive at Burmah Castrol plc from 1998 to 2000. He is a qualified barrister and is Lord Lieutenant of Oxfordshire.

Other current appointments

Director of the Emmott Foundation Limited.

Committees

Remuneration, Nomination (Chairman)

International experience

Spain, UK

Sector experience

Chemicals, Manufacturing, Oil and Gas, Retail

Robert MacLeod – Chief Executive

Appointed to board: June 2009

Experience

Robert was appointed Chief Executive in June 2014. He joined Johnson Matthey as Group Finance Director in 2009. Previously he was Group Finance Director of WS Atkins plc and a Non-Executive Director at Aggreko plc. He is a Chartered Accountant with a degree in Chemical Engineering.

Other current appointments

Non-Executive Director at RELX PLC, RELX NV and RELX Group plc.

International experience

UK, US

Sector experience

Chemicals, Oil and Gas, Professional Services

Anna Manz – Chief Financial Officer

Appointed to board: October 2016

Experience

Anna joined Johnson Matthey as Chief Financial Officer in October 2016. Previously she was Group Strategy Director and a member of the Executive Committee at Diageo plc. During 17 years at Diageo, Anna held a series of senior roles, including Finance Director Spirits North America, Group Treasurer and Finance Director Asia Pacific. Anna is a qualified management accountant with a degree in Chemistry.

Other current appointments

Non-Executive Director at ITV plc.

International experience

China, India, Ireland, Kenya, Korea, Nigeria, Singapore, UK, US

Sector experience

Manufacturing, Media

Patrick Thomas – Chairman Designate

To be appointed to the board: June 2018

Patrick Thomas will join the board as Chairman Designate on 1st June 2018 and will succeed Tim Stevenson as Chairman at the close of the 2018 Annual General Meeting on 26th July 2018.

Experience

Between 2015 and May 2018 Patrick was Chief Executive Officer and Chairman of the Board of Management of Covestro AG. Between 2007 and 2015 he was Chief Executive Officer of its predecessor, Bayer MaterialScience, prior to its demerger from Bayer AG.

Other Current Appointments

Non-Executive Director of Akzo Nobel N.V.

Committees

Remuneration, Nomination (Chairman Designate)

International experience

Belgium, Germany, UK

Sector experience

Chemicals, Manufacturing, Oil and Gas, Pharmaceuticals, Technology

Alan Ferguson – Senior Independent Director

Appointed to board: January 2011

Experience

Alan was appointed a Non-Executive Director in January 2011 and as Senior Independent Director in July 2014. Previously he was Chief Financial Officer and a Director of Lonmin Plc. Prior to this he was Group Finance Director of The BOC Group. Before joining BOC, he worked for Inchcape plc for 22 years and was Group Finance Director from 1999 until 2005. He is a Chartered Accountant and sits on the Business Policy Panel of the Institute of Chartered Accountants of Scotland.

Other current appointments

Non-Executive Director and Chairman of the Audit Committee at Croda International Plc and Marshall Motor Holdings plc. He is also Senior Independent Director at both these companies.

Committees

Audit (Chairman), Remuneration, Nomination

International experience

South Africa, UK

Sector experience

Automotive, Chemicals, Metals and Mining

Odile Desforges – Non-Executive Director

Appointed to board: July 2013

Experience

Odile's automotive industry experience began with the French Government's Transport Research Institute and developed with Renault SA and AB Volvo. She has held senior positions in purchasing, product planning, development and engineering, including as Chairman and Chief Executive Officer of the Renault-Nissan Purchasing Organization (RNPO) and most recently, until 2012, as Executive Vice President, Engineering and Quality at Renault. She was appointed a Knight of the French Legion of Honour in 2009.

Other current appointments

Non-Executive Director of Safran SA, Dassault Systèmes, Imerys and Faurecia.

Committees

Audit, Remuneration, Nomination

International experience

France, Japan, Sweden, UK

Sector experience

Aerospace, Automotive, Defence, Manufacturing, Technology



From left to right

Jane Griffiths – Non-Executive Director
Appointed to board: January 2017

Experience

Jane is currently Global Head of Actelion a Janssen pharmaceutical company of Johnson & Johnson (J&J). Since joining J&J in 1982 Jane's roles have included international and affiliate strategic marketing, sales management, product management, general management and clinical research. Jane is Director and Chair of the J&J Corporate Citizenship Trust in EMEA, a sponsor of the J&J Women's Leadership Initiative.

Other current appointments

Director of Johnson & Johnson Innovation Limited.

Committees

Audit, Remuneration, Nomination

International experience

Africa, Middle East, UK

Sector experience

Pharmaceuticals

John O'Higgins – Non-Executive Director
Appointed to board: November 2017

Experience

John is currently Chief Executive of Spectris plc, a position he has held since January 2006. Prior to this he worked for Honeywell in a number of management roles, including as president of automation and control solutions, Asia Pacific. He began his career as a design engineer at Daimler-Benz in Stuttgart. Between 2010 and 2015, John was a Non-Executive Director of Exide Technologies, Inc.

Other current appointments

Trustee of The Wincott Foundation.

Committees

Audit, Remuneration, Nomination

International experience

Belgium, China, Germany, UK, US

Sector experience

Automotive, Energy, Manufacturing, Oil and Gas, Technology



Simon Farrant – General Counsel and Company Secretary

Joined Johnson Matthey: 1994

Experience

Appointed Company Secretary in 1999 and Group Legal Director in 2007. He is a Solicitor and Attorney and Counselor-at-Law (State of New York).

Chris Mottershead – Non-Executive Director
Appointed to board: January 2015

Experience

Chris is Senior Vice President of Quality, Strategy and Innovation at King's College London and Director of King's College London Business Limited. Prior to joining King's College in 2009, Chris had a 30 year career at BP, most recently as Global Advisor on Energy Security and Climate Change. Before this, he was Technology Vice President for BP's Global Gas, Power and Renewables businesses. He is a Chartered Engineer and Fellow of the Royal Society of Arts.

Other current appointments

Non-Executive Director of The Carbon Trust and Carbon Trust Investments Limited.

Committees

Audit, Remuneration (Chairman), Nomination

International experience

UK, US

Sector experience

Energy, Oil and Gas

John Walker – Sector Chief Executive, Clean Air
Appointed to board: October 2013

Experience

John joined Johnson Matthey in 1984 and was appointed Division Director, Emission Control Technologies in 2009 after holding a series of positions within the division in the US, Asia and Europe. He was appointed Executive Director, Emission Control Technologies Division in October 2013 (division subsequently renamed Clean Air Sector in April 2017).

International experience

Australia, China, France, Germany, India, Japan, Malaysia, UK, US

Sector experience

Automotive, Chemicals

At the date of approval of this annual report, the Board of Directors of Johnson Matthey is as detailed here.

Colin Matthews retired as a Non-Executive Director with effect from 15th November 2017.

Board diversity

Gender

Male	Female
67%	33%

Board tenure



Governance

Letter from the Chairman



Tim Stevenson
Chairman

This section of the annual report describes our corporate governance structures and processes and how they have been applied throughout the year ended 31st March 2018.

My role as Chairman

My most important role is to ensure that Johnson Matthey has a board which works effectively under my leadership. This is particularly important as the company continues to evolve and grow. I believe we have an effective board. We report on pages 94 to 95 on our board and committee review, which we conducted externally this year. Open and constructive evaluation is integral to our effectiveness.

Governance and strategy

During the year we have refined our strategy and business model, including organising our business into four sectors, driving further synergies for customers and our stakeholders. We have reviewed our governance arrangements and concluded these continue to be right for the company. They effectively support our strategy and will enable us to respond to any challenges we may face. For me, ensuring the right board dynamics is vital. I am pleased to say that we have strong contributions and challenge from all our directors in an open and constructive atmosphere. This is in large part created by having a board comprising directors with a broad range of skills, expertise and attributes. As Chairman, I lead the setting of the board's agenda and I pay considerable attention to ensuring we have a plan which allows for appropriate time to discuss all necessary items, particularly the development of strategy and the consideration of risk.

Risk management

Risk management is an important part of our wider discussion of strategy and our operating model. In this report, we aim to show how our strategy is underpinned by a robust risk management framework.

Stakeholders

The board recognises the importance of balancing the needs of our stakeholders with the long term strategic aims of our business. We ensure effective engagement with our stakeholders so as to ensure their views are understood and appropriately taken into account.

Culture

A key part of the board's role is to take effective steps in shaping and embedding a healthy corporate culture throughout our organisation. This is fundamental to being able to build sound governance behaviours and practices, all of which support the success of our company and its strategic objectives. The board recognises that it has a responsibility to act with integrity and lead by example to create our desired corporate culture.

Succession planning and diversity

Ensuring that the group employs a process of thoughtful, strategic and practical succession planning is a key role for the board in nurturing our culture, sustaining our operating model and delivering our strategy. The board itself needs to be refreshed over time, drawing on an appropriately diverse talent pool. We recognise the benefits of bringing greater diversity throughout the organisation and in the boardroom. We explain our approaches to this component of board effectiveness in this report.

The UK Corporate Governance Code

We are reporting against the UK Corporate Governance Code 2016 (the Code). We report on how we have applied the Code's main principles and complied with its relevant provisions. Except in one respect (which is explained on page 98), Johnson Matthey has complied with all relevant provisions throughout the year ended 31st March 2018 and from that date up to the date of approval of this annual report.

Looking forward

It has been a privilege to be Chairman of Johnson Matthey for the last seven years and I am immensely proud of what we have achieved. It is a great company with excellent people and a robust strategy. I would like to thank our customers, our employees and our shareholders for their support. I wish the business every success for the future.

A handwritten signature in black ink, appearing to read 'Tim Stevenson', with a horizontal line underneath.

Tim Stevenson
Chairman

Corporate Governance Report

Introduction

Our Board of Directors is responsible to our shareholders for ensuring the sound running of the company. This can only be achieved if the board is supported by appropriate and well managed governance processes to support our strategy, ensure a positive culture across the group and manage risks and uncertainties. The key elements of these are described in this Corporate Governance Report.

UK Corporate Governance Code

The UK Corporate Governance Code 2016 (the Code) contains broad principles and specific provisions which set out standards of good practice in relation to **leadership, effectiveness, remuneration, accountability and relations with shareholders**. This Corporate Governance Report is structured to report against the Code by reference to each of these key areas. Together with the Nomination Committee Report, the Audit Committee Report and the Remuneration Report, it describes how we have complied with the relevant provisions of the Code and applied its main principles during the year.

Getting to know the business

In order for our directors, particularly our Non-Executive Directors, to effectively discharge their responsibilities, it is critical that they understand our businesses.

Throughout the year we review the delivery against strategy of our sectors. These sessions are attended by the relevant Sector Chief Executive and, where appropriate, other sectoral senior management. They give the board an excellent opportunity to hear about, discuss and challenge the strategic direction of our business. This was particularly important during the year as we refreshed our strategy and moved to a group structure aligned to our global priorities.

The board also reviews our key functional areas. These reviews are attended by the relevant functional head and enable the board to assess the strength of these functions in their ability to support delivery of the group's strategic objectives.

The board regards it as vital to make space in the timetable to learn more about our businesses through site visits, presentations or other proposals brought to the board. During the course of the year the board engaged in significant discussion on growth within our businesses, to ensure the market opportunities were fully understood as investments to build capacity were considered. Periodically, we hold business 'teach-ins' for our board. These are separate from board meetings and are attended by a range of managers from the relevant business. They are designed to give the board a more in depth insight into our businesses and their customers than is possible during board meetings. This deeper understanding enhances the Non-Executive Directors' ability to challenge, debate and contribute to sectoral strategy at board meetings. During the year a number of board members also attended a training session on process safety, led by the Group EHS Director.

While the majority of our board meetings are held at our City office in London, the board holds two board meetings each year at operational sites. The board always tours the site and management present to them on the business, its challenges and successes. These visits enable the board to see our operations on the ground and to meet the teams that are making them successful. They are a useful opportunity for the board to hear about customers, business issues, risks and strategy as well as environment, health and safety developments and the business' sustainability and manufacturing efforts.

During 2017/18, board meetings were held at Sonning, UK (April 2017) and in Redwitz, Germany (October 2017). At Sonning, the board visited Johnson Matthey's Technology Centre to learn more about research and development projects. At Redwitz, the board toured our Clean Air manufacturing site.

Our Non-Executive Directors also undertake visits to our sites independent of the Executive Directors, either individually or collectively, to further enhance their

knowledge and understanding, meeting with management and other employees. During the year our Non-Executive Directors visited our Efficient Natural Resources manufacturing facilities at Emmerich and Oberhausen in Germany.

Tim Stevenson and some of our Non-Executive Directors also attended for part of the 2017 leadership conference, which gave them an opportunity to get a feel for the group's culture, hear more about the group's priorities in action and meet employees from across all our sectors and functions.

All of the above activities enable the Non-Executive Directors to continue to develop and refresh their knowledge and understanding of our businesses, the markets in which we operate and our key stakeholders. They provide an opportunity to meet with and hear the views of employees. Through these, the board develops a sound and balanced insight into the group which supports it in its role to provide entrepreneurial leadership and set strategy.



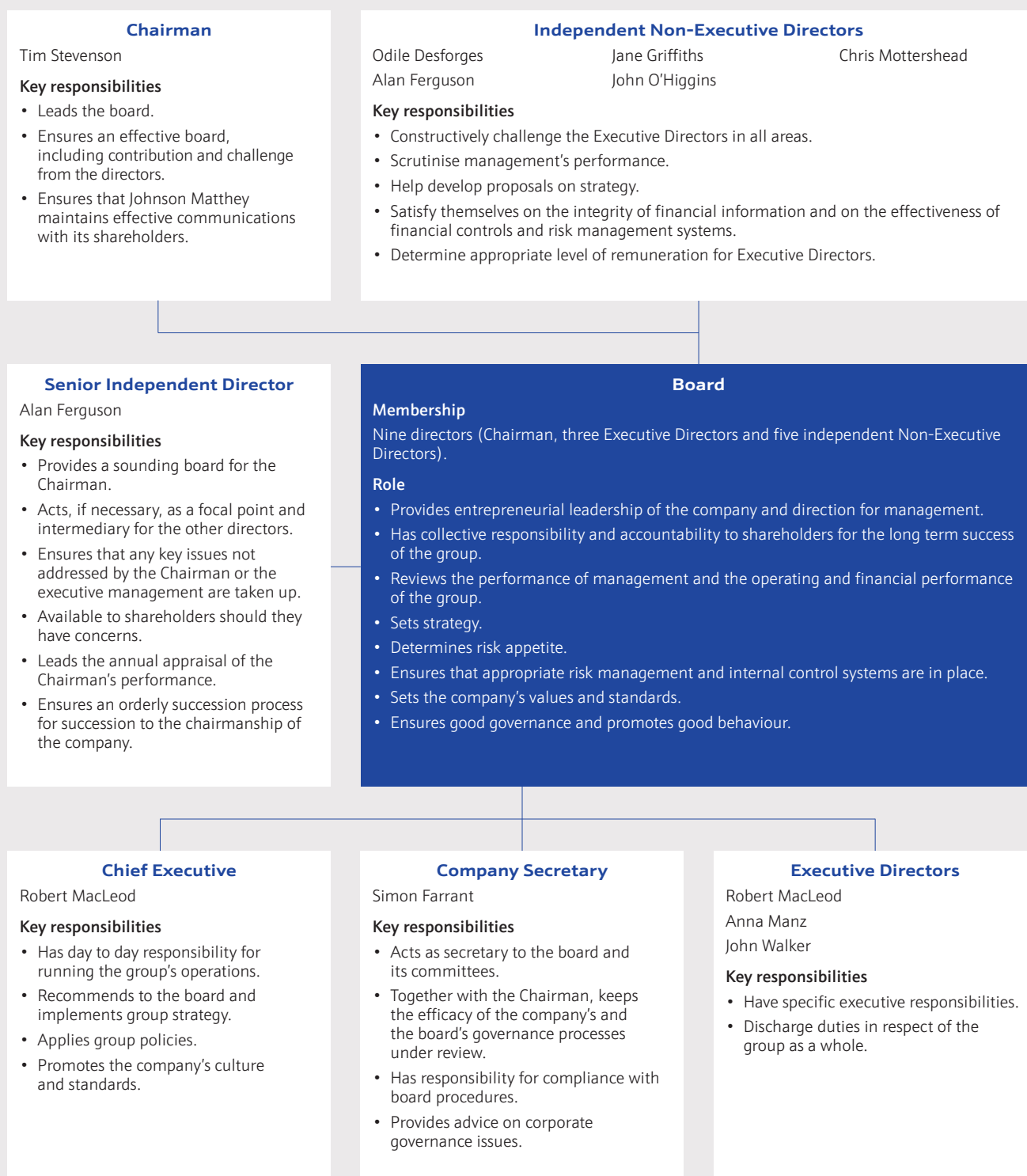
Governance

Leadership

Governance framework

The group's principal decision making body is the board. It has responsibility for setting the group's strategic direction and for ensuring that the group manages risk effectively. The board is accountable to shareholders for the group's financial and operational performance. It is supported by three principal committees: the Nomination Committee, the Audit Committee and the Remuneration Committee.

Our governance framework at 31st March 2018



Responsibility for implementing operational decisions and the day to day management of the business is delegated to the Chief Executive who is supported by the Group Management Committee (GMC) as outlined on page 13. There is a clear division of responsibilities between the running of the board and the executive responsibility for running the business. The board has identified certain matters which only it can approve. These are set out in a schedule of matters reserved for the board. The Chairman's and Chief Executive's roles are separate and this division of responsibilities is clearly established in a written statement within the corporate governance framework, which is available on our website.

The GMC is responsible for managing business performance, delivery of strategy and mitigating risks. It meets six times a year and most weeks for informal discussions on day to day matters. The GMC is supported by four sub-committees – the Environment, Health and Safety Leadership Committee, the OneJM Policy Committee, the Finance and Administration Committee, and the Legal Risk Committee.

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Audit Committee

Membership

Five independent Non-Executive Directors.
Chaired by Alan Ferguson.

Role

Assists the board in carrying out its oversight responsibilities in relation to financial reporting, internal controls and risk management and in maintaining an appropriate relationship with our external auditor, including recommending reappointment or a requirement to tender.

Disclosure Committee

Membership

The Chief Executive, Chief Financial Officer and the Company Secretary.
Chaired by Robert MacLeod.

Role

To identify and control inside information or information which could become inside information, and to determine how or when that information is disclosed in accordance with applicable legal and regulatory requirements.

Nomination Committee

Membership

Five independent Non-Executive Directors and the group Chairman.
Chaired by Tim Stevenson.

Role

- Considers structure, size, composition and succession needs of the board.
- Oversees succession planning for senior executives.

Ethics Panel

Membership

The Company Secretary and three executive heads of functions.
Chaired by Simon Farrant.

Role

To oversee the concerns raised pursuant to the Speak up Policy, including the effective review and investigation of these concerns.

Remuneration Committee

Membership

Five independent Non-Executive Directors and the group Chairman.
Chaired by Chris Mottershead.

Role

- Sets remuneration policy for Executive Directors and the Chairman and determines the application of that policy.
- Reviews and monitors the level and structure of remuneration for senior executives.

Group Management Committee

Membership

Chief Executive, Chief Financial Officer, Sector Chief Executives, Chief HR Officer, Chief Technology Officer, Chief Strategy and Corporate Development Officer and General Counsel and Company Secretary.

Role

Has responsibility for the executive management of the group's businesses. Recommends strategic and operating plans to the board.

Environment, Health and Safety (EHS) Leadership Committee

Chaired by John Walker.

Role

Has responsibility for assisting the company in discharging its EHS responsibilities and in creating a positive EHS culture across the group.

OneJM Policy Committee

Chaired by Simon Farrant.

Role

Has responsibility for setting a policy framework for the group, oversight and approval of Johnson Matthey group policies.

Finance and Administration Committee

Chaired by Anna Manz.

Role

Has responsibility for certain of the group's finance and corporate restructuring matters.

Legal Risk Committee

Chaired by Simon Farrant.

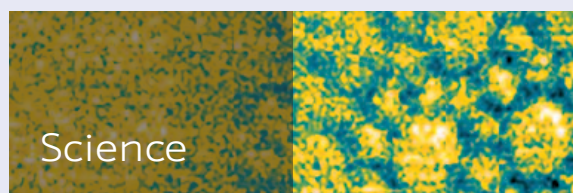
Role

Reviews contract and litigation risk for the group.

Governance

Principal board activities

During the year and up to the date of approval of this annual report, the board focused on a number of specific areas which are outlined in the following table.



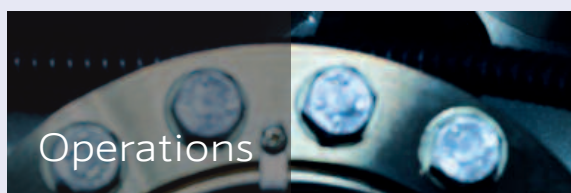
Role of the board Outcome

	Strategy
To set the company's strategic aims and to take responsibility for the long term success of the company.	<ul style="list-style-type: none"> Reviewed and approved Efficient Natural Resources strategy. Reviewed and approved Health strategy.
To approve major capital projects.	<ul style="list-style-type: none"> Reviewed and approved Clean Air strategy including investments in Clean Air plants in Poland and China to expand capacity. Reviewed and approved Battery Materials strategy including investing in manufacturing capacity, for ultra-high energy battery cathode materials.
	R&D
To ensure the long term success of the company.	<ul style="list-style-type: none"> Reviewed innovation and endorsed the approach taken to grow and develop the research and development portfolio.



Role of the board Outcome

	Efficiency
To ensure that the needs of our customers are integral to our strategy.	<ul style="list-style-type: none"> Reviewed and approved proposals on our commercial excellence programme to capture a fair share of the value we create for customers.
	Financial
To ensure the long term success of the company.	<ul style="list-style-type: none"> Reviewed and approved group budget and three year plan.
To maintain oversight of the group's financial performance.	<ul style="list-style-type: none"> Approved full year results, half-yearly results and the annual report.
To establish transparent arrangements to apply corporate reporting, risk management and internal controls.	<ul style="list-style-type: none"> Approved the group's going concern and viability statements. Reviewed the group's tax strategy, including the implications of the US tax reform. Reviewed the group's treasury strategy, including key policies.
To maintain an appropriate relationship with the auditors	<ul style="list-style-type: none"> Approved the appointment of PricewaterhouseCoopers LLP as external auditor for the financial year commencing 1st April 2018 subject to shareholder approval at the 2018 Annual General Meeting (AGM). Reviewed proposals on our brand refresh and our programme of delivery to support Johnson Matthey's 200th anniversary.



Operations

Role of the board Outcome

	Operational
To supervise the management of the business.	<ul style="list-style-type: none"> Reviewed progress on the development and implementation of groupwide business information systems. Reviewed our cyber security arrangements. Reviewed and approved proposals on our procurement excellence programme, including a saving target of £60 million over three years. Agreed to close our Health manufacturing plant at Riverside, US.
	Risk
To determine the nature and extent of the principal risks and the group's risk appetite.	<ul style="list-style-type: none"> Reviewed the board's responsibilities in relation to risk assessment and monitoring of risk management and internal control systems. Reviewed principal risks and agreed mitigating actions, key assurance activities and risk appetite.
	Governance
To facilitate effective, entrepreneurial and prudent management of the business.	<ul style="list-style-type: none"> Reviewed the key features of the proposed amendments to the UK Corporate Governance Code and established a working group to consider further proposals. Reviewed the schedule of matters reserved for the board and committee terms of reference and approved a new corporate governance framework.



People

Role of the board Outcome

	Culture
To establish the culture, values and ethics of the company.	<ul style="list-style-type: none"> Reviewed and agreed the articulation of our company values and behaviours. Received a legal, ethics and compliance and intellectual property risk update. Reviewed EHS performance at each meeting and considered significant incidents, including management responses and actions and the outcome of safety audits.
	Leadership
To ensure the board is effective with an appropriate balance of skills, experience, independence and knowledge.	<ul style="list-style-type: none"> Considered board succession and approved the appointments of John O'Higgins and Patrick Thomas. Reviewed directors' conflicts of interest and Non-Executive Directors' independence.
To undertake a rigorous annual performance evaluation.	<ul style="list-style-type: none"> Reviewed key findings of the board and committee performance evaluation and agreed key actions.
To ensure remuneration promotes the long term success of the company.	<ul style="list-style-type: none"> Reviewed objectives for the Executive Directors and GMC members for 2018/19.

➤ Pages 16 and 17:
Our strategy

Ⓡ Our principal risks

➤ Pages 76 to 81

Governance

Board meetings and attendance

Each year the board agrees an annual agenda plan. The board seeks to ensure there is sufficient time to discuss strategy so that the Non-Executive Directors have the opportunity to challenge and help develop strategy proposals.

During the year, our board met seven times. The attendance of members at board meetings during the year was as follows:

	Role	Date of appointment to board	Number of meetings eligible to attend	Number of meetings attended	% attended
Tim Stevenson	Chairman	29th March 2011 ¹	7	6 ²	86%
Odile Desforges	Non-Executive Director	1st July 2013	7	7	100%
Alan Ferguson	Non-Executive Director	13th January 2011	7	7	100%
Jane Griffiths	Non-Executive Director	1st January 2017	7	7	100%
Robert MacLeod	Chief Executive	22nd June 2009 ³	7	7	100%
Anna Manz	Chief Financial Officer	17th October 2016	7	7	100%
Colin Matthews	Non-Executive Director	4th October 2012	5 ⁴	5	100%
Chris Mottershead	Non-Executive Director	27th January 2015	7	7	100%
John O'Higgins	Non-Executive Director	16th November 2017	2	2	100%
John Walker	Executive Director	9th October 2013	7	7	100%

¹ Tim Stevenson was appointed Chairman on 19th July 2011.

² Tim Stevenson was unable to attend one meeting due to illness. In his absence, Alan Ferguson, Senior Independent Director, chaired the board meeting. Tim Stevenson reviewed all meeting papers and shared his thoughts, comments and questions with Alan Ferguson, who raised these at the meeting.

³ Robert MacLeod was appointed Chief Executive on 5th June 2014.

⁴ Colin Matthews retired from the board on 15th November 2017.

Since the end of the year, the board has met twice and all board members attended both meetings.

The attendance of members at committee meetings in the year is set out in the Nomination Committee Report, the Audit Committee Report and the Remuneration Report (in respect of the Remuneration Committee) on pages 99, 104 and 122 respectively.

Individuals' attendance at board and board committee meetings is considered, as necessary, as part of the formal annual review of their performance.

During the year, board members also participated in three scheduled conference calls to give the Executive Directors the opportunity to update the Non-Executive Directors on key matters between board meetings.

Effectiveness

Our board's composition

As at 31st March 2018, our board comprised the Chairman, three Executive Directors and five independent Non-Executive Directors.

Our board believes that both it and its committees have the appropriate range and balance of skills, experience, knowledge and independence to enable them to carry out their duties and responsibilities effectively. The size and composition of the board is regularly reviewed by the Nomination Committee.

The board, through the Nomination Committee, follows a formal, rigorous and transparent procedure to select and appoint new board directors.

Independence of the Non-Executive Directors

The board reviews Non-Executive Director independence annually, most recently at its meeting in May 2018. The board considers all relevant relationships and circumstances, including those defined in the Code that could affect, or appear to affect, their independent judgement.

Each of our Non-Executive Directors is determined by the board to be independent in character and judgement.

Information on the company's procedures for authorising potential conflicts of interest is set out under 'Directors' conflicts of interest' on page 94.

Succession planning

Effective succession planning is a fundamental component of board effectiveness and integral to the delivery of Johnson Matthey's strategic plans. It ensures a consistent level of quality in management, in avoiding instability by helping mitigate the risks which may be associated with any unforeseen events (such as the departure of a key individual), and in promoting diversity. The board, through the Nomination Committee, is actively engaged in succession planning to ensure plans are in place for the orderly and progressive refreshing of its membership and to identify and develop senior management with potential for board and GMC positions through a pipeline of talented and capable individuals from within Johnson Matthey.

Board succession

The board recognises the need to recruit Non-Executive Directors with the right technical skills and knowledge for its committees and who have the potential to chair them. During the year the board, through the Nomination Committee, recruited John O'Higgins who was appointed as a Non-Executive Director in November 2017. The succession planning for my role as Chairman and subsequent appointment of Patrick Thomas was led by Alan Ferguson, our Senior Independent Director. Further details are included in the Nomination Committee report on pages 101 and 102.

Executive succession planning

In addition to recruiting externally, it is important to develop internal talent for board appointments, and Johnson Matthey has a wide range of management development programmes for all employee levels, as described on page 52.

My induction



John O'Higgins
Non-Executive Director

I joined the board in November 2017 and received a tailored induction programme. I met with the Chairman, Chief Executive and Chief Financial Officer on a one to one basis to discuss current priorities, strategy, future plans and review specific aspects of the business. I also met with the General Counsel and Company Secretary who provided an overview of the group, the organisational structure and the corporate governance framework.

I met with the Sector Chief Executives at Royston, Billingham and Sonning, UK, and with the US-based Health sector management team. This gave me the opportunity to tour the sites and meet the teams so as to understand more about Johnson Matthey's people, products and processes.

Each of our sectors and corporate functions prepare and maintain succession plans, assisted by Human Resources. A key aim is to ensure that we have the right mix of talent capability to support our business strategies whilst also encouraging broad experiences through movement of talent across our sectors and corporate functions. The GMC reviews these plans each year and the identification and development of high potential individuals is also considered. The GMC's review of succession plans generally leads to further refinement and changes, resulting in the final plans which are submitted to the Nomination Committee. Each year the Nomination Committee, with input from the Chief HR Officer, reviews the management development and succession planning processes for the directors and senior executives, approves succession plans for the board and considers succession plans for senior executives.

Succession planning at board and senior management level for Johnson Matthey includes potential succession to all senior roles, including that of the Chief Executive, and considers the identification, development and readiness of potential internal successors. The board (through the Nomination Committee) continues to focus on the key issues of active talent management, mobility across the group and diversity.

Directors' induction and development

Johnson Matthey provides full tailored induction programmes for all its new board directors. These are intended to give a broad introduction to the group's businesses and its areas of significant risk. Key elements include meeting the Executive Directors and management, and visiting the group's major sites in order to gain an understanding of group strategy and of individual businesses.

Our intention is that all directors are familiar with, and gain an appropriate knowledge of, Johnson Matthey through visits to our operations and meeting with employees. The board ensures that the company provides the necessary resources to allow this to happen. We take various steps to ensure that all of our directors continually refresh their knowledge and skills so that they can effectively fulfil their roles and so that their contributions remain informed and relevant.

The board has processes in place to ensure that it receives the right information in the right form and at the right time to enable it to effectively discharge its duties. The Chairman, through the Company Secretary and with the support of the Executive Directors and management, ensures that this information is of a high quality. Directors are able to seek clarification or amplification from management where necessary. Our directors have access to independent external professional advice at the company's expense where they judge this necessary.

Terms of appointment of the Non-Executive Directors

Our Non-Executive Directors are appointed for specified terms subject to annual election and to the provisions of the Companies Act 2006 (the 2006 Act) relating to the removal of a director. During the year and following a rigorous review, the board approved the extension of Tim Stevenson's term of appointment until 31st December 2018. Chris Mottershead, one of our Non-Executive Directors who will be proposed for re-election at the 2018 AGM, has served on our board for three years. His term of appointment was also reviewed and extended during the year until 26th January 2021.

Boardroom diversity

Our board believes that diversity is important for board effectiveness. As set out in our Diversity Policy, all appointments to the board are made on merit while taking into account suitability for the role, board balance and composition, the required mix of skills, background and experience. This includes consideration of diversity. In adopting our Diversity Policy, we have chosen not to set express diversity quotas. However, in Non-Executive Director selection processes the board encourages applications from diverse candidates subject to the objective selection criteria being met and to the appointment of the best qualified candidate. The board only engages executive search consultants who have signed up to the Voluntary Code of Conduct for Executive Search Firms to address gender diversity on corporate boards.

The policy requires the board to satisfy itself that plans are in place for orderly succession for appointments to the board so as to maintain balance and ensure progressive refreshing of the board. As set out on page 92, the board, through the Nomination Committee, annually reviews and approves the management development and succession plans for the directors and senior executives and makes recommendations to the board on its structure, size and composition.

Since the launch of the board policy in 2013, the board has made progress in broadening the diversity of the board and senior management. As at the date of approval of this annual report we had three women on our board, which represented 33% of our total board membership. During the year the board has continued to promote diversity and inclusion at all levels of the organisation and in the boardroom.

Governance

This includes developing policies and processes that prevent bias in relation to recruitment and promotion, such as actively discussing diversity in succession planning and talent management, promoting industrial and scientific careers to women and flexible employment policies. There remain challenges to overcome, particularly in respect of gender diversity given the sector in which Johnson Matthey operates, but we are making good progress. The information from our first UK gender pay gap report as explained more fully on page 54 helps us to focus on any underlying causes of any gender pay gap and take action accordingly.

Under the Code, evaluation of the board should consider board diversity (including gender), how the board works together as a unit and other factors relevant to its effectiveness. Our board followed this principle in its board and committee evaluation process in 2017/18. Further information is set out to the right under 'Evaluation of the board, board committees and directors'.



Pages 53 and 54: Diversity and inclusion



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Time commitment of the Chairman and the Non-Executive Directors

The board recognises that it is vital that all directors should be able to dedicate sufficient time to Johnson Matthey to effectively discharge their responsibilities. The time commitment required by Johnson Matthey is considered by the board and by individual directors on appointment. The letters of appointment of the Chairman and of each Non-Executive Director set out the expected minimum time commitment for their roles. Each undertake that they will have sufficient time to meet what is expected of them for the proper performance of their duties and acknowledge that there may, on occasion, be a need to devote additional time. The minimum time commitment considered by the board to be necessary for a Non-Executive Director, who does not chair a committee, is two days per calendar month following induction.

The other significant commitments of the Chairman and of each Non-Executive Director are disclosed to the board before appointment, with an indication of the time involved. These are periodically reviewed, including as subsequent changes arise.

Periodic reviews are of particular importance as the board recognises that the commitments required from Non-Executive Directors can differ and evolve. Where Non-Executive Directors hold more than one other external commitment, the board carefully reviews the position to ensure that sufficient time will continue to be dedicated to Johnson Matthey.

Details of the directors' other significant commitments can be found on pages 84 and 85.

Indemnification of directors and insurance

Under Deed Polls dated 31st January 2017, Johnson Matthey has granted indemnities in favour of each director of the company and of its subsidiaries in respect of any liability that he or she may incur to a third party in relation to the affairs of the company or any group member. These were in force during the year for the benefit of all persons who were directors of the company or of its subsidiaries at any time during the year. They remain in force as at the date of approval of this annual report. The company has appropriate directors' and officers' liability insurance cover in place in respect of legal action against, amongst others, its Executive and Non-Executive Directors. Neither the company nor any subsidiary has indemnified any director of the company or a subsidiary in respect of any liability that he or she may incur to a third party in relation to a relevant occupational pension scheme.

Directors' conflicts of interest

We have established procedures in place in accordance with our Articles of Association to ensure we comply with the directors' conflicts of interest duties under the 2006 Act and for dealing with situations in which a director may have a direct or indirect interest that conflicts with, or may conflict with, the interests of the company. Johnson Matthey has complied with these procedures during the year.

In April 2018, the board undertook an annual review of potential conflict matters including in respect of directors' external appointments. In each case, the review was undertaken by directors who were genuinely independent of the matter. The board concluded that there were no matters which constituted a conflict. Potential conflicts will continue to be reviewed by the board on an annual basis.

The board confirms that Johnson Matthey complies with its procedures to authorise conflict situations and is satisfied that its powers to authorise conflict situations are being exercised properly and effectively and in accordance with its Articles of Association.

Evaluation of the board, board committees and directors

Having undertaken an internal review process in each of the prior two years, an external review was undertaken by independent consultants, Manchester Square Partners LLP (MSP). MSP have no other connection with the company.

The Chairman provided a comprehensive brief to MSP in December 2017. During January and February 2018, MSP held individual discussions with each member of the board, the Company Secretary, the Chief HR Officer and the KPMG lead audit partner regarding the board and its committees. The conversations were open, confidential and unattributed. Areas discussed included the board role, composition and dynamics, the agendas and board papers, strategy, culture and values, leadership, risk and governance.

MSP also observed our January board and committee meetings. Access to board and committee papers was provided electronically prior to the meetings via a secure electronic portal.

A report was prepared by MSP based on the feedback received and their own observations and experience. Following discussion with the Chairman, this was presented to the board in April 2018. The board discussed the report and agreed a number of actions.

On the following page we provide an update on the actions undertaken from the 2016/17 internal review, led by the Chairman, the feedback and insight from the 2017/18 external review and the actions to be taken in 2018/19.

The board's intention remains to undertake an externally facilitated evaluation process at least every three years. In the intervening years, the review will be led by the Chairman supported by the committee chairs and the Company Secretary.

Board evaluation

	2016/17	2017/18	2018/19
	Action	Insight and update	Action
Strategy	In the 2016/17 review, the board felt that there could be more discussion of the shape and strategy for the group overall and its business model in order for the board to address the medium to long term options for continued growth.	During the year the board spent considerable time developing and refining strategy, resulting in good alignment on and understanding of the group's strategic priorities. The Non-Executive Directors valued the increased time spent on these matters.	Whilst not losing focus on strategic direction, there will now be an evolution in the board's role more towards refining and monitoring execution of agreed strategies. In 2018/19 it will be necessary to ensure that sufficient time is allowed for iterative discussions, including investment decisions, whilst maintaining time for discussing customers, suppliers, talent development, culture and compliance.
Risk management	The 2016/17 review found that the proposals for board risk reviews had been well executed but further work was required to embed an appropriately robust process throughout the group.	Risk management and reporting were considered to be thorough but continued focus would be required to ensure full embedding of ownership at all levels of the group.	This will need to be continuously monitored as the business evolves to ensure early identification and mitigation of emerging risks.
Board composition	The 2016/17 review confirmed that, taking into account some change in composition, the group of Non-Executive Directors still had good diversity of experience, background and gender and knowledge about the group's major markets.	The review confirmed that there was a good mix of complementary, relevant skills and diverse experiences on the board.	In considering succession planning, the board will consider the need for further international experience on the board, as well as having regard to other elements of diversity.
Board dynamics	The 2016/17 review found opportunities to work together, not only within the board but importantly when visiting businesses and meeting senior colleagues, were valuable, particularly in enabling the cementing of board relationships. There was still scope for greater contribution and input from the Non-Executive Directors, particularly on key strategy issues and on areas where they could identify what 'good looks like'.	The board was stated to be friendly, collaborative, open and supportive and the Non-Executive Directors appropriately engaged. Discussions were described as open and collaborative.	As we deliver our strategy, we need to ensure the Non-Executive Directors continue to further their challenge, support and contribution to the Executives. In this context the board is considering whether more time together and with management would be beneficial. The continued use of 'teach-ins' on major business areas, explicitly separated from consideration of strategy, will also support this.
People	In the 2016/17 review, the Non-Executive Directors valued continuing to receive regular updates on key people moves from the Chief Executive and the opportunity to express views on issues that arise.	People matters, including talent development, succession and employee engagement, were felt to be high on the agenda and the Non-Executive Directors welcomed their exposure to management below the Executives. All Non-Executive Directors were appropriately involved in the Chairman's succession.	Site visits are an important part of employee engagement and potential further opportunities for these will be found.

Governance

Review of the Chairman's performance

The Non-Executive Directors recognise that the Chairman's effectiveness is vital to that of the board. Led by Alan Ferguson, the Senior Independent Director, the Non-Executive Directors are responsible for performance evaluation of the Chairman and for providing a fair and balanced assessment to shareholders.

In April 2018, the Non-Executive Directors, led by Alan, met without Tim Stevenson being present to discuss Tim's performance. Key considerations were his overall leadership of the board, the setting of tone, the planning of appropriate agendas and the effectiveness of structuring and facilitating discussions. The views of Executive Directors were also taken into account. Alan subsequently reported the outcome to the board that Tim's leadership of the board continued to be effective and engendered openness and constructive challenge.

Review of the Executive Directors' performance

The Chairman met with the Non-Executive Directors without the Executive Directors being present in November 2017 in order to review the Executive Directors' performance. Each of the directors was considered to be effective in discharging their responsibilities.

Annual election of directors

In accordance with the Code, all directors retire at each AGM and offer themselves for election or re-election by shareholders.

John O'Higgins joined the board as a Non-Executive Director on 16th November 2017. Patrick Thomas joined the board as a Non-Executive Director and Chairman Designate on 1st June 2018. As required by our Articles of Association, John and Patrick will retire at the 2018 AGM and offer themselves for election. All other directors will be offering themselves for re-election.

Our five Non-Executive Directors and Chairman Designate are each determined by the board to be independent directors in accordance with the criteria set out in the Code. The board considers that their skills, experience, independence and knowledge of the company enable them to discharge their respective duties and responsibilities effectively. Biographies of each of the directors standing for election or re-election can be found on pages 84 and 85.

Our 2018 AGM circular details why the board believes each director should be elected or re-elected based on continued satisfactory performance in the role. In the circular, the Chairman confirms to shareholders that, following formal performance evaluation, the performance of each Non-Executive Director continues to be effective and that they demonstrate commitment to the role (including commitment of time for board and board committee meetings).

Remuneration

The board has established a Remuneration Committee. The composition and role of the Remuneration Committee is set out in the Annual Report on Remuneration.

 Pages 122 to 130

Accountability

Financial and business reporting

In its reporting to shareholders, the board recognises its responsibility to present a fair, balanced and understandable assessment of the group's position and prospects. This responsibility covers the annual report and accounts and extends to half year and other price sensitive public reports and reports to regulators, as well as to information required by statutory requirements.

The directors are responsible for preparing this annual report and consider it, taken as a whole, to be fair, balanced and understandable and provides the information necessary for shareholders to assess the company's position and performance, business model and strategy.

Each of the four sectors; Clean Air, Efficient Natural Resources, Health and New Markets, was managed by executive management teams reporting to the GMC. The GMC reviewed bi-monthly summaries of financial results from each sector through a standardised reporting process. The group has a comprehensive integrated strategic planning and annual budgeting process including three-year and ten-year plans. Budgets are approved by the board and variances are closely monitored.

 Pages 5 and 62 to 69: Our four sectors

Risk management and internal control

The board is ultimately responsible for maintaining sound risk management and internal control systems (including financial controls, controls in respect of the financial reporting process and controls of an operational and compliance nature).

The company's internal control systems are on a groupwide basis and the review of their effectiveness (including of the application of the Guidance on Risk Management, Internal Control and Related Financial and Business Reporting issued by the Financial Reporting Council in September 2014 (FRC Guidance)) is implemented and reported from a groupwide perspective, covering the company and its subsidiaries. There are no material joint ventures or associates which have not been dealt with as part of the group for the purposes of applying the FRC Guidance.

Our risk management systems and internal control systems are designed to meet the group's needs and to manage the risks to which it is exposed, including the risks of failure to achieve business objectives and of material misstatement or loss. However, such risks cannot be eliminated. Our systems can only provide reasonable, but not absolute, assurance. They can never completely protect against such factors as unforeseeable events, human fallibility or fraud.

The board confirms that there is an ongoing process in place (established in accordance with the FRC Guidance) for identifying, evaluating and managing the principal risks faced by the group. This process is regularly reviewed by the GMC, the board and the Audit Committee as appropriate and has been in place during the year and up to the date of approval of this annual report.

The board is responsible for determining the nature and extent of the principal risks it is willing to take in achieving its strategic objectives. The board's view of Johnson Matthey's key strategic and operating risks and how the company seeks to manage those risks is set out in this report.

The directors confirm that they have carried out a robust assessment of the principal risks facing the company, including those that would threaten its business model, future performance, solvency or liquidity.

 Our principal risks

 Pages 78 to 81

Risk management and internal control systems

The group's risk management and internal control systems comprise group policies, procedures and practices covering a range of areas including the appropriate authorisation and approval of transactions, the application of financial reporting standards and the review of financial performance and significant judgements.

Review of effectiveness of the group's risk management and internal control systems

The board has important responsibilities in respect of the group's risk management and internal control systems (including financial controls, controls in respect of the financial reporting process and controls of an operational and compliance nature). The board monitors these carefully throughout the year and carries out an annual review of their adequacy and effectiveness. The board has delegated part of this responsibility to the Audit Committee. The role and work of the Audit Committee in this regard and the role of the group's Corporate Assurance and Risk function are described in the Audit Committee Report on page 107.

The board, through setting its own annual agenda plan, defines the review process to be undertaken, including the scope and frequency of assurance reports received throughout the year. The board agenda plan, together with that of the Audit Committee, are designed to ensure that all significant areas of risk and the related risk management and internal control systems are reported on and considered during the course of the year. In addition to determining risk appetite, the board specifically reviews, amongst other things, risks relating to EHS, innovation, legal and compliance and intellectual capital.

The board, in part through the Audit Committee, has conducted an overarching review of the effectiveness of the company's risk management and internal control systems, covering all material controls, including financial, operational and compliance controls, and financial reporting processes, for the year. The review process accords with the FRC Guidance.

The Audit Committee

The composition of the Audit Committee is set out in the Audit Committee Report (pages 103 to 110), which describes the work of the Audit Committee in discharging its responsibilities.

The board is satisfied that at least one member of the Audit Committee, Alan Ferguson, has recent and relevant financial experience, including competence in accounting and that the Audit Committee as a whole has competence relevant to the sectors in which the company operates.

Stakeholders

Our approach to our stakeholders is central to our decision making. We keep in close contact with our shareholders, workforce, customers and suppliers, to ensure we are aware of each other's priorities and consider their views appropriately in decision making.

 Pages 20 and 21: Our stakeholders

Shareholders

Information on how we manage relations with our shareholders is set out to the right and on the following page.

Workforce

The board welcomes the opportunity to engage with the workforce. Site visits provide the chance to meet with local management, both formally and informally, to obtain their views on the opportunities and risks and gauge the culture. In receiving presentations on strategy, we ensure that the Sector Chief Executive or key functional head, and where relevant, their teams, attend the board meeting so their views can be heard and considered.

We have a variety of management committees across the group, at both a sector level and country level, which provide a forum to understand issues across the group. There are also plans in place to undertake our next employee engagement survey in September 2018.

We have processes in place for the workforce to be able to raise concerns in a confidential manner. Further details on our speak up arrangements are set out

on pages 54 and 59. The board receives regular reports on speak up matters which provide further insight into the culture across the group.

Customers


Understanding our customers' needs helps us to deliver the best solutions for them and the board considers this as part of its strategy and approving capital investments.

 Pages 32 to 37: Customers

Suppliers

Working well with our suppliers is essential to our business. It ensures a responsible approach to our supply chain and mitigates risks. During the year the board approved Johnson Matthey's Modern Slavery and Human Trafficking Statement which sets out the steps taken to prevent modern slavery in our business and supply chains.

 Pages 20 and 21: Our stakeholders

 Pages 40 to 42: Responsible sourcing

 matthey.com/modern-slavery

Relations with shareholders

Dialogue with our shareholders

Our board welcomes the opportunity to openly engage with shareholders as it recognises the importance of a continuing effective dialogue, whether with major institutional investors, private shareholders or employee shareholders. The board takes responsibility for ensuring that such dialogue takes place.

Reporting of results and Capital Markets Day

We report formally to our shareholders when we publish our full year results in May and our half-yearly results in November. When we publish the results, our Executive Directors give presentations in meetings with institutional investors, analysts and the media in London. Live webcasts and transcripts of these presentations are available on our website.

In addition, we hold a Capital Markets Day for our institutional investors and analysts. The last of these was held in September 2017. A live webcast of the presentation to investors, a transcript of the event and a downloadable copy of the slides are made available on our website.

 matthey.com/cmd-17

Governance

Contact with our shareholders

Our Chairman takes overall responsibility for ensuring that the views of our shareholders are communicated to the board and that our directors are made aware of major shareholders' issues and concerns. However, contact with major shareholders is principally maintained by the Chief Executive and the Chief Financial Officer. They have a regular dialogue with institutional shareholders on performance, plans and objectives through a programme of one to one and group meetings and ensure that shareholders' views are communicated to the board. Our Investor Relations department acts as a focal point for contact with investors throughout the year.

During the year the Chairman and Senior Independent Director met with institutional investors to hear their views and discuss governance and strategy matters. The Chairman, Senior Independent Director and the other Non-Executive Directors continue to be available to discuss matters of concern if requested.

Overall, the board believes that appropriate steps have been taken during the year to ensure that the members of the board, and in particular the Non-Executive Directors, develop an understanding of the views of major shareholders. These have included, for example, analysts' and brokers' briefings, consideration by the board of six monthly brokers' reports and feedback from shareholder meetings on a six-monthly basis. Major shareholders' views are canvassed for the board in a detailed investor survey which is usually conducted every two years by external consultants. The purpose of these surveys is to obtain the views and opinions of a broad range of shareholders and non-shareholders. A survey was undertaken in early 2018 and the results discussed by the board in April 2018.

The Remuneration Committee undertakes detailed consultation exercises with a selection of major institutional shareholders and institutional investor bodies as part of its comprehensive review of Executive Director and senior management remuneration arrangements within the group.

The board reviewed the arrangements for communicating with shareholders during the year and concluded that they remain a practical and efficient way for all our directors to keep in touch with shareholders' opinions and views and to reach a balanced understanding of major shareholders' objectives, issues and concerns.

While the board recognises that the company is primarily accountable to its shareholders, it also recognises the contribution made by other providers of capital and confirms its interest in listening to their views, including where relevant, on the company's overall approach to governance.

Annual General Meetings

The AGM is an important part of effective communication with shareholders. Our AGM takes place in London. Notice is sent to shareholders at least 20 working days beforehand and is published on our website.

The circular sent to shareholders with the notice aims to set out a balanced and clear explanation of each proposed resolution. All directors who are able to attend our AGMs do so. In 2017, the entire board attended.

At the AGM, we propose separate resolutions on each substantially separate issue. For each resolution, shareholders may direct their proxy to vote either for or against or to withhold their vote. The proxy form and the announcement of the results make it clear that a 'vote withheld' is not legally a vote and is not counted in the calculation of the proportion of the votes cast. All valid proxy appointments received are recorded and counted.

All resolutions at the AGM are decided on a poll carried out by electronic means. The results are announced as soon as possible and posted on our website. This shows votes for and against as well as votes withheld.

2018 AGM

Our 2018 AGM will be held on 26th July 2018. The notice, together with an explanation of the resolutions to be considered, is set out in a circular to shareholders. Our board welcomes the opportunity for face to face communication with our shareholders. Shareholders are encouraged to participate and all directors are available to answer questions, formally through the Chairman during the meeting and informally afterwards.



matthey.com/shareholder-information

Compliance with the UK Corporate Governance Code

Code provision E.1.1 states that the Senior Independent Director should attend sufficient meetings with a range of major shareholders to listen to their views in order to help develop a balanced understanding of the issues and concerns of major shareholders. Whilst the Senior Independent Director did meet with some major shareholders, the board does not consider this to be sufficient to have fully complied with this provision throughout the year. The board has concluded, however, that there are appropriate mechanisms in place to listen to the views of shareholders and communicate them to the board without it being necessary for the Senior Independent Director to attend meetings with major shareholders. However, he is available to attend any such meetings if requested by shareholders. The board believes that this approach is consistent with the relevant main principle of the Code on dialogue with shareholders and is consistent with good governance and the promotion of delivery of the company's objectives. This approach will continue throughout the current year but the board will keep the matter under review.

Nomination Committee Report



This year we focused heavily on succession planning to ensure Johnson Matthey continues to have a board with the right skills to effectively develop the company's strategy and a strong executive team to implement and support it.

Tim Stevenson
Chairman of the Nomination Committee

The year under review saw changes to our board composition. I am pleased to announce that Patrick Thomas was appointed to the board as Non-Executive Director and Chairman Designate with effect from 1st June 2018 and will be taking on my role as Chairman after our Annual General Meeting (AGM) on 26th July 2018. Led by Alan Ferguson, our Senior Independent Director, the committee spent significant time during the year on the recruitment for my role and is confident that Patrick will successfully steer the company in delivering its strategy. We also refreshed our board in November 2017 when John O'Higgins joined as Non-Executive Director, following Colin Matthews' decision to step down. During the year, we also continued our focus on succession planning and talent management for the senior management, recognising the importance these roles play in supporting the group's strategic aspirations.

Role

The principal role of our Nomination Committee is to keep under review the structure, size and composition of the board and to make appropriate recommendations to the board with respect to any necessary changes. We also consider the adequacy and effectiveness of senior management development and succession planning processes for board members and senior executives and ensure the adequacy and effectiveness of the group's processes for identifying and developing the future senior management pipeline.

Further details on our role and responsibilities can be found in our corporate governance framework.

Composition

Our committee has six members, myself as Chairman and all the independent Non-Executive Directors. Only members of the committee have the right to attend meetings. The Chief Executive and the Chief HR Officer, as well as external advisers and others, attend for all or part of our meetings by invitation when appropriate. Simon Farrant, our Company Secretary, is secretary to the committee.

Committee meetings during the year

Our committee usually meets immediately prior to or following board meetings and on other occasions as needed.

We met seven times during the year. I also kept committee members up to date between meetings. Several members of the committee also met as a working group during the year to progress Non-Executive Director recruitment and recruitment for the position of Chairman. The attendance of members at meetings during the year is set out below.

 matthey.com/corporate-governance

	Date of appointment to committee	Number of meetings eligible to attend	Number of meetings attended	% attended
Tim Stevenson	29th March 2011 ¹	7	6 ²	86%
Odile Desforges	1st July 2013	7	7	100%
Alan Ferguson	13th January 2011	7	7	100%
Jane Griffiths	1st January 2017	7	6 ³	86%
Colin Matthews	4th October 2012	4 ⁴	4	100%
Chris Mottershead	27th January 2015	7	7	100%
John O'Higgins	16th November 2017	3	3	100%

¹ Tim Stevenson was appointed Chairman of the board and the committee on 19th July 2011.

² Tim Stevenson was unable to attend one meeting due to illness. In his absence, Alan Ferguson, Senior Independent Director, chaired the committee meeting. Tim Stevenson reviewed all meeting papers and shared his thoughts, comments and questions with Alan Ferguson, who raised these at the meeting.

³ Jane Griffiths was unable to attend one meeting due to prior commitments with Johnson & Johnson. She reviewed all papers and shared her thoughts, comments and questions with Alan Ferguson, who raised these at the meeting.

⁴ Colin Matthews retired from the board and the committee on 15th November 2017.

Governance

Committee activities during the year

Our principal activities during the year, and up to the date of approval of this annual report, were as follows:

Chairman succession	My term of appointment was due to expire at the end of the company's 2017 AGM. After considering my performance and ability to contribute to the board, an extension to the term of my appointment until 31st December 2018 was recommended to the board. Led by the Senior Independent Director, the committee conducted a search process for a new chairman. • Read more on pages 101 to 102.
Non-Executive Director succession	Having conducted a search process for a new Non-Executive Director with assistance from The Zygos Partnership, recommended to the board the appointment of John O'Higgins as a new Non-Executive Director. Recommended to the board that on the retirement of Colin Matthews in November 2017, Chris Mottershead should chair the Remuneration Committee.
Renewal of appointment terms – Chris Mottershead	Having considered his performance, ability to continue to contribute to the board and time commitment, as well as his independence and the need for progressive refreshing of the board, recommended to the board that the term of appointment of Chris Mottershead as Non-Executive Director be renewed for a further three year term to 26th January 2021.
Talent management framework	Received a presentation from the Chief HR Officer and the Group Talent and Learning Director on the group's integrated talent management process, addressing the talent requirements for delivery of our strategic aspirations and noting that the next engagement survey would take place in 2018.
Succession planning and senior management changes	Reviewed the 2018 succession and development plans in respect of the Group Management Committee (GMC) including the Chief Executive, and other senior executives in each sector and function. Discussed GMC membership, responsibility changes and senior (non-GMC) moves. Considered the process for, and progress in, recruiting a Chief Strategy and Corporate Development Officer and a Chief Executive for the Health Sector.
Review of performance and effectiveness during 2017/18	With the assistance of external consultants, Manchester Square Partners LLP, reviewed our committee's performance and effectiveness.
Review of committee terms of reference	Undertook a thorough review of the committee's terms of reference to ensure that they reflected legal and governance requirements and continued to be fit for purpose. The terms of reference were subsequently expanded to clearly cover both periodical assessment of the knowledge, skills and experience of individual members of the board, and the board collectively, and review and recommendation of the Diversity Policy to the board for approval.
Nomination Committee Report	Reviewed and approved the draft Nomination Committee Report for 2017/18.

Board appointments

In considering board composition, we assess the range and balance of skills, experience, knowledge and independence on the board, identify any gaps or issues and consider any need to refresh the board. If, after this evaluation, we feel that it is necessary to appoint a new director we then prepare a description of the role, the capabilities and characteristics required for the appointment and set objective selection criteria accordingly. The benefits of diversity, in its broadest sense, on the board are carefully considered. We consider any proposed recruitment in the context of the company's strategic priorities, plans and objectives, as well as the prevailing business environment. We also take into account relevant succession plans already in place.

In appointing Non-Executive Directors we seek individuals who can make positive contributions to the board and its committees and who have the capability to challenge on strategic and other matters. This is balanced with the need to maintain board cohesiveness.

We use external search consultancies to help with the appointment process and appointments are ultimately made on merit against the agreed objective selection criteria, having due regard, amongst other things, to the benefits of diversity.

While the board has not set express gender or other related diversity quotas or measurable objectives, the board seeks to encourage applications from diverse candidates, subject to the selection criteria being met.

Succession planning

A key role of the Nomination Committee is to ensure that plans are in place for the orderly and progressive refreshing of the board and to identify and develop individuals with potential for board and GMC positions. As announced in April 2017, we made several changes in the leadership of our group and the Nomination Committee played a key role in supporting the Chief Executive in making these changes. During the year we discussed the recruitment of two key positions: the Chief Strategy and Corporate Development Officer and the Sector Chief Executive, Health. Matthew Harwood and Jason Apter joined Johnson Matthey in July 2017 and March 2018 respectively. You can read more about their experience on page 13. The Nomination Committee has continued to focus on active talent management, mobility across the group and diversity within the year.

We considered a presentation from our Chief HR Officer in respect of Johnson Matthey's leadership pipeline in the context of the group's talent strategy. This covered both assessment and development of internal talent as well as external recruitment. We also considered a presentation on the company's integrated talent strategy and talent focus for 2018. This included discussion of further strengthening of performance management across the group.

Non-Executive Director succession

During the year, we decided it was desirable to seek a further Non-Executive Director following Colin Matthews' decision to step down from the board. The preference expressed to the headhunters was for a current serving Chief Executive with strong international experience to further support and challenge our strategy. We engaged The Zygos Partnership in a search process which led to the appointment of John O'Higgins in November 2017. The Zygos Partnership is a signatory to the Voluntary Code of Conduct for Executive Search Firms and has no connection with the company, other than Non-Executive Director recruitment. The Committee felt that John O'Higgins' executive experience in successfully driving growth as well as improving operational efficiencies and his independence in character and judgement would be beneficial to the board as a whole.

Chairman succession

The term of my appointment as Chairman was reviewed in May 2017. After full review, this was extended to 31st December 2018. Given my intention to step down as Chairman by this date, Alan Ferguson, our Senior Independent Director led a process on behalf of the committee to search for my successor.

Leading the search for a new Chairman



As Senior Independent Director, I led the search for a new Chairman for Johnson Matthey.

The Committee decided to appoint The Zygos Partnership to support the recruitment process, given their knowledge of the board and the company following the successful recruitment of John O'Higgins. As the announcement of Tim's retirement was made to the market and interested parties were able to contact me directly, it was not considered necessary to publicly advertise the role.

Following detailed discussions, the committee agreed the key skills, experience and characteristics required for the role which were shared with The Zygos Partnership. It was felt that the new Chairman should have a successful and accomplished track record as a global industry leader, preferably in the areas of science and technology, be strong strategically and have demonstrated an ability to bring leadership to a board. Candidates would also likely be low ego, down to earth, challenging and yet supportive, indeed a natural mentor, with strong people and communication skills.

As you can see from the timeline for the recruitment (page 102), the committee invested significant time and effort to ensure that the right candidate was appointed. The Zygos Partnership put forward an extensive range of candidates for the committee to initially consider. Following detailed discussion, this was narrowed down to a shortlist for interview by myself and the Chief Executive. This shortlist developed and evolved over the period. In order to canvas views, a small selection of candidates met with some of my fellow directors and, in time, the preferred candidate met with the rest of the board, the Company Secretary and the Chief HR Officer.

Tim Stevenson, as outgoing Chairman, did not take part in the selection process. However, I did consult him for his views and considerations on the role.

Following full consideration, the Nomination Committee unanimously recommended to the board to appoint Patrick Thomas as an independent Non-Executive Director and Chairman Designate with effect from 1st June 2018. Patrick's succession as Chairman will take place after the 2018 AGM. The committee believes Patrick is very well placed to lead the board and support the management team in delivering its strategy.

Alan Ferguson

Senior Independent Director

Governance

Timeline of succession planning

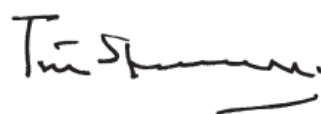
Date	Action
June 2017	It was announced that Tim Stevenson had confirmed to the board his intention to step down as Chairman of the company by 31st December 2018.
July 2017	Following multiple discussions and working with The Zygos Partnership, the Nomination Committee identified the key skills, experience and characteristics required for the role of the Chairman.
October 2017 – February 2018	Alan Ferguson and Robert MacLeod interviewed the shortlisted candidates with the list evolving over this period. A small selection of candidates met with other board members.
February – March 2018	All board members, the Company Secretary and Chief HR Officer met with the preferred candidate.
April 2018	Following recommendation from the Nomination Committee, the board approved the appointment of Patrick Thomas as Non-Executive Director and Chairman Designate with effect from 1st June 2018.
July 2018	Subject to shareholder approval, Patrick Thomas will be Chairman with effect from the close of the 2018 Annual General Meeting.

The Chief Executive and the Company Secretary have commenced a detailed induction process for Patrick. Further details on this will be reported in the 2019 Annual Report and Accounts.

Committee effectiveness

The committee's annual performance review was externally facilitated by Manchester Square Partners LLP (MSP) who held meetings with all committee members to seek their individual views on the committee's composition, its responsibilities and the culture of meetings. The report from MSP, which was reviewed by the committee at its meeting in April 2018, contained positive feedback, including that the committee operated well and had strong processes in place for key appointments. The committee noted the importance of giving continued appropriate attention to the impact of new hires to the company's culture, and that of succession planning including the importance of diversity.

The Nomination Committee Report was approved by the Board of Directors on 30th May 2018 and signed on its behalf by:



Tim Stevenson
Chairman of the Nomination Committee

Audit Committee Report



The committee delivered its key priorities for the year, including a successful tender of the external audit.

Alan Ferguson
Chairman of the Audit Committee

I am pleased to present our report for the year ended 31st March 2018 which outlines the committee's activities during the year. Of particular note this year was the work carried out in respect of the external audit tender. We spent a significant amount of time planning this to ensure it was conducted effectively and efficiently in order to secure the best result for Johnson Matthey. Further details are set out on pages 108 and 109.

Continuing to monitor and review the effectiveness of the group's internal controls and risk management systems has been particularly important as we aligned our group structure to four sectors and the risk landscape continued to evolve. Each year, we look at the control environment of selected sectors and this year we focused on Clean Air and Health.

We have also looked at the risk management processes across the group and at risk assurance mapping. Throughout the year we have discussed and challenged risk and control matters and worked closely with the Group Assurance and Risk Director to ensure delivery of a well targeted and robust internal audit plan.

 Our principal risks

 Page 76: Risk management systems

Looking ahead, we will monitor and support the successful transition to the new external auditor, ensuring audit quality is not put at risk during this period.

Role

Our principal role is to assist the board in carrying out its oversight responsibilities in relation to financial reporting, internal controls and risk management and in maintaining an appropriate relationship with our external auditor. More details on our role and responsibilities can be found in our terms of reference which were updated during the year and are available on our website.



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Composition

Our committee currently comprises five members: myself as Chairman and all of our independent Non-Executive Directors. We welcomed John O'Higgins to the committee in November 2017. This is my seventh year as Chairman of the committee. I am a Chartered Accountant with many years' experience working in finance, having been, over a 12 year period, the Group Finance Director at Inchcape plc, The BOC Group plc and Lonmin Plc. I also chair the audit committees of two other companies. As a committee, we have a broad range of knowledge, skills and experience gained from a variety of backgrounds, as detailed on pages 84 and 85. This is essential to the effective discharging of our duties.

The board has agreed that the committee has experience relevant to the sectors in which we operate and that I have recent and relevant financial experience, including competence in accounting, as required by the provisions of the UK Corporate Governance Code 2016.

The secretary to the committee is Simon Farrant, Company Secretary.

Governance

Committee meetings during the year

We met six times during the year. Attendance at these meetings was as follows:

	Date of appointment to committee	Number of meetings eligible to attend	Number of meetings attended	% attended
Alan Ferguson	13th January 2011 ¹	6	6	100%
Odile Desforges	1st July 2013	6	6	100%
Jane Griffiths	1st January 2017	6	5 ²	83%
Colin Matthews	4th October 2012	3	3 ³	100%
Chris Mottershead	27th January 2015	6	6	100%
John O'Higgins	16th November 2017	3	3	100%

¹ Alan Ferguson was appointed Chairman of the committee on 19th July 2011.

² Jane Griffiths was unable to attend one meeting due to prior commitments with Johnson & Johnson. She reviewed all papers and shared her thoughts, comments and questions with Alan Ferguson, who raised these at the meeting.

³ Colin Matthews resigned from the board and the committee on 15th November 2017.

Since the end of the year, the committee has met twice and all members attended. The committee's meetings coincide with key events in the company's financial calendar. Following each meeting, I report on the main discussion points and findings to the board.

In order for us to properly discharge our role, it is critical that we have the opportunity to openly discuss with management any matter which falls within our remit and probe and challenge where necessary. The Chief Executive, the Chief Financial Officer and the Group Assurance and Risk Director attend all of our meetings and other senior managers attend to support the committee's activities and provide technical or business information as necessary.

In addition, our meetings were attended by the KPMG lead audit partner and other representatives from KPMG. Their attendance is important as it gives us the opportunity to seek their independent and objective views on matters which they encounter during their audit. At least once a year, we meet separately with the lead audit partner and with the Group Assurance and Risk Director, who manages the internal audit function, to discuss matters without executive management being present.

On a more frequent basis, I meet with the Chief Financial Officer, the Group Assurance and Risk Director, other senior management and with KPMG. This means any issues or concerns can be raised at an early stage, allowing me to ensure that sufficient time is devoted to them at the subsequent committee meeting.

Communication between the committee, management and the internal and external auditors is open and constructive.

Overview of how we discharged our responsibilities during the year

Our principal activities during the year, and up to the date of approval of this annual report, were as follows:

Role	Activity
Published financial information	
To monitor the integrity of the reported financial information and to review significant financial issues and judgements	<ul style="list-style-type: none"> Reviewed the group's full year results and half-yearly results and considered the significant accounting policies, principal estimates and accounting judgements used in their preparation. Reviewed the matters in support of preparing the accounts on a going concern basis and assessing the long term viability of the group. Assessed the process which management put in place to support the board when giving its assurance that the 2018 Annual Report and Accounts, taken as a whole, is fair, balanced and understandable. Received an update on new or forthcoming accounting standards that could materially impact the group, including IFRS 15 – 'Revenue from Contracts with Customers' and IFRS 16 – 'Leases'. Responded to questions from the Financial Reporting Council (FRC) as part of their thematic review of significant accounting judgements and sources of estimation uncertainty. Reviewed and approved the 2018 Audit Committee Report.

Role	Activity
Risk management and internal control	
To review the group's internal financial controls and its risk management systems and to monitor the effectiveness of the group's internal audit function	<ul style="list-style-type: none"> Received reports at every meeting from the Group Assurance and Risk Director on the corporate assurance and risk reviews and risk management processes. Monitored progress against the 2017/18 corporate assurance and risk plan and agreed the 2018/19 plan. Monitored the effectiveness of the Corporate Assurance and Risk function. Reviewed the key control framework and finance policies, including treasury policies. Received reports from the Clean Air and Health Sector Finance Directors. Received a report from the Precious Metals Finance Director on the outcome of a review of the precious metal governance framework including an enhanced set of controls. Reviewed reports from the General Counsel on litigation and on the speak up (whistleblowing) procedures and outcomes. Reviewed reports on credit controls and credit risks.
External auditor	
To ensure an appropriate relationship with the external auditor, to monitor its independence and objectivity, negotiate and approve its fees, recommend its reappointment or not and to ensure it delivers, based on a sound plan, a high quality effective audit	<ul style="list-style-type: none"> Approved, after due challenge and discussion, KPMG's proposed terms of engagement, audit plan and fees for 2017/18. Considered reports from KPMG on its audit. Conducted a comprehensive external audit tender process and recommended two firms to the board, with a stated preference that PricewaterhouseCoopers LLP (PwC) be appointed as the external auditor for 2018/19. For further information, please see pages 108 and 109.

These activities are covered in more detail on the following pages.

Published financial information

Significant issues considered by the committee in relation to the group's and company's accounts

Ensuring the integrity of the accounts is fundamental to our remit. In preparing the accounts, there are a number of areas requiring management to exercise a particular judgement or a high degree of estimation. Our role is to assess whether the judgements and estimates made by management are reasonable and appropriate.

Significant issues considered by the committee in relation to the accounts

Work undertaken by the committee in forming an opinion

Refining process and stock takes	
When setting process loss provisions and agreeing commercial terms with customers, key judgements are made in estimating the amount of precious metal that may be lost during the refining and fabrication processes. In addition, refining stock takes involves key judgements in estimating volumes of precious metal bearing material in the refining system and the subsequent sampling and assaying to assess the precious metal content (accounting policies section on page 148).	<p>In order to satisfy ourselves on the robustness of the stock take results and the adequacy of process loss provisions, we reviewed the results from the refinery stock takes together with explanatory commentary from management which included whether these results were in line with expectations and historic trends. We also reviewed the results as a percentage of throughput.</p> <p>The refining process and stock takes were also an area of focus for KPMG who reported its findings to us.</p> <p>We considered whether the accounting treatment for refining stock take gains and losses was in accordance with agreed methodology and concurred with management's opinion that it was.</p> <p>During the year, the committee agreed that a full refinery stock take in the UK refineries would be delayed. This was due to strong customer demand and concern over a possible shortage of palladium if our refinery had to be shut down for the stock take. In the absence of the full stock take, the committee reviewed additional controls and procedures to be performed by both management and KPMG, and were satisfied that they were appropriate.</p>

Governance

Significant issue considered by the committee in relation to the accounts

Work undertaken by the committee in forming an opinion

Impairment of goodwill, other intangibles and other assets	
Key judgements are made in relation to the assumptions used in calculating discounted cash flow projections to value the cash generating units (CGUs) containing goodwill, to value other intangible assets not yet being amortised and to value other assets when there are indications that they may be impaired. The key assumptions are management's estimates of budgets and plans for how the relevant businesses will develop or how the relevant assets will be used in the future, as well as discount rates and long term average growth rates for each CGU (accounting policies section on page 147 and notes 18, 19 and 20 on pages 167 to 171).	<p>As part of the annual impairment review of goodwill and other intangible assets not yet being amortised, we reviewed a report from management. This explained the methodology used and the rationale for the assumptions made including explanations for any significant changes from those used in prior years. For these annual impairment tests, there was significant headroom over the carrying value of the relevant CGU's net assets apart from the water business.</p> <p>In looking at the sensitivities of average growth expectations of the markets for water services, management concluded that an impairment of £11 million was appropriate. In addition, following the annual impairment review, a number of other asset impairments were identified as a result of restructuring activities during the year. Asset write offs totalling £55 million included in major impairment and restructuring charges comprise impairments of tangible fixed assets (£40 million) and goodwill, inventory and intangible assets (£15 million).</p> <p>There were no other significant impairments of other assets in the year.</p> <p>The impairment reviews were also an area of focus for KPMG who reported its findings to us. We concluded that management's key assumptions were reasonable.</p>
Taxation	
Key judgements are made in arriving at management's best estimate of the tax charge included in the accounts, where the precise impact of tax laws and regulations is unclear (accounting policies section on page 147).	<p>We reviewed explanatory papers from management which included a review of the appropriateness of the tax provisions, relevant disclosures and the impact of the recent US tax changes.</p> <p>KPMG also reported its findings in this area to us and we reviewed these.</p> <p>We concluded that the judgements, estimates and disclosures were reasonable and appropriate.</p>
Post-employment benefits	
Key judgements are made in relation to the assumptions used when valuing post-employment benefit obligations (accounting policies section on page 147 and note 17 on pages 160 to 167).	<p>We reviewed the report from management summarising actuarial valuations and key assumptions for the main post-employment benefit plans. We compared these assumptions with those made by other companies and those used last year.</p> <p>We also considered the opinions expressed by KPMG in this area.</p> <p>We concluded that the assumptions used are appropriate for the group's post-employment benefit plans.</p>
Claims and uncertainties	
The business is exposed to potential claims and uncertainties and how to deal with these often involves significant judgement (accounting policies section on pages 146 and note 32 on pages 181 to 182).	<p>We reviewed information provided by management in relation to legal claims and uncertainties in accordance with relevant accounting standards. After challenge, we concurred with their conclusions around provisioning and the contingent liability.</p>

In addition to the above, the committee paid particular attention to the non-underlying charges this year as they were of a different magnitude to previous years. This involved understanding the rationale for the charge as well as how it was disclosed in the Consolidated Income Statement and accompanying notes to the accounts.

Fair, balanced and understandable

We reviewed and assessed the process which management has put in place to support the board when giving its assurance that the 2018 Annual Report and Accounts, taken as a whole, is fair, balanced and understandable and provided the information necessary for shareholders to assess the company's position and performance, business model and strategy.

This process included senior managers undertaking a detailed review of the sections of the Annual Report and Accounts that fall within their area of responsibility and confirming it is fair, balanced and understandable. A separate independent review is also undertaken and key sections are reviewed by our external advisers. Following our review, we confirmed to the board that we had reviewed the process put in place by management and that it was satisfactory.

Going concern and viability statement

We reviewed the matters, assumptions and sensitivities in support of preparing the accounts on a going concern basis and assessed the long term viability of the group. This included assessing the risks which would threaten our business model, the current funding position and different stress scenarios. We concluded that the group would be able to continue in operation, comply with facility covenants and meet its liabilities as they fall due over a period of at least three years and that the accounts should be prepared on a going concern basis. Further information can be found on pages 74 and 75.

Risk management and internal control

The committee assists the board in its overall responsibility for the group's internal controls by reviewing the adequacy and effectiveness of controls and risk management systems. The Corporate Assurance and Risk Director has a direct reporting line to me and is responsible for providing independent assurance that our risk management and internal control processes are operating effectively. She provides regular oversight of risk matters that affect our business and monitors compliance to ensure that any mitigation actions are properly managed and completed. She takes comfort from a number of other sources of internal assurance when reviewing the effectiveness of the group's systems of internal control.

Sector and functional control reviews

During the year the committee reviewed the control environment in Clean Air and Health. This gave us an opportunity to learn more about key financial risks and provide independent challenge as to how these were being managed, what control enhancements were being carried out and understand the bench strength of the sector finance teams. In particular, we heard from the Sector Finance Directors about the main themes arising from the key control assessment process, which enabled us to better understand the control environment in the sectors. We also received an update from the new Group Financial Controller on his first impressions of the group and the finance function.

The committee receives updates from individuals responsible for maintaining controls over financial risk areas across the group, so that we can be sure these are managed effectively. The Group Financial Controller presented an overview of the control framework and the finance policies which were being revised to clarify accountabilities and the committee sought assurance on the actions being taken. The committee also reviewed the treasury strategy and policies during the year, including the changes to the net investment hedging policy. These policies were recommended to the board for approval in accordance with our corporate governance framework. The committee also reviewed the precious metal governance framework and controls associated with the balances of precious metal held in the businesses.

 Our principal risks

 Pages 76 to 81

Corporate assurance and risk

The committee receives regular reports on the number and type of internal audit and security reviews undertaken during the period and how this compares to the plan, the key findings of those audits and reviews, the number and nature of actions to address the findings and progress made by management in implementing the actions. During the year we paid particular attention to the level of engagement of all our managers, whether at local, sector or executive level, in implementing corrective actions and in strengthening the control framework across all our sites, irrespective of location, size and activity. At each meeting we tracked progress in completing open actions and challenged management to ensure that actions were being dealt with in a timely manner.

We spend a significant amount of time reviewing the corporate assurance and risk annual plan to ensure it is comprehensive, well targeted and provides the appropriate level of assurance. In reviewing the 2018/19 plan, we considered the maturity of existing internal controls and the work planned by sector management, particularly the finance teams, to review and check the controls across different areas of their businesses. As part of the detailed planning process, information from a variety of sources was analysed to assess levels of risk. This included output from the key control assessment process, speak up concerns, previous internal audit findings, including EHS audits, as well as input from our strategy team in relation to future revenue growth. We also looked at what is not covered by the plan, either by way of business activity or geographic coverage. Where there is no coverage at certain sites or businesses, we discuss what other mechanisms are in place to check the adequacy of controls. We were pleased to see that the plan included assurance work undertaken by the functional teams, including Finance, as well as sector management. In addition, there were also proposals to enhance the second line of defence controls further, with the sectors reviewing each other. The plan was mapped against the principal risks which allowed us to see how much coverage there would be on each risk. We believe the 2018/19 plan addresses Johnson Matthey's key risks and its coverage is appropriate for the size and nature of the group. On the basis of our review, we approved the plan.

We pay close attention to the resourcing of the Corporate Assurance and Risk function, knowing that the calibre, knowledge and experience of individual auditors are critical to achieving an effective audit and this is supplemented with external support to provide specialist skills as required. At each meeting the Group Assurance and Risk Director is present and we have the opportunity to ask detailed questions and challenge her. We receive regular reports from her and we seek the views of managers and also of KPMG, all of whom have frequent contact with the function. We pay attention to whether the function has adequate standing across the group and is free from management or other restrictions. We review the performance of the function annually.

Internal control

The key control questionnaire process is an important part of our assurance programme. It is a bottom up process that requires sectors and management to certify the existence and effectiveness of key controls within their areas of responsibility. We assessed the effectiveness of the process and we evaluated the nature and quality of responses, the level of challenge to the responses, significant findings, areas for improvement and how management intended to address findings.

Risk management

Working with the board, the risk assurance processes were reviewed and refined. We concentrate primarily on reviewing the mitigating controls and the levels of assurance over these. The board may ask for additional assurance to be provided and this can be carried out by the Corporate Assurance and Risk function who report back on this to the committee.

Speak up issues

The committee receives regular updates on speak up (whistleblowing) issues. We review key matters raised via speak up reports and ensure the procedures allow proportionate and independent investigation of such matters, as well as appropriate follow up action. Due to the importance of this process to Johnson Matthey, the board delegates some responsibility to the committee and to the group's Ethics Panel.

Governance

External auditor

External audit plan

The external audit plan for 2017/18 began with a review of significant risks and an assessment of how those risks impacted on the audit approach which then formed the basis of the plan. In deriving the key audit risks, KPMG considered the internal and external factors impacting the group and the group's own risk assessment. These were then discussed with sector and group management and translated into audit risks which shaped the audit approach. Key audit risks were identified at the initial planning stage and were reviewed and refined during the course of the year. The final four risks are referred to in the Independent auditor's report on pages 192 to 197. Materiality and the scope were agreed, as set out on page 192. In assessing adequacy of coverage, we also looked at local materiality levels, whether local statutory accounts were to be signed off and the number of site visits to be carried out by the group audit team.

We also discussed the background and experience of the audit partners responsible for the largest local teams, independence and KPMG's audit quality framework. Following discussion, we concluded that the proposed plan was sufficiently comprehensive for the purpose of the audit of the group's accounts and approved the proposed fee after due challenge.

How we reviewed KPMG's performance

The committee is committed to ensuring a high quality audit and this is particularly important ahead of the audit transition from KPMG to PwC.

Towards the end of the 2016/17 external audit, a feedback questionnaire was circulated to the Executive Directors and senior management. They were asked to rate how satisfied they were with KPMG, including its level of planning, ability to meet objectives, industry and specialist knowledge, organisation, ability to challenge management, independence, level and quality of communication and value for money. The results showed an overall level of satisfaction with KPMG. Stephen Oxley, the lead audit partner, presented an action plan for the 2017/18 audit to address the areas for further improvement, including at a sector level.

We also reviewed the FRC's report highlighting the principal findings they found when reviewing a selection of KPMG's audits in 2016/17, including Johnson Matthey's. This gave us some insight into how the FRC sees the quality of KPMG's work and is relevant to the consideration of audit quality.

On a continuous basis throughout the year, we look at the quality of KPMG's reports and the performance of Stephen Oxley both in and outside committee meetings. We pay particular attention to the way Stephen and the team interact with and challenge management as well as the effectiveness of the relationship between the internal and external audit teams. We also obtain feedback from the Chief Executive, the Chief Financial Officer and the Group Financial Controller, all of whom have extensive interactions with KPMG. As noted earlier, I have regular one to one update meetings with Stephen to discuss agenda items and other matters which either Stephen or I feel are important.

Provision of non-audit services

Last year, in light of EU legislation and the FRC's Revised Ethical Standard, the committee adopted a new policy on the provision of non-audit services which was effective from 1st April 2017. The policy identifies certain types of engagement that the external auditor shall not undertake, including tax services, the preparation of accounting records and risk management procedures. It also sets out the circumstances in which a former employee of KPMG can be employed by Johnson Matthey and the procedure for obtaining approval for such employment.

The policy also includes key controls to ensure that the provision of non-prohibited services does not create a threat to KPMG's auditor independence and objectivity. The auditor can be invited to provide non-audit services which, in its position as auditor, it must or is best placed to undertake and which do not impact auditor objectivity or independence. The policy sets out how approval should be obtained prior to KPMG being engaged. Services likely to cost £25,000 or less should be approved by the Chief Financial Officer; services likely to cost more than £25,000 but £100,000 or less must be approved by myself as Chairman of the committee and services likely to cost over £100,000 must be approved by the committee. During the year, I approved the engagement of KPMG to provide assurance over cyber risk management. The committee approved the provision of additional accounting advice on the implementation of IFRS 15 and the reappointment of KPMG to provide further independent programme assurance in relation to the implementation of new business information systems.

During the year the committee reviewed compliance against the policy and the provision of non-audit services and details of the non-audit services provided by KPMG and associated fees. Non-audit fees in the year were £0.8 million compared to audit fees of £2.2 million. The non-audit fees predominantly comprised expenditure on the provision of independent programme assurance (a continuing spend from prior year). More information on fees incurred by KPMG for non-audit services, as well as the split between KPMG's audit and non-audit fees, can be found in note 10 on the accounts, page 154.

An additional interim policy on the engagement of those audit firms tendering for the external audit was applied during the year to ensure they were not precluded from participating in the tender process and to avoid any independence issue arising in the run up to the appointment of a new auditor.

Objectivity and independence

The committee is responsible for monitoring and reviewing the objectivity and independence of the external auditor to ensure this is safeguarded. Given the work outlined above, the committee concluded that the audit was both independent and effective.

External audit tender

KPMG (and its predecessor entities) has been our external auditor since 1986, following a full tendering process in 1985. We have undertaken a review of KPMG's performance every year since then. Stephen Oxley, our current lead audit partner, was appointed in 2013/14 and each year since then he has taken steps to refresh KPMG's approach to certain aspects of its audit.

As disclosed in last year's annual report, it was always our intention to put the audit out to tender when Stephen's term expired, after completion of the 2017/18 audit. This approach is in line with EU legislation on audit firm rotation requirements, which came into force on 17th June 2016. Under the EU audit reform transitional arrangements KPMG's last possible audit would be for the year ended 31st March 2020.

The committee was fully responsible for the operation of the audit tender process and for recommending two firms of auditors to the board, together with the committee's preference. KPMG was not invited to participate. Set out on the following page is a summary of the detailed process carried out.

Activity relating to the external audit tender

March 2017	The Audit Committee Chairman, Chief Financial Officer and senior management considered who should be invited to tender for the appointment. The appointment was discussed with various firms.
June 2017	The Audit Committee Chairman and Chief Financial Officer met with the audit firms who had confirmed their participation in the tender. We provided an outline of the tender process and discussed the key attributes we would expect to see in the senior members of the group audit team, including the lead audit partner, and the likely structure of that team. The objective of this was to ensure each firm put forward the highest quality team to lead the tender that fits best with our requirements. Each firm was also requested to confirm that it had not carried out any services for us which would cause an issue with audit independence and that they had processes in place to ensure their independence throughout the tender process.
September 2017	The Audit Committee Chairman and Chief Financial Officer met with a number of prospective lead audit partners from each participating firm and decided who would lead the tender from each firm.
November 2017	<p>The committee finalised the selection criteria for the tendering process. These included:</p> <ul style="list-style-type: none"> • Quality of audit. • Continuous improvement and innovation in the audit approach, including through data analytics. • Independence. • Geographic coverage. • The team and cultural fit with a particular focus on the lead partner. • Understanding the business and industry. • Ability to challenge management and display rigour in approach. • Value for money. <p>The committee signed off the tender request.</p>
December 2017	The tender request was issued and a data room opened.
January 2018	Meetings were held with key management, the Chairman and the Chairman of the Audit Committee to allow the tendering firms to gain an insight to the business, the culture and our requirements. Feedback was gathered to provide input into the subsequent decision making process.
February 2018	<p>Written tenders were submitted.</p> <p>Three shortlisted firms gave presentations to a panel comprising all Audit Committee members, the Chairman, Chief Financial Officer and Group Financial Controller.</p> <p>A formal decision was made by the committee, having given full consideration to the panel's recommendation. The committee recommended two firms to the board for approval, with a stated preference for PwC. The committee believe that PwC has a strong team with the skills and experience to provide rigour and challenge in the audit.</p>

Proposed appointment of PricewaterhouseCoopers LLP (PwC)

After considering the committee's recommendation, and as announced in March 2018, the board selected PwC as the group's auditor for the financial year commencing 1st April 2018 subject to the approval of shareholders at the 2018 Annual General Meeting (AGM). The lead audit partner is Mark Gill.

A resolution proposing PwC's appointment is included in the notice of the AGM.

Audit transition

The committee will closely monitor the audit transition from KPMG to PwC and the Chief Financial Officer and I will meet regularly with both lead partners from the firms to discuss progress.

I look forward to reporting on PwC's first audit in the 2019 Annual Report and Accounts.

Statement of compliance

The committee confirms that, during the financial year ended 31st March 2018, the company complied with the applicable provisions of the Competition and Markets Authority's Statutory Audit Services for Large Companies Market Investigation (Mandatory Use of Competitive Tender Processes and Audit Committee Responsibilities) Order 2014.


Governance

Committee effectiveness

The committee's annual performance and effectiveness evaluation was externally facilitated by Manchester Square Partners LLP, who held meetings with all committee members, the Executive Directors and KPMG to seek their views on matters such as committee composition, its responsibilities and the dynamic and culture of meetings. The report was positive and confirmed that the committee operates effectively and manages its remit well.

Our priorities

In last year's annual report we set out our priorities, over and above our business as usual work, for 2017/18. Below we report on the status of these and set out our priorities for 2018/19.

2017/18	Comments
<ul style="list-style-type: none"> Continue to monitor progress of the investment in business information systems. 	<p>Due to the size of this project, the need to have significant management input and the value to be delivered on completion, it was decided that the board would maintain close oversight of the investment and implementation of business information systems. The board received three presentations on the topic, two of which were attended by KPMG, which provided independent programme assurance on the implementation. The Chief Financial Officer has also kept me regularly informed on the achievement of key milestones.</p>
<ul style="list-style-type: none"> Plan and conduct the tender of the external audit. 	<p> Pages 108 and 109</p>
2018/19	
<ul style="list-style-type: none"> Monitor and support the external audit transition. Given the significant impact of precious metal (both customer and owned metal) held by the company on working capital, the committee will receive further presentations on how management will oversee this, including a 'teach-in' for the Non-Executive Directors. As the group's new business information systems are deployed, the committee will pay particular attention to the associated control processes. Given the substantial increase in planned capital expenditure, the committee will review the control framework around the significant areas of spend. 	

The Audit Committee Report was approved by the Board of Directors on 30th May 2018 and signed on its behalf by:



Alan Ferguson
Chairman of the Audit Committee

Remuneration Report



Our role is to ensure that Johnson Matthey's remuneration arrangements align with shareholders' interests, reward directors for performance and are well managed in line with good governance.

Chris Mottershead

Chairman of the Remuneration Committee

Introduction

As Chairman of the Remuneration Committee, I am pleased to present our report for the year ended 31st March 2018. This is my first report as Chairman of the committee following Colin Matthews stepping down from the board last year. It is intended to explain the key matters considered by the committee during the last 12 months and to set out the matters we expect to consider over the coming year.

We submitted our latest Remuneration Policy to shareholders at our 2017 Annual General Meeting (AGM), and appreciated the high level of support we received (92.3% in favour). We also value the continuing constructive dialogue we have had with a number of our shareholders and representatives of institutional investors.

This Annual Report on Remuneration sets out how we applied the Remuneration Policy in 2017/18 and how we intend to apply it in the forthcoming year.

Our approach to remuneration

The overall objective of Johnson Matthey is to deliver sustained superior shareholder value using our world class science and our competitive strengths, contributing to a cleaner, healthier world. The remuneration strategy focuses on: motivating our talent to achieve the company's strategic objectives; to deliver on customer commitments; to inspire employees; and to drive value for our shareholders through long term success and growth. This long term focus is supported by our Remuneration Policy, which includes an incentive structure that is purposefully weighted towards long term performance and includes shareholding guidelines for Executive Directors at, or above, 200% of salary. Our remuneration strategy is also designed to be competitive in the various markets in which we operate and compete for talent.

Incentive plan outcomes

During the year Johnson Matthey delivered strong sales growth and continued to successfully implement the board's strategy through: growing our Clean Air Sector; expanding the pipeline in our Health Sector; making targeted investments in our Efficient Natural Resources Sector; and developing our Battery Materials business for future growth.

Overall, in terms of the performance against the annual bonus targets we set for 2017/18, we achieved growth in underlying profit before tax and reduced the average working capital days during the year, which resulted in bonuses becoming payable at 69.19% of the maximum for Robert MacLeod and Anna Manz and 68.67% of the maximum for John Walker.

In the context of a challenging external environment, and the company's overall performance during the year, the committee considered the level of annual bonus payout appropriate.

The long term incentive awards granted on 1st August 2015 will lapse on the third anniversary of their grant following compound annual growth in underlying earnings per share (EPS) of 5.1% over the three year period to 31st March 2018, which fell below the threshold target of 6% compound annual growth.

Salary review

The company's general approach to senior executive salaries is to consider the delivery and experience of an individual in the context of comparable rates of pay in similar sized organisations. Executives are considered for an increase set at the typical rate of increase applied to the wider workforce in their geographical location.

Reflecting this principle, and taking into account performance and time in role, both Robert MacLeod and John Walker received an increase on 1st April 2018 of 2.5%. Anna Manz was awarded an increase of 5% effective from 1st April 2018 to reflect her strong performance in her relatively new role, against comparable rates of pay in similar sized organisations. The committee now considers her pay to be set at the appropriate rate and expects that future increase will be in line with those typically awarded to other UK employees.

Incentive plan targets

During the year the committee assessed both the current choice of performance metrics and the level of challenge within the incentive plan targets. The committee's review considered the specific business targets / metrics included in the one and three-year business plans along with the degree of stretch contained within them.

With regard to the annual bonus plan, the committee concluded that given the company's current clearly identified strategic objectives it would be appropriate to recognise these through the introduction of a weighting of 20% to non-financial objectives within the short term incentive plan for 2018/19. These non-financial objectives will be specific and focus on deliverables to support our strategy relating to science, customers, operations and people. Delivery against these objectives will also be underpinned by achieving a satisfactory health and safety record over the year. The remainder of the bonus will be based on financial metrics relating to profit and working capital, and the targets set with reference to the challenging internal plans approved by the board.

Our long term variable reward continues to be tied to growth as measured by increases in underlying EPS. The long term incentive plan will remain subject to a challenging range of growth targets that measure how successful we are in delivering on our growth strategy, underpinned by achieving an acceptable return on invested capital (ROIC).

Governance

The Remuneration Committee is actively engaged in monitoring performance and continuing to ensure that the level of challenge within our short and long term incentive plans remains appropriate. In addition, in determining outcomes, the committee also considers the precise numerical results and the character of the results themselves, including the manner in which they are achieved.

Board changes

After seven years as Chairman, Tim Stevenson will be stepping down as Chairman at our 2018 AGM. It was announced in April 2018 that Patrick Thomas will be appointed as Non-Executive Director and Chairman Designate on 1st June 2018. On his appointment to the board Mr Thomas' remuneration was set in line with our standard policy for Non-Executive Directors and, on becoming Chairman, he will be paid an annual Chairman fee of £360,000, which is subject to review in April each year. Subject to shareholder approval, Patrick Thomas will become Chairman with effect from the close of the 2018 AGM.

Other reviews

Following the completion of our triennial review of executive remuneration, the Remuneration Committee reviewed the services provided by its remuneration advisors, New Bridge Street. This review resulted in a change and the appointment of Korn Ferry Hay Group as new advisors. Korn Ferry Hay Group is a member of the Remuneration Consultants Group and adheres to its Code of Conduct.

An independent evaluation of the Remuneration Committee's performance over the year was conducted by Manchester Square Partners LLP and formed part of a wider board evaluation discussion led by the Chairman. The Remuneration Committee was considered to have operated effectively during the year.

Group employee considerations

During the year we reviewed the company's new global grading arrangements for employees below the board together with the new annual and long term incentive plans associated with each new grading level. This new grading structure will help the business manage its talent and enable more structured career pathways, while new incentive levels help support our remuneration strategy to provide competitive remuneration in the various markets in which we operate and compete for talent.

In addition, we reviewed the pay levels of employees below the board, particularly in relation to the UK gender pay gap. Our UK gender pay gap is 9.2%. This is lower than the UK national average of 18.1%. Our gender pay gap is driven by female under-representation and also issues that are evident in the wider economy including a lower number of women occupying science, technology and engineering roles. While it will take some time for there to be meaningful change and tackle the root causes of our gender imbalance, the company is fully committed to ensuring a truly inclusive culture that supports diversity and has already a number of programmes and actions in place to improve our gender balance.

The year ahead

Looking ahead to the next 12 months, we will monitor the appropriateness of the performance conditions attached to our annual and long term incentive plans and their alignment to the evolving external governance landscape. The Remuneration Committee is also currently considering the changes to the UK Corporate Governance Code that are expected to come into effect from 1st January 2019 and wider regulatory changes, with a view to taking the necessary steps to ensure we continue to take due account of best practice expectations and regulatory requirements.

2018 Annual General Meeting

I ask you to support our 2017/18 Annual Report on Remuneration at our forthcoming AGM on 26th July 2018. We believe that our policy is simple, transparent and effective, strongly supporting our business strategy. We welcome an open dialogue with our shareholders and I will be available at the meeting to answer any questions about the work of the Remuneration Committee.



Chris Mottershead

Chairman of the Remuneration Committee

Remuneration overview

Remuneration Policy

The table below sets out the Remuneration Policy for the 2018/19 financial year. Further details are set out in the Directors' Remuneration Policy and the Annual Report on Remuneration.

Remuneration element	Remuneration structure
Base salary	Current salaries as follows: <ul style="list-style-type: none"> Robert MacLeod – £818,000 (2017/18 £798,000) Anna Manz – £515,000 (2017/18 £490,000) John Walker – £468,250 (2017/18 £456,850) The 2018/19 salaries shown above include a salary increase effective from 1st April 2018 of 2.5% for Robert MacLeod and John Walker and 5% for Anna Manz.
Benefits	Medical, life and income protection insurance, medical assessments, a company car (or equivalent), matching shares under the all employee share incentive plan and assistance with tax advice and tax compliance services where appropriate.
Pension contribution	25% of salary cash supplement in lieu of pension.
Annual bonus	180% of salary for Chief Executive and 150% of salary for other Executive Directors. The bonus for 2018/19 will be substantially based on key financial measures (80% of maximum opportunity), including underlying profit before tax (PBT) and working capital performance. It will also include an element attributable to non-financial strategic objectives (20% of maximum opportunity) focusing on our strategy relating to science, customers, operations and people. 50% of any bonus earned is deferred in shares for three years.
Long term incentive	200% of salary for the Chief Executive and 175% of salary for other Executive Directors. Awards vest subject to achieving challenging EPS growth targets (with a ROIC underpin). Targets for unvested awards require 4% to 10% p.a. underlying EPS growth for 15% to 100% vesting. Performance is measured over three years with awards vesting in equal tranches over three, four and five years.
Shareholding guidelines	250% of salary for the Chief Executive and 200% of salary for other Executive Directors. 50% of the shares (net of tax) vesting under the incentive schemes must be retained until the guideline holding has been achieved.

2017/18 outcomes

The table below sets out the remuneration outcomes for the Executive Directors for 2017/18.

£'000	Salary	Benefits	Annual bonus ¹	Long term incentive	Pension	Total
Robert MacLeod	798	21	994	–	200	2,013
Anna Manz	490	16	509	–	123	1,138
John Walker	457	22	470	–	114	1,063

¹ In accordance with the rules of the plan, 50% of the bonus payable is awarded as shares and deferred for three years.

Annual bonuses for Robert MacLeod and Anna Manz were based on the underlying profit before tax and working capital of the group and paid out at 69.19% of the maximum. The bonus for John Walker was based on the underlying profit before tax and working capital of the group plus underlying operating profit of the Clean Air Sector and paid out at 68.67% of the maximum. 50% of the bonus paid to the Executive Directors was paid in shares and deferred for three years.

The long term incentive plan awards were based on underlying EPS performance to 31st March 2018 and failed to meet the minimum threshold vesting performance requirements.

Governance

Directors' Remuneration Policy

Below we publish the Remuneration Policy table, which includes the elements of directors' remuneration. For each element we describe its purpose and its link to strategy, how it works, the opportunity, boundaries and performance measures and any clawback or withholding conditions which may apply. This Remuneration Policy was subject to a shareholder vote at the 2017 AGM, where shareholders voted 92.3% in favour, and applies to all remuneration for the financial year commencing 1st April 2017 onwards.

Remuneration Policy table

Purpose and link to strategy	Operation (and changes if appropriate) of the element	Potential value of element and performance measures
Base salary Base salary is the basic pay for doing the job. Its purpose is to provide a fair and competitive level of base pay to attract and retain individuals of the calibre required to lead the business.	<p>Base salaries will be reviewed annually and any changes normally take effect from 1st April each year.</p> <p>In determining salaries and salary increases, the Remuneration Committee will take account of the performance of the individual director against a broad set of parameters including financial, environmental, social and governance issues.</p> <p>The Remuneration Committee will further take into account the length of time in post and the level of salary increases awarded to the wider Johnson Matthey workforce.</p> <p>Salaries across the group are benchmarked against a comparator group of similarly sized companies within the FTSE, with a comparable international presence and geographic spread and operating in relevant industry sectors.</p> <p>New appointments or promotions will be paid at a level reflecting the Executive Director's level of experience in the particular role and experience at board level. New or promoted Executive Directors may receive higher pay increases than typical for the group over a period of time following their appointment as their pay trends toward an appropriate level for their role.</p>	Maximum opportunity No salary increase will be awarded which results in a base salary which exceeds the competitive market range. Details of the current salaries for the Executive Directors are shown in the Annual Report on Remuneration on page 129.

Annual incentive

The annual bonus provides a strong incentive aligned to strategy in the short term. The annual bonus allows the board to ensure that the company's plans are properly reflected in stretching but achievable annual budgets.

The annual bonus plays a key part in the motivation and retention of Executive Directors, one of the key requirements for long term growth.

Bonus deferral as well as malus and clawback provisions ensure that longer term considerations are properly taken into account in the pursuit of annual targets.

The Remuneration Committee sets annual bonus performance measures and targets for each new award cycle. At the end of the year, the Remuneration Committee determines the extent to which these have been achieved. The Remuneration Committee retains the discretion to reduce any bonus award if, in its opinion, the underlying financial performance of the company has not been satisfactory in the circumstances.

Deferral

Of any bonus paid, 50% is paid in cash and the remaining 50% is deferred into shares for a three year period as an award under the deferred bonus plan. No further performance conditions apply to awards under the deferred bonus plan. Dividends that accrue on the deferred shares during the vesting period will be paid in either cash and / or shares at the time of vesting.

Malus and clawback

The cash and deferred elements of the bonus are subject to malus and clawback provisions such that they can be forfeited or recouped in part or in full in the event of a misstatement of results, error in the calculation or misconduct by the individual.

Adjustments

The Remuneration Committee retains discretion to change the performance targets if there is a significant or material event which causes the committee to believe the original targets are no longer appropriate (e.g. to reflect material acquisitions or disposals).

The Remuneration Committee also retains discretion to amend the level of annual bonuses determined by the performance condition to seek to ensure that the incentive structure for Executive Directors does not raise environmental, social and governance risks by inadvertently motivating irresponsible behaviour. For example, reducing or eliminating bonuses where the company has suffered reputational damage or where other aspects of performance have been unacceptable.

The Remuneration Committee retains the ability to increase bonus awards from the formulaic outcome where there is identifiable and exceptional performance by the Executive Director. Bonus payments in such circumstances would remain within the maximum bonus opportunity and shareholders would be fully informed of the justification.

Performance measures

Bonuses are based on the achievement of demanding financial and, where appropriate, non-financial targets. The Remuneration Committee may use different performances and weightings for each performance cycle as appropriate to take into account the strategic needs of the business. However, a substantial proportion will be based on key financial measures, including budgeted underlying profit before tax (PBT).

The budget is set on a robust bottom up process to achieve full accountability. The target budgeted underlying PBT is retrospectively published in the immediately following Annual Report on Remuneration. Details of last year's bonus awards are on page 124.

The performance period for annual bonus purposes matches the financial year (1st April to 31st March).

Maximum opportunity and vesting thresholds

Chief Executive – 180% of base salary.

Other Executive Directors – 150% of base salary.

Threshold vesting will result in a bonus of 15% of maximum opportunity. On target performance will result in 50% payment of the maximum opportunity.

Governance

Purpose and link to strategy	Operation (and changes if appropriate) of the element	Potential value of element and performance measures
<p>Long term incentive</p> <p>The Performance Share Plan (PSP) is a long term incentive plan designed to ensure that executives take decisions in the interest of the longer term success of the group. Having a measure that looks at profitable growth over the longer term ensures that the interests of executives are aligned with shareholder wishes for long term value.</p>	<p>Shares may be awarded each year and are subject to performance conditions over a three year performance period. Subject to performance conditions being met, the shares will vest in equal instalments on the third, fourth and fifth anniversary of the date of award.</p> <p>The performance targets are set by the Remuneration Committee based on internal and external growth forecasts to ensure they remain appropriate and aligned with shareholder expectations.</p> <p>The awards are granted in accordance with the rules of the plan approved by shareholders. The maximum award level is 200% of base salary. Awards may be granted in the form of conditional shares, nil or nominal cost options or cash (where the awards cannot be settled in shares). Dividends that accrue between the third and fifth anniversary of the award date will be paid in either cash and / or shares at the time of vesting.</p> <p>Malus and clawback</p> <p>Long term incentive plan awards granted since 2014 are subject to malus and clawback provisions that can apply in the case of a misstatement of results, error in the calculation or misconduct by the individual.</p> <p>Adjustments</p> <p>The Remuneration Committee has power to adjust the vesting level of an award based on the underlying performance of the company.</p> <p>The Remuneration Committee may adjust the performance measure to reflect material changes (e.g. significant acquisitions or disposals, share consolidation, share buy-backs or special dividends). Any such change would be fully explained to shareholders.</p>	<p>Performance measures</p> <p>PSP vesting is currently based on the compound annual growth rate (CAGR) of underlying EPS over a three year performance period, subject to a discretionary ROIC underpin.</p> <p>However, the Remuneration Committee retains discretion to amend the targets and the performance measures for future awards as appropriate to reflect the business strategy. Wherever possible, the views of major shareholders will be sought when it is proposed to make any substantive changes to the performance measures.</p> <p>The prospective targets and measures for the year commencing 1st April 2017 are shown on page 125.</p>
<p>Benefits</p> <p>To provide a market aligned benefits package.</p> <p>The purpose of any benefit is to align with normal market practices and to remove certain day to day concerns from Executive Directors to allow them to concentrate on the task in hand.</p>	<p>Benefits include medical, life and income protection insurance, medical assessments, company sick pay, and a company car (or equivalent). Other appropriate benefits may also be provided from time to time at the discretion of the Remuneration Committee.</p> <p>Directors' and officers' liability insurance is maintained for all directors.</p> <p>Directors who are required to move for a business reason may, where appropriate, also be provided with benefits such as relocation benefits (e.g. the provision of accommodation, transport or medical insurance away from their country of residence) and schooling for dependents. The company may pay the tax on these benefits.</p> <p>Directors may be assisted with tax advice and tax compliance services.</p> <p>The company will reimburse all reasonable expenses (including any tax thereon) which the Executive Director is authorised to incur whilst carrying out executive duties.</p>	<p>Benefits are not generally expected to be a significant part of the remuneration package in financial terms and are there to support the director in his or her performance in the role. In general benefits will be restricted to the typical level in the relevant market for an Executive Director.</p> <p>Car benefits will not exceed a total of £25,000 per annum.</p> <p>The cost of medical insurance for an individual Executive Director and dependents will not exceed £15,000 per annum.</p> <p>Company sick pay is 52 weeks' full pay.</p>

Purpose and link to strategy	Operation (and changes if appropriate) of the element	Potential value of element and performance measures
Pension Provides for post-retirement remuneration, ensures that the total package is competitive and aids retention.	All Executive Directors will be paid a cash supplement in lieu of membership in a pension scheme.	The maximum supplement is 25% of base salary.
All employee share plan Encourages share ownership.	<p>Executive Directors are entitled to participate in the company's all employee share incentive plan under which regular monthly share purchases are made and matched with the award of company shares, subject to retention conditions.</p> <p>Executive Directors would also be entitled to participate in any other all employee arrangements that may be established by the company on the same terms as all other employees.</p>	Executive Directors are entitled to participate up to the same limits in force from time to time for all employees.
Shareholding requirements To encourage Executive Directors to build a shareholding in the company and ensure the interests of management are aligned with those of shareholders.	<p>Executive Directors are expected to build up a shareholding in the company over a reasonable period of time.</p> <p>Shares that count towards achieving these guidelines include: all shares beneficially owned by an Executive Director or a person connected to the executive as recognised by the Remuneration Committee; deferred bonus shares and long term incentive awards which are no longer subject to performance conditions but have not yet vested.</p> <p>Executive Directors are expected to retain at least 50% of the net (after tax) vested shares that are released under the long term PSP and deferred bonus plans until the required levels of shareholding are achieved.</p> <p>Executive Directors are not required to make personal share purchases should awards not meet the performance conditions and so a newly appointed director may take longer to reach the expected level, depending on the company's performance against targets over the period.</p>	<p>The minimum shareholding requirement is as follows:</p> <p>Chief Executive – 250% of base salary.</p> <p>Other Executive Directors – 200% of base salary.</p> <p>There is no requirement for Non-Executive Directors to hold shares but they are encouraged to acquire a holding over time.</p>
Non-Executive Director fees Attracts, retains and motivates Non-Executive Directors with the required knowledge and experience.	<p>Non-Executive Director fees are determined by the board. The Non-Executive Directors exclude themselves from such discussions. The fees for the Chairman are determined by the Remuneration Committee taking into account the views of the Chief Executive. The Chairman excludes himself from such discussions.</p> <p>Non-Executive Directors are paid a base fee each year with an additional fee for each committee chairmanship or additional role held.</p> <p>Non-Executive Director fees are reviewed every year. Any increase will take into account the market rate for the relevant positions within a comparator group of similarly sized companies with a comparable international presence and geographic spread and operating in relevant industry sectors, the experience of the individuals and the expected time commitment of the role.</p> <p>In exceptional circumstances, additional fees may be payable to reflect a substantial increase in time commitment.</p> <p>The company will also reimburse the Chairman and Non-Executive Directors for all reasonable expenses (including any tax thereon) incurred whilst carrying out duties for the company.</p>	<p>Details of the current fee levels for the Chairman and Non-Executive Directors are set out in the Annual Report on Remuneration on page 129.</p> <p>The fee levels are set subject to the maximum limits set out in the Articles of Association.</p>

Governance

Selection of Performance Targets

Annual incentive	<p>Financial performance targets under the annual bonus plan are set by the Remuneration Committee with reference to the prior year and to the budgets and business plans for the coming year, ensuring the levels to achieve threshold, target or maximum payout are appropriately challenging.</p> <p>The performance targets for 2018/19 are substantially based on financial measures (80% of maximum opportunity) including budgeted underlying PBT and working capital to ensure that there is strong attention paid to delivery of current operational plans and operational efficiency. In addition, an element of the bonus is attributable to the achievement of strategic objectives (20% of maximum opportunity) focusing on our strategy relating to science, customers, operations and people.</p> <p>Commercial sensitivity precludes the advance publication of the actual bonus targets but these targets will be retrospectively published in the Annual Report on Remuneration for 2018/19.</p>
Long term incentive	<p>EPS targets under the PSP are set to reflect the company's longer term growth objectives at a level where the maximum represents genuine outperformance. Underlying EPS is considered a simple and clear measure of absolute growth in line with the company's strategy. It is also a key objective of the company to achieve earnings growth only in the context of a satisfactory performance on ROIC. Accordingly, the Remuneration Committee makes an assessment of the group's ROIC over the performance period to ensure underlying EPS growth has been achieved with ROIC in line with the group's planned expectations.</p>

Group employee considerations

The Remuneration Committee considers the directors' remuneration in the context of the wider employee population and is kept regularly updated on pay and conditions across the group. The company has not consulted directly with employees with respect to directors' remuneration. Increases in base salary for directors will take into account the level of salary increases granted to all employees within the group.

The general principle for remuneration in Johnson Matthey is to pay a competitive package of pay and benefits in all markets and at all job levels in order to attract and retain high quality and diverse employees. The proportion of variable pay increases with progression through management levels with the highest proportion of variable pay at Executive Director level, as defined by the Remuneration Policy.

The key elements of variable pay cascade down through the next tiers of senior management with appropriate reductions in opportunity levels based on seniority. The group's senior executives plus senior and middle managers (1,300 employees) participate in the annual bonus plan (with performance conditions similar to those described in the Remuneration Policy). In addition, the group's senior executives and certain senior management participate in the long term PSP in line with the same EPS based performance conditions. Executive Directors are subject to vesting in three tranches on their long term incentive plan awards, and Executive Directors, members of the Group Management Committee and senior management are subject to deferral of annual bonus. Certain senior management also participate in a long term Restricted Share Plan (RSP) which has no performance conditions attached. No Executive Director is eligible to participate in this RSP.

There are also a number of country and business dependent arrangements under which bonuses may be paid to the entire business workforce where performance conditions associated with profitability are met.

Johnson Matthey operates a number of pension arrangements around the world, relevant to the local conditions and arrangements.

The key element of remuneration for those below senior management grades is base salary and Johnson Matthey's policy is to ensure that base salaries are fair and competitive in the local markets. General pay increases take into account local salary norms, local inflation and business conditions.

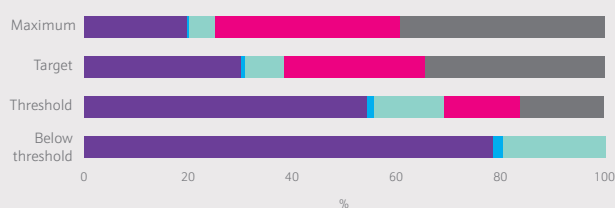
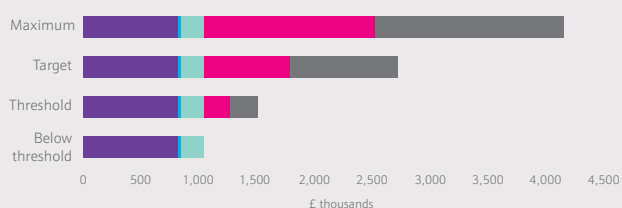
Remuneration scenarios

Below is an illustration of the potential future remuneration that could be received by each Executive Director for the year commencing 1st April 2018, both in absolute terms and as a proportion of the total package under different performance scenarios. The value of the PSP is based on the award that will be granted in August 2018.

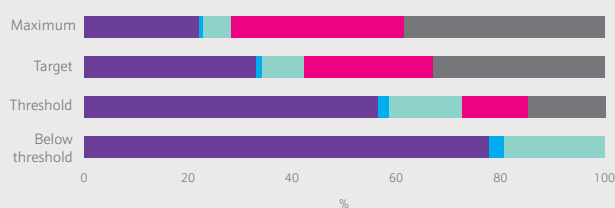
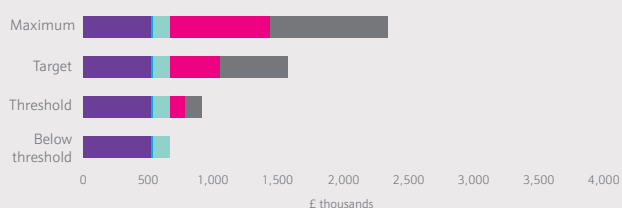
Value of package

Composition of package

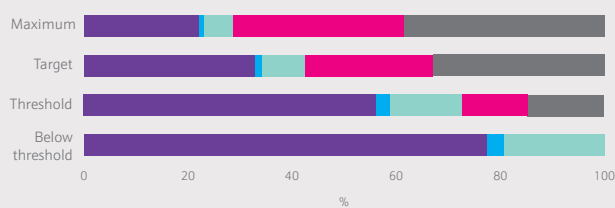
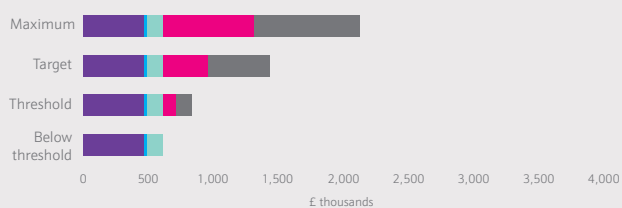
Robert MacLeod



Anna Manz



John Walker



■ Base salary
 ■ Benefits
 ■ Pension
 ■ Bonus
 ■ PSP

Governance

Approach to recruitment remuneration

The recruitment policy provides an appropriate framework within which to attract individuals of the required calibre to lead a company of Johnson Matthey's size, scale and complexity. The Remuneration Committee determines the remuneration package for any appointment to an Executive Director position, either from within or outside Johnson Matthey.

The following table sets out the various components which would be considered for inclusion in the remuneration package for the appointment of an Executive Director and the approach to be adopted by the Remuneration Committee in respect of each component.

Area	Policy and operation
Overall	The policy of the board is to recruit the best candidate possible for any board position and to structure pay and benefits in line with the Remuneration Policy set out in this report. The ongoing structure of a new recruit's package would be the same as for existing directors, with the possible exception of an identifiable buy-out provision, as set out below.
Base salary or fees	Salary or fees will be determined by the Remuneration Committee in accordance with the principles set out in the policy table on page 114.
Benefits and pension	An Executive Director shall be eligible for benefits and pension arrangements in line with the company's policy for current Executive Directors, as set out in the policy table on pages 116 and 117. For new hires the cash supplement payable will be more aligned to that payable to other employees.
Annual incentive	The maximum level of opportunity is as set out in the policy table on page 115. The Remuneration Committee retains discretion to set different performance targets for a new externally appointed Executive Director, or adjust performance targets and measures in the case of an internal promotion, to be assessed over the remainder of the financial year. In this case any bonus payment would be made at the same time as for existing directors, and any such award would be pro-rated for the time served in the performance period.
Long term incentive	The maximum level of opportunity is as set out in the policy table on page 116. In order to achieve rapid alignment with the company's and shareholder interests, the Remuneration Committee retains discretion to grant a PSP award to a new externally appointed Executive Director on or soon after appointment if they join outside of the normal grant period.
Replacement awards	The Remuneration Committee retains discretion to grant replacement buy-out awards (in cash or shares) to a new externally appointed Executive Director to reflect the loss of awards granted by a previous employer. Where this is the case, the Remuneration Committee will seek to structure the replacement award such that overall it is on an equivalent basis to broadly replicate that foregone, using appropriate performance terms. If granted, any replacement buy-out award would not exceed the maximum set out in the rules of the 2017 Performance Share Plan Rules (350% of base salary). If the Executive Director's prior employer pays any portion of the remuneration that was anticipated to be forfeited, the replacement awards shall be reduced by an equivalent amount.
Other	The Remuneration Committee may agree that the company will meet certain mobility costs, relocation costs, including temporary living and transportation expenses, in line with the company's prevailing mobility policy for senior executives as described in the policy table on page 116.

In the case of an internal promotion to the board, the company will honour any contractual commitments made prior to the promotion.

Service contracts and policy on payment for loss of office

The following table summarises relevant key provisions of Executive Directors' service contracts and the treatment of payments on termination of employment. The full contracts of service of the Executive Directors (as well as the terms and conditions of appointment of the Non-Executive Directors) are available for inspection at the registered office of the company during normal business hours as well as prior to and during the forthcoming AGM of the company.

In exceptional circumstances, the Remuneration Committee may authorise, where it considers it to be in the best interests of the company and shareholders, entering into contractual arrangements with a departing Executive Director, for example a settlement, confidentiality, restrictive covenant or other arrangement, pursuant to which sums not set out in the following table may become payable. Full disclosure of the payments will be made in accordance with the remuneration reporting requirements.

The following table describes the contractual conditions pertaining to the contracts for Robert MacLeod, Anna Manz and John Walker and for any future Executive Director.

Summary of key provisions of executive directors' service contracts and treatment of payments on termination

	Robert MacLeod	Anna Manz	John Walker ¹
Date of service agreement	31st January 2014	25th July 2016	31st January 2014
Date of appointment as director	22nd June 2009	17th October 2016	9th October 2013
Employing company	Johnson Matthey Plc		
Contract duration	No fixed term		
Notice period	No more than 12 months' notice, with equal notice from the company and director except for directors who joined before 1st January 2017 where the director's notice period is six months and the notice period from the company is 12 months.		
Post-termination restrictions	<p>The contracts of employment contain the following restrictions on the director for the following periods from the date of termination of employment:</p> <ul style="list-style-type: none"> • non-compete – six months; • non-dealing and non-solicitation of client / customers – 12 months; • non-solicitation of suppliers and non-interference with supply chain – 12 months; and • non-solicitation of employees – 12 months. 		
Summary termination – payment in lieu of notice (PILON)	<p>The company may, in its absolute discretion, terminate the employment of the director with immediate effect by giving written notice together with payment of a sum equivalent to the director's base salary and the value of their contractual benefits as at the date such notice is given, in respect of the director's notice period, less any period of notice actually worked.</p> <p>The company may elect to pay the PILON in equal monthly instalments. The director is under a duty to seek alternative employment and to keep the company informed about whether they have been successful. If the director commences alternative employment, the monthly instalments shall be reduced (if appropriate to nil) by the amount of the director's gross earnings from the alternative employment. A PILON paid to a director who is a US taxpayer (John Walker) would be in equal monthly instalments.</p>		
Termination payment – change of control	<p>If, within one year after a change of control, the director's service agreement is terminated by the company (other than in accordance with the summary termination provisions), the company shall pay, as liquidated damages, one year's base salary, together with a sum equivalent to the value of the director's contractual benefits, as at the date of termination, less the period of any notice given by the company to the director.</p>		
Termination – treatment of annual incentive awards	<p>Annual bonus awards are made at the discretion of the Remuneration Committee. Employees, including Executive Directors, leaving the company's employment will receive a bonus, pro-rata to service, unless the reason for leaving is resignation or misconduct. Any bonus awarded would continue to be subject to deferral as set out in the Remuneration Policy.</p> <p>In relation to deferred bonus awards which have already been made, shares will be released on the normal vesting date unless one of the following circumstances applies, and subject to the discretion of the Remuneration Committee:</p> <ul style="list-style-type: none"> • the participant leaves as a result of misconduct; or • the participant, prior to vesting, breaches one of the post-termination restrictions or covenants provided for their employment contract, termination agreement or similar agreement. <p>In which case the deferred awards will lapse on cessation of employment.</p> <p>The Remuneration Committee has the discretion to accelerate vesting of a deferred award if appropriate to do so to reflect the circumstances of the departure. It is intended that this would only be used in the event of a departure due to ill health (or death).</p>		
Termination – treatment of long term incentive awards	<p>Employees, including Executive Directors, leaving the company's employment will normally lose their long term incentive awards unless they leave for a specified 'good leaver' reason, in which case their shares will be released on the normal release dates, subject to the performance condition. The Remuneration Committee has discretion to accelerate vesting, in which case the performance condition would be assessed based on available information at the time. In either case, unless the Remuneration Committee determines otherwise, the level of vesting shall be pro-rated to reflect the proportion of the performance period which has elapsed to the date of leaving. In the post-vesting deferral period, only those who leave due to misconduct will lose their shares.</p>		
Redundancy scheme	<p>The director is not entitled to any benefit under any redundancy payments scheme operated by the company.</p>		
Holiday	<p>Upon termination for any reason, directors will be entitled to payment in lieu of accrued but untaken holiday entitlement.</p>		

¹ John Walker is eligible for continuing post-retirement medical benefits provided he satisfies the conditions of this plan and retires directly from Johnson Matthey.

Governance

Chairman and Non-Executive Directors

The Chairman and each of the Non-Executive Directors have letters of appointment. The letters of appointment do not contain any contractual entitlement to a termination payment and the Non-Executive Directors can be removed in accordance with the company's Articles of Association. Directors are required to retire at each AGM and seek re-election by shareholders.

The details of the service contracts, including notice periods, contained in the letters of appointment in relation to the Non-Executive Directors who served during the year are set out in the table below. Neither the Chairman or the Non-Executive Directors has provisions in his or her letter of appointment that relate to a change of control of the company.

Non-Executive Director	Committee appointments	Date of appointment	Expiry of current term	Notice period by the individual	Notice period by the company
Tim Stevenson (Chairman)	R, N	29th March 2011	31st December 2018	6 months	6 months
Patrick Thomas ¹	R, N	1st June 2018	31st May 2021	6 months	6 months
Odile Desforges	A, R, N	1st July 2013	30th June 2019	1 month	1 month
Alan Ferguson	A, R, N	13th January 2011	13th January 2020	1 month	1 month
Jane Griffiths	A, R, N	1st January 2017	31st December 2019	1 month	1 month
Chris Mottershead	A, R, N	27th January 2015	26th January 2021	1 month	1 month
John O'Higgins	A, R, N	16th November 2017	15th November 2020	1 month	1 month

A: Audit Committee R: Remuneration Committee N: Nomination Committee

¹ Patrick Thomas was appointed as a Non-Executive Director and Chairman Designate subject to shareholder approval at the 2018 AGM.

External appointments

It is the board's policy to allow Executive Directors to accept non-executive appointments provided there is no conflict of interest and that the time spent would not impinge on their work for Johnson Matthey. Details of external directorships held by Executive Directors, together with fees retained during the year are as follows:

Executive Director	Company	Role held	Fees retained £'000
Robert MacLeod	RELX PLC, RELX NV and RELX Group plc	Non-Executive Director	95
Anna Manz	ITV plc	Non-Executive Director	75

Annual Report on Remuneration

This section provides details of how the 2017 Directors' Remuneration Policy was implemented during the year and how we intend to apply the policy in the year ahead.

About the Remuneration Committee

The Remuneration Committee is a committee of the board and comprises all the independent Non-Executive Directors of the company as set out above including the group Chairman, Tim Stevenson. Details of attendance at committee meetings during the year ended 31st March 2018 is shown below.

	Committee role	Date of appointment	5th April 2017	31st May 2017	Meeting attendance 18th July 2017	16th November 2017	30th January 2018
Colin Matthews ¹	Chairman	4th October 2012	✓	✓	✓	–	–
	(until 15th November 2017)						
Chris Mottershead	Chairman	27th January 2015	✓	✓	✓	✓	✓
	(from 16th November 2017)						
Odile Desforges	Member	1st July 2013	✓	✓	✓	✓	✓
Alan Ferguson	Member	13th January 2011	✓	✓	✓	✓	✓
Jane Griffiths	Member	1st January 2017	✓	✓	✓	✓	✓
John O'Higgins	Member	16th November 2017	–	–	–	✓	✓
Tim Stevenson ²	Member	29th March 2011	✓	–	✓	✓	✓

¹ Colin Matthews stood down as Chairman of the Remuneration Committee and retired from the board on 15th November 2017.

² Tim Stevenson was unable to attend one meeting due to illness.

Since the end of the year, the committee has met twice. All committee members attended both meetings.

The Remuneration Committee's terms of reference can be found in the Investors / Corporate governance section of our website and include determination on behalf of the board of fair remuneration for the Chief Executive, the other Executive Directors and the group Chairman (in which case the group Chairman does not participate). In addition, the committee receives recommendations from the Chief Executive on the remuneration of those reporting to him as well as advice from the Chief Human Resources Officer, who acts as secretary to the committee.

Advisers to the committee

In determining the remuneration structure, the committee appoints and receives advice from independent remuneration consultants on the latest developments in corporate governance and the pay and incentive arrangements prevailing in comparably sized industrial companies. Following a review of services provided to the committee, Korn Ferry Hay Group was appointed on 18th December 2017. The total fees paid to Korn Ferry Hay Group in respect of its services to the committee during the year were £18,670 plus VAT. New Bridge Street (part of Aon Hewitt Limited) provided advice to the committee in the period 1st April 2017 to 17th December 2017. The total fees paid to New Bridge Street in respect of its services to the committee during the year were £3,598 plus VAT.

Korn Ferry Hay Group also provides consultancy services to the company in relation to certain employee benefits to those below the board. Korn Ferry Hay Group is a signatory to the Remuneration Consultants Group Code of Conduct and the committee is satisfied that the advice that it receives from Korn Ferry Hay Group is objective and independent.

Herbert Smith Freehills provided advice to the company in connection with the drafting of share plan rules and directors' service contracts in accordance with the policy determined by the Remuneration Committee. This advice was charged on an hourly basis. The committee is aware that Herbert Smith Freehills is one of a number of legal firms that provide legal advice and services to the company on a range of matters.

A statement regarding the use of remuneration consultants for the year ended 31st March 2018 is available on our website in the Investors / Corporate governance section.

Remuneration for the year ended 31st March 2018

Single figure table of remuneration

The table below sets out the total remuneration and breakdown of the elements each director received in relation to the year ended 31st March 2018, together with a prior year comparative. An explanation of how the figures are calculated follows the table.

	Base salary / fees £'000		Benefits £'000		Annual incentive £'000		Long term incentive £'000		Pension £'000		Total £'000	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Executive Directors												
Robert MacLeod	798	769	21	21	994	569	–	417	200	195	2,013	1,971
Anna Manz ¹	490	222	16	7	509	123	–	–	123	56	1,138	408
John Walker	457	442	22	20	470	273	–	192	114	110	1,063	1,037
Non-Executive Directors												
Tim Stevenson	351	343	–	–	–	–	–	–	–	–	351	343
Odile Desforges	64	63	–	–	–	–	–	–	–	–	64	63
Alan Ferguson	83	81	–	–	–	–	–	–	–	–	83	81
Jane Griffiths ²	64	16	–	–	–	–	–	–	–	–	64	16
Colin Matthews ³	50	73	–	–	–	–	–	–	–	–	50	73
Chris Mottershead	71	63	–	–	–	–	–	–	–	–	71	63
John O'Higgins ⁴	24	–	–	–	–	–	–	–	–	–	24	–

¹ Anna Manz was appointed to the board on 17th October 2016.

² Jane Griffiths was appointed to the board on 1st January 2017.

³ Colin Matthews stepped down from the board on 15th November 2017.

⁴ John O'Higgins was appointed to the board on 16th November 2017.

Governance

Explanation of figures

Base salary / fees	Salary paid during the year to Executive Directors and fees paid during the year to Non-Executive Directors.
Benefits	All taxable benefits such as medical and life insurance, service and car allowances, matching shares under the all employee share incentive plan and assistance with tax advice and tax compliance services where appropriate.
Annual incentives	Annual bonus awarded for the year ended 31st March 2018. The figure includes any amounts deferred and awarded as shares.
Long term incentives	<p>The 2017 figure represents the value of shares that satisfied performance conditions on 31st March 2017 and will be released on 1st August 2017, 1st August 2018 and 1st August 2019. This value is calculated using the average share price from 1st January 2017 to 31st March 2017 which was 3,100 pence.</p> <p>The 2018 figure represents the value of the shares that satisfied performance conditions on 31st March 2018 and will be released on 1st August 2018, 1st August 2019 and 1st August 2020. This value is calculated using the average share price from 1st January 2018 to 31st March 2018 which was 3,184 pence.</p>
Pension	The amounts shown represent the value of the increase over the year of any defined benefit pension the Executive Director may have in the Johnson Matthey Employees Pension Scheme (JMEPS) plus any cash supplements paid in lieu of pension membership.

Variable pay – additional disclosures, including bases of calculation and outcomes

1 Annual bonus for the year ended 31st March 2018

The Executive Directors were eligible for a maximum annual bonus opportunity of 180% of base salary for the Chief Executive and 150% of base salary for the other Executive Directors. The on target bonus opportunity was set at 50% of the maximum opportunity and the threshold bonus opportunity was 15% of salary.

The performance measures and weightings for the annual bonus were as follows:

	Percentage of bonus available		
	Group underlying PBT	Clean Air underlying operating profit	Group working capital days
Chief Executive	80%	–	20%
Chief Financial Officer	80%	–	20%
Sector Chief Executive, Clean Air	55%	25%	20%

The annual targets are set when budgets are approved in early April, at the start of the new financial year. Budgets are built from the bottom up and are subject to a rigorous process of challenge before final proposals are considered by the board. Further information is used in the determination, including a consensus of industry analysts' forecasts, provided by Vara Research.

Achievement against targets for the year ended 31st March 2018 is set out in the table below:

Performance measure		Threshold	Target	Maximum	Actual ¹	Actual % of budget
Group underlying PBT ²	£ million	458 (95% budget)	482 (100% budget)	530 (110% budget)	497	103.18
Clean Air underlying operating profit ²	£ million	341 (95% budget)	359 (100% budget)	395 (110% budget)	369	102.49
Group working capital days (including metal ³)	days	37 (105% budget)	35 (100% budget)	32 (90% budget)	32	92.00
Group working capital days (excluding metal ³)	days	68 (105% budget)	65 (100% budget)	59 (90% budget)	62	95.08

¹ All figures in the table have been rounded to the nearest whole number except the actual % of budget.

² For 2017/18 actual performance for group underlying PBT and Clean Air underlying operating profit is measured using budget foreign exchange rates.

³ Working capital days is measured 50% against total working capital days including precious metal and 50% against working capital days excluding precious metal. This was to ensure that appropriate focus was put on metal management.

Based on performance against the above targets, bonuses for the year ended 31st March 2018 were:

	£'000	% salary
Robert MacLeod, Chief Executive	994	124.54
Anna Manz, Chief Financial Officer	509	103.79
John Walker, Sector Chief Executive, Clean Air	470	103.00

In accordance with the rules of the plan, 50% of the bonus payable is awarded as shares and deferred for three years. There are no further performance conditions attached to the deferred element.

2 Long term incentive vesting for the three year performance period ended 31st March 2018

The table below sets out the performance targets for the long term incentive awards made in August 2015 with a three year performance period which ended 31st March 2018.

Required underlying EPS performance	Proportion of award which may vest
Threshold 6% CAGR	15%
Maximum 15% CAGR	100%

The awards vest on a straight line basis between threshold and maximum. In addition to the EPS performance condition, the Remuneration Committee considers the performance of ROIC over the performance period to ensure that earnings growth is achieved in a sustainable and efficient manner.

The performance over the period was a compound annual growth in underlying EPS of 5.1% per annum and so was below the performance range.

The table below shows the vesting outcomes based on this performance.

	% of base salary awarded	Shares awarded	% of award to vest	Shares to vest	Estimated value on vesting £
Executive Directors					
Robert MacLeod	200	48,946	—	—	—
Anna Manz	—	—	—	—	—
John Walker	175	23,541	—	—	—
Former Executive Directors					
Den Jones ¹	175	11,746	—	—	—
Larry Pentz ²	175	8,561	—	—	—

² Den Jones stood down from the board on 20th July 2016 and left the company on 31st July 2016. The long term incentive shares awarded to Mr Jones in August 2015 (26,412) were, on leaving, pro-rated to 11,746 based on his completed service since the start of the performance period.

³ Larry Pentz retired from the board on 31st March 2016. The long term incentive shares awarded to Mr Pentz in August 2015 (25,685) were, on leaving, pro-rated to 8,561 based on his completed service since the start of the performance period.

3 Variable pay awarded during the year ended 31st March 2018 (Long term incentive awards subject to future performance)

In 2017/18 long term incentive awards were made to the Executive Directors in respect of the three year performance period to 31st March 2020. The table below sets out the opportunity and performance targets for these awards.

Required underlying EPS performance	Proportion of award which may vest	Chief Executive	Other Executive Director
Threshold 4% CAGR	15%	30%	26.25%
Maximum 10% CAGR	100%	200%	175%

The table below sets out the details of the actual conditional long term incentive awards made as a percentage of base salary.

	Date of grant	Award size (% of base salary)	Number of shares awarded	Face value ¹ £
Robert MacLeod	1st August 2017	200	52,955	1,595,984
Anna Manz	1st August 2017	175	28,451	857,470
John Walker	1st August 2017	175	26,521	799,303

¹ Face value is calculated using the award share price of 3,013.85 pence, which is the average closing share price over the four week period commencing on 1st June 2017.

Governance

4 Prior year long term incentive awards and outcomes

The table below shows the history of long term incentive awards granted since 2009.

Year of award	Year of vesting ¹	% salary awarded to Chief Executive	% salary awarded to other Executive Directors	Threshold EPS growth target	Stretch EPS growth target	Compound annual growth in underlying EPS in the period	% of award vested
2009	2012	120	100	3%	10%	19.7%	100
2010	2013	150	120	7%	16%	20.2%	100
2011	2014	175	140	7%	16%	13.3%	75
2012	2015	175	140	7%	16%	6.07%	–
2013	2016	175	140	6%	15%	7.85%	33
2014	2017	200	175	6%	15%	7.39%	28
2015	2018	200	175	6%	12%	5.14%	–
2016	2019	200	175	4%	10%	n/a	n/a
2017	2020	200	175	4%	10%	n/a	n/a

¹ Awards from 2014 are subject to tranche vesting and so the year shown is the vesting of the first tranche.

Pension entitlements

No director is currently accruing any pension benefit in the group's pension schemes. Instead they receive an annual cash payment in lieu of pension membership equal to 25% of base salary. However, Robert MacLeod and John Walker have each accrued a pension entitlement in respect of a prior period of pensionable service in one or more of the group's pension arrangements.

Robert MacLeod ceased pensionable service in JMEPS on 31st March 2011.

John Walker joined JMEPS on 1st September 2012 and ceased pensionable service in this scheme on 9th October 2013. Prior to joining JMEPS Mr Walker was a member of the US Johnson Matthey Inc. Salaried Employees Pension Plan.

Details of the accrued pension benefits of the Executive Directors as at 31st March 2018 in the UK and US pension schemes are given below:

	Total accrued annual pension entitlement at 31st March 2018 £'000
Robert MacLeod ¹	10
Anna Manz	–
John Walker ²	89

¹ Pension payable from age 65 based on pensionable service in the UK pension scheme up to 31st March 2011.

² Pension payable in respect of pensionable service in the UK and US pension schemes payable from age 65 and 62 respectively. The pension payable from the US pension scheme will be paid in local currency.

Statement of directors' shareholding

The table below shows the directors' interests in the shares of the company, together with their unvested scheme interests, as at 31st March 2018.

	Ordinary shares ¹	Subject to ongoing performance conditions ²	Not subject to further performance conditions ³
Executive Directors			
Robert MacLeod	39,937	154,193	33,051
Anna Manz	2,217	57,448	2,041
John Walker	16,653	75,449	18,444
Non-Executive Directors			
Tim Stevenson	4,958	–	–
Odile Desforges	1,416	–	–
Alan Ferguson	2,078	–	–
Jane Griffiths	2,671	–	–
Colin Matthews ⁴	1,888	–	–
Chris Mottershead	1,868	–	–
John O'Higgins	1,500	–	–

¹ Includes shares held by the director and / or connected persons, including those in the all employee share matching plan and 401k plan. Shares in the all employee share matching plan may be subject to forfeiture in accordance with the rules of the plan.

² Represents unvested long term incentive shares within three years of the date of award.

³ Represents unvested deferred bonus shares and unvested long term incentive shares between the third and fifth anniversary of award, where performance conditions have been assessed but vesting has not occurred.

⁴ The figures for Colin Matthews are as at 15th November 2017 when he stepped down from the board.

Directors' interests as at 30th May 2018 were unchanged from those listed above, other than that the trustees of the all employee share matching plan have purchased a further 21 shares each for Robert MacLeod and John Walker and a further 24 shares for Anna Manz.

Executive Directors are expected to build up a shareholding in the company. The minimum shareholding requirement for the year ended 31st March 2018 was 200% of base salary for the Chief Executive and 150% of base salary for the other Executive Directors. The table below shows the extent to which the proposed minimum shareholding requirements have been satisfied:

	Shares held as at 31st March 2018 (% of base salary) ^{1,2}
Robert MacLeod	291%
Anna Manz ³	28%
John Walker	245%

¹ Value of shares as a percentage of base salary is calculated using a share value of 3,184.48 pence, which was the average share price prevailing between 1st January 2018 and 31st March 2018.

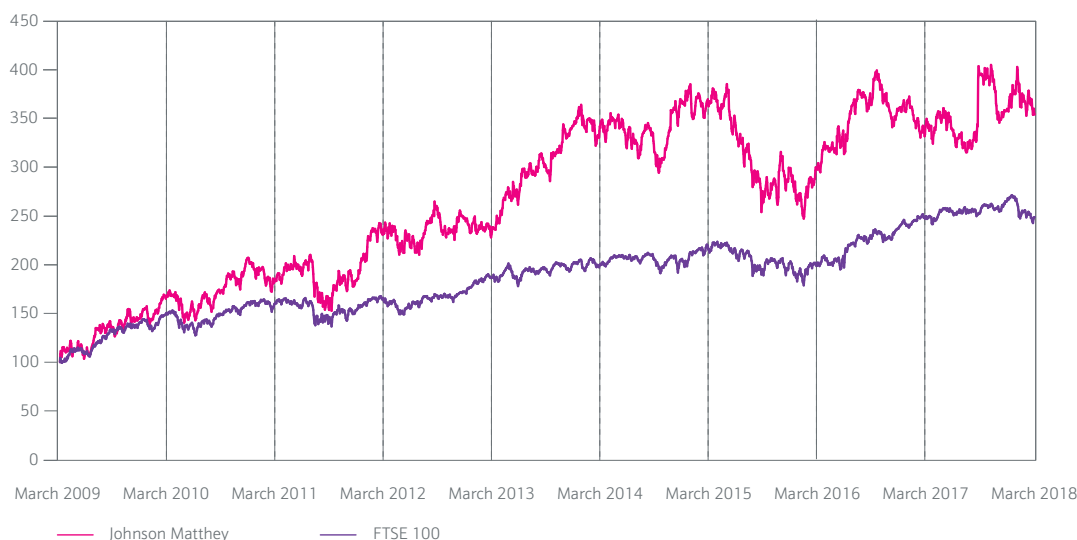
² The director's total shareholding for the purposes of comparing it with the minimum shareholding requirement includes shares held beneficially by the director and any connected persons (as recognised by the Remuneration Committee) together with deferred shares awarded under the annual bonus rules for which there are no further performance conditions and any unvested long term incentive shares between the third and fifth anniversary of award, where performance conditions have been assessed but vesting has not occurred.

³ Anna Manz became an Executive Director on 17th October 2016. She will build her shareholding over time in line with the Remuneration Policy.

Performance graph and comparison to Chief Executive's remuneration

Johnson Matthey and FTSE 100 Total Shareholder Return rebased to 100

The following chart illustrates the total cumulative shareholder return of the company for the nine year period from 31st March 2009 to 31st March 2018 against the FTSE 100 as the most appropriate comparator group, rebased to 100 at 1st April 2009.



As at 31st March 2018, Johnson Matthey was ranked 79 by market capitalisation in the FTSE 100.

Historical data regarding Chief Executive's remuneration

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15 ¹	2015/16 ¹	2016/17	2017/18
Single total figure of remuneration	1,596	2,095	1,870	3,025	3,855	1,594	1,429	1,971	2,013
Annual incentives (% of maximum)	100	100	75	–	71	54	15	40	69
Long term incentives (% of award vesting) ²	–	52	100	100	75	–	33	28	–

¹ The figures for 2014/15 onwards are in respect of Robert MacLeod who was appointed as Chief Executive on 5th June 2014. Prior to this, the figures shown are for the previous Chief Executive, Neil Carson.

² Vesting of long term incentive awards whose three year performance period ended in the financial year shown.

The above data is calculated according to the same methodology as applied in the single figure table on page 123.

Governance

Change in Chief Executive's remuneration

The table below shows how the remuneration of the Chief Executive has changed over the year ended 31st March 2018. This is then compared to a group of appropriate employees, being those based in the UK. This comparator group was used because the Remuneration Committee believes it gives a reasonable understanding of the underlying increases, based on similar annual bonus performance measures, while at the same time reducing the distortion from currency fluctuations and the distortions that would arise from including all of the many countries in which the group operates with their different economic conditions.

	Chief Executive	Comparator group ¹
Salary	An increase of 2.5%	An increase of 5.9%
Bonus	An increase of 74.8%	An increase of 54.5%
Benefits	No change in benefits policy. No change on overall costs between 2016/17 and 2017/18.	No change in benefits policy. No change on overall costs between 2016/17 and 2017/18.

¹ Including promotions.

Relative spend on pay

The table below shows the absolute and relative amounts of distributions to shareholders and the total remuneration for the group for the years ended 31st March 2017 and 31st March 2018.

	Year ended 31st March 2018 £ million	Year ended 31st March 2017 £ million	% change
Payments to shareholders – special dividends	–	–	–
Payments to shareholders – ordinary dividends	146	139	5
Total remuneration (all employees) ¹	693	645	7

¹ Excludes termination benefits.

Implementation of the Directors' Remuneration Policy for 2018/19

The table below sets out how the Remuneration Committee intends to apply the Directors' Remuneration Policy for the year ended 31st March 2019.

Salary	Salaries for the Executive Directors for 2018/19 have been increased in line with the budgeted increase for all other UK employees. The salaries of Robert MacLeod and John Walker have increased by 2.5% (to £818,000 and £468,250 respectively) and Anna Manz's salary has increased by 5% (to £515,000) to bring her in line with market and reflect her strong performance in role.																			
Benefits and pension	<p>No change to policy applied in 2018/19.</p> <p>The maximum limit on pensions has been retained at 25%, the level paid to the current Executive Directors. However, as set out in the recruitment section of the Directors' Remuneration Policy, it is the committee's intention that pension for future hires would be aligned with the level for other senior managers.</p>																			
Annual incentives	<p>The maximum bonus opportunity for 2018/19 remains unchanged at 180% of salary for the Chief Executive and 150% of salary for the other Executive Directors.</p> <p>As explained in the Chairman's introductory letter, a 20% weighting to non-financial objectives has been introduced to the 2018/19 bonuses. The remainder of the bonus will be based on underlying profit before tax (60%) and working capital (20%).</p> <p>Targets for the Chief Executive and Chief Financial Officer will be based on group performance. For the Sector Chief Executive, Clean Air, targets will be based on a mix of group and Clean Air Sector performance.</p> <p>The Remuneration Committee considers the forward looking targets to be commercially sensitive, but full details of the targets and performance against them will be disclosed in next year's report.</p> <p>As set out in the Policy Report, 50% of any bonus paid will be deferred in shares for three years and the payment of any bonus is subject to appropriate malus and clawback provisions.</p>																			
Long term incentives	Award levels remain unchanged at 200% of salary for the Chief Executive and 175% of salary for the other Executive Directors. The long term Performance Share Plan awards will be based on EPS growth targets, subject to achieving a satisfactory level of return on capital employed. The EPS targets will be the same as those applying to the 2017 awards, namely 15% vesting for 4% p.a. underlying EPS growth, increasing on a straight line basis to 100% vesting for 10% p.a. underlying EPS growth or above. Awards vest in equal tranches over three, four and five years.																			
Chairman and Non-Executive Director fees	<p>Fees for the Non-Executive Directors for 2018/19 have been increased by 2.5% which is broadly in line with the budgeted increase for all other UK employees. The fees for each Non-Executive Director are shown below.</p> <table> <tr> <td>Tim Stevenson</td><td>£360,000</td><td>Chairman</td></tr> <tr> <td>Odile Desforges</td><td>£65,400</td><td></td></tr> <tr> <td>Alan Ferguson</td><td>£84,950</td><td>Senior Independent Director and Chairman of Audit Committee</td></tr> <tr> <td>Jane Griffiths</td><td>£65,400</td><td></td></tr> <tr> <td>Chris Mottershead</td><td>£81,900</td><td>Chairman of Remuneration Committee</td></tr> <tr> <td>John O'Higgins</td><td>£65,400</td><td></td></tr> </table>		Tim Stevenson	£360,000	Chairman	Odile Desforges	£65,400		Alan Ferguson	£84,950	Senior Independent Director and Chairman of Audit Committee	Jane Griffiths	£65,400		Chris Mottershead	£81,900	Chairman of Remuneration Committee	John O'Higgins	£65,400	
Tim Stevenson	£360,000	Chairman																		
Odile Desforges	£65,400																			
Alan Ferguson	£84,950	Senior Independent Director and Chairman of Audit Committee																		
Jane Griffiths	£65,400																			
Chris Mottershead	£81,900	Chairman of Remuneration Committee																		
John O'Higgins	£65,400																			

Governance

Statement of shareholder voting

We monitor carefully shareholder voting on our Remuneration Policy and its implementation. We recognise the importance of ensuring that our shareholders continue to support our remuneration arrangements.

The table below shows the results of the poll taken on the resolution to receive and approve the Directors' Remuneration Policy and the Annual Report on Remuneration at the July 2017 AGM.

Resolution	Number of votes cast		For	Against	Votes withheld
Remuneration Policy	136,108,674	125,583,227 (92.3%) ¹		10,525,447 (7.7%) ¹	3,139,449
Remuneration Report	139,189,906	136,587,858 (98.1%) ¹		2,602,048 (1.9%) ¹	60,561

¹ Percentage of votes cast, excluding votes withheld.

The Remuneration Committee believes that the 92.3% vote in favour of the Directors' Remuneration Policy and the 98.1% vote in favour of the Annual Report on Remuneration showed very strong shareholder support for the group's remuneration arrangements at that time.

This Remuneration Report was approved by the Board of Directors on 30th May 2018 and signed on its behalf by:



Chris Mottershead

Chairman of the Remuneration Committee

Directors' Report

for the year ended 31st March 2018

Directors

The names of the directors who held office during the year are set out on page 92.

The biographies of all the directors serving at the date of this annual report are shown on pages 84 and 85.

Indemnification of directors

Details of indemnities granted in favour of each director of the company and each director of the company's subsidiaries, which were in force during the year and which remain in force as at the date of approval of this annual report, can be found in the Corporate Governance Report on page 94.

Appointment and replacement of directors

The rules about the appointment and replacement of directors are contained in our Articles of Association, which are available on our website. These include:

- directors may be appointed by a resolution of the members or a resolution of the directors; and
- if appointed by the directors, the newly appointed director must retire at the next Annual General Meeting (AGM) and is not taken into account in determining the directors who are to retire by rotation at the meeting. At least one third of the board must retire by rotation at each AGM.

The Articles of Association may only be amended by a special resolution at a general meeting of the company.

Notwithstanding the provisions of the Articles of Association, the board has agreed that all directors will seek election or re-election at each AGM in accordance with the UK Corporate Governance Code 2016.



www.matthey.com/investors/corporate-governance

Powers of the directors

The powers of the directors are determined by the Articles of Association, UK legislation including the Companies Act 2006 (the 2006 Act) and any directions given by the company in general meeting.

The directors have been authorised by the company's Articles of Association to issue and allot ordinary shares and to make market purchases of its own shares. These powers are referred to shareholders for renewal at each AGM. Further information is set out under 'Purchase by the company of its own shares' opposite.

Directors' interests in the company's shares

The interests of persons who were directors of the company (and of their connected persons) at 31st March 2018 in the issued shares of the company (or in related derivatives or other financial instruments), which have been notified to the company in accordance with the Market Abuse Regulation, are set out in the Remuneration Report on page 126. The Remuneration Report also sets out details of any changes in those interests between 31st March 2018 and 30th May 2018.

Directors' interests in contracts

Other than service contracts, no director had any interest in any material contract with any group company at any time during the year. There were no contracts of significance (as defined in the Financial Conduct Authority's Listing Rules) during the year to which any group undertaking was a party and in which a director of the company is or was materially interested.

Dividends

The interim dividend of 21.75 pence per share (2017: 20.5 pence) was paid in February 2018. The directors recommend a final dividend of 58.25 pence per share in respect of the year (2017: 54.5 pence), making a total for the year of 80.0 pence per share (2017: 75.0 pence), payable on 7th August 2018 to shareholders on the register at the close of business on 8th June 2018.

Other than as referred to under 'Employee share schemes' on page 132, during the year there were no arrangements under which a shareholder has waived or agreed to waive any dividends nor any agreement by a shareholder to waive future dividends.

Dividend payments and DRIP

Dividends can be paid directly into shareholders' bank accounts. A Dividend Reinvestment Plan is also available. This allows shareholders to purchase additional shares in Johnson Matthey with their dividend payment. Further information and a mandate can be obtained from our registrar, Equiniti, whose details are set out on page 207 and on our website.

Share capital

Capital structure

As at 31st March 2018, the issued share capital of the company was 193,533,430 ordinary shares of 110⁴/₃₃ pence each (excluding treasury shares) and 5,407,176 treasury shares. There were no purchases, sales or transfers of treasury shares during the year.

Share allotments

There were no share allotments during the year.

Purchase by the company of its own shares

At the 2017 AGM shareholders authorised the company to make market purchases of up to 19,353,343 ordinary shares of 110⁴/₃₃ pence each, representing 10% of the issued share capital of the company (excluding treasury shares). Any shares so purchased by the company may be cancelled or held as treasury shares. This authority will cease at the date of the 2018 AGM.

During the year and up until the date of approval of this annual report, the company did not make any purchases of its own shares or propose to, or enter into any options or contracts to, purchase its own shares (either through the market or by an offer made to all shareholders or otherwise), nor did the company acquire any of its own shares other than by purchase.

Rights and obligations attaching to shares

The rights and obligations attaching to the ordinary shares in Johnson Matthey are set out in the Articles of Association.

As at 31st March 2018 and as at the date of approval of this annual report, except as referred to below, there were no restrictions on the transfer of ordinary shares in the company, no limitations on the holding of securities and no requirements to obtain the approval of the company, or of other holders of securities in the company, for a transfer of securities.

The directors may, in certain circumstances, refuse to register the transfer of a share in certificated form which is not fully paid up, where the instrument of transfer does not comply with the requirements of the company's Articles of Association, or if entitled under the Uncertificated Securities Regulations 2001.

Governance

Also as at 31st March 2018 and as at the date of approval of this annual report:

- no person held securities in the company carrying any special rights with regard to control of the company;
- there were no restrictions on voting rights (including any limitations on voting rights of holders of a given percentage or number of votes or deadlines for exercising voting rights) except that a shareholder has no right to vote in respect of a share unless all sums due in respect of that share are fully paid;
- there were no arrangements by which, with the company's cooperation, financial rights carried by shares in the company are held by a person other than the holder of the shares; and
- there were no agreements known to the company between holders of securities that may result in restrictions on the transfer of securities or on voting rights.

Nominees, financial assistance and liens

During the year:

- no shares in the company were acquired by the company's nominee, or by a person with financial assistance from the company, in either case where the company has a beneficial interest in the shares (and no person acquired shares in the company in any previous financial year in its capacity as the company's nominee or with financial assistance from the company); and
- the company did not obtain or hold a lien or other charge over its own shares.

Allotment of securities for cash and placing of equity securities

During the year the company has not allotted, nor has any major subsidiary undertaking of the company (broadly an undertaking that represents at least 25% of the group's aggregate gross assets or profit) allotted, equity securities for cash. During the year the company has not participated in any placing of equity securities.

Listing of the company's shares

Johnson Matthey's shares have a Premium Listing on the London Stock Exchange and trade as part of the FTSE 100 index under the symbol JMAT.

American Depositary Receipt programme

Johnson Matthey has a sponsored Level 1 American Depositary Receipt (ADR) programme which BNY Mellon administers and for which it acts as Depositary. Each ADR represents two ordinary shares of the company. The ADRs trade on the US over-the-counter market under the symbol JIMPLY. When dividends are paid to shareholders, the Depositary converts such dividends into US dollars, net of fees and expenses, and distributes the net amount to ADR holders. Contact details for BNY Mellon are set out on page 207.

Employee share schemes

At 31st March 2018, 4,460 current and former employees were shareholders in the company through the group's employee share schemes. Through these schemes, current and former employees held 2,599,390 ordinary shares (1.34% of issued share capital, excluding treasury shares as at 31st March 2018). Also as at 31st March 2018, 1,807,792 ordinary shares had been awarded but had not yet vested under the company's long term incentive plan to 1,269 current and former employees.

Shares acquired by employees through the company's employee share schemes rank equally with the other shares in issue and have no special rights. Voting rights in respect of shares held through the company's employee share schemes are not exercisable directly by employees. However, employees can direct the trustee of the schemes to exercise voting rights on their behalf. The trustee of the company's employee share ownership trust (ESOT) has waived its right to dividends on shares held by the ESOT which have not yet vested unconditionally to employees.

Interests in voting rights

The following information has been disclosed to the company under the FCA's Disclosure and Transparency Rules (DTR 5) in respect of notifiable interests in the voting rights in the company's issued share capital:

	Nature of holding	Total voting rights ¹	% of total voting rights ²
As at 31st March 2018:			
Ameriprise Financial Inc.	Direct	84,408	0.04%
	Indirect	9,727,409	5.03%
BlackRock, Inc.	Indirect	20,181,149	9.85%
	Financial Instrument (CFD)	209,763	0.10%
Standard Life Investments (Holdings) Limited	Indirect	10,829,249	5.60%

¹ Total voting rights attaching to the issued ordinary share capital of the company (excluding treasury shares) at the time of disclosure to the company.

² % of total voting rights at the date of disclosure to the company.

Other than as stated above, as far as the company is aware, there is no person with a significant direct or indirect holding of securities in the company. The information provided above was correct at the date of notification. However, it should be noted that these holdings are likely to have changed since the company was notified. Notification of any change is not required until the next notifiable threshold is crossed.

Contracts with controlling shareholders

During the year there were no contracts of significance (as defined in the FCA's Listing Rules) between any group undertaking and a controlling shareholder and no contracts for the provision of services to any group undertaking by a controlling shareholder.

Change of control

As at 31st March 2018 and as at the date of approval of this annual report, there were no significant agreements to which the company or any subsidiary was or is a party that take effect, alter or terminate on a change of control of the company, whether following a takeover bid or otherwise.

However, the company and its subsidiaries were, as at 31st March 2018 and as at the date of approval of this annual report, party to a number of commercial agreements that may allow the counterparties to alter or terminate the agreements on a change of control of the company following a takeover bid. Other than the matters referred to below, these are not deemed by the company to be significant in terms of their potential effect on the group as a whole.

The group has a number of loan notes and borrowing facilities which may require prepayment of principal and payment of accrued interest and breakage costs if there is change of control of the company. The group has also entered into a series of financial instruments to hedge its currency, interest rate and metal price exposures which provide for termination or alteration if a change of control of the company materially weakens the creditworthiness of the group.

The Executive Directors' service contracts each contain a provision to the effect that if the contract is terminated by the company within one year after a change of control of the company, the company will pay to the director as liquidated damages an amount equivalent to one year's gross base salary and other contractual benefits less the period of any notice given by the company to the director.

The rules of the company's employee share schemes set out the consequences of a change of control of the company on participants' rights under the schemes. Generally such rights will vest and become exercisable on a change of control subject to the satisfaction of relevant performance conditions. As at 31st March 2018 and as at the date of approval of this annual report, there were no other agreements between the company or any subsidiary and its or their directors or employees providing for compensation for loss of office or employment (whether through resignation, purported redundancy or otherwise) that occurs because of a takeover bid.

Branches

The company and its subsidiaries have established branches in a number of different countries in which they operate.

Political donations and expenditure

It is the group's policy not to make political donations or to incur political expenditure. During the year, there were no political donations made to any EU or non-EU political party, EU or non-EU political organisation or to any EU or non-EU independent election candidate. During the year, no EU or non-EU political expenditure was incurred.

Information set out in the Strategic Report

In accordance with section 414C(11) of the 2006 Act, the directors have chosen to set out in the Strategic Report the following information required to be included in the Directors' Report:

- **Employee involvement**
A description of the action taken by the company during the year relating to employee involvement.

➤ Pages 52 to 57

- **Employment of disabled persons**
Information on the company's policy applied during the year relating to the recruitment, employment, training, career development and promotion of disabled employees.

➤ Page 53

- **Research and development activities**
An indication of the activities of the group in the field of research and development.

➤ Pages 25 to 31

- **Likely future developments**
An indication on likely future developments in our business.

➤ Pages 12 and 65 to 69

- **Greenhouse gas emissions**
Disclosures relating to greenhouse gas emissions.

➤ Pages 39, 40 and 45

- **Use of financial instruments**
Information on the group's financial risk management objectives and policies, its exposure to credit risk, liquidity risk, interest rate risk and foreign currency risk and its use of financial instruments.

➤ Pages 174 to 180

Governance

Disclosures required by Listing Rule 9.8.4R

Disclosures required by the FCA's Listing Rule 9.8.4R, can be found on the following pages:

Information required	Sub-section of Listing Rule 9.8.4R	Page reference
1. Capitalised interest	(1)	Page 168
2. Publication of unaudited financial information	(2)	Not applicable
3. Details of long term incentive schemes established to specifically recruit or retain a director	(4)	Not applicable
4. Waiver of emoluments by a director	(5) (6)	Not applicable
5. Allotments of equity securities for cash	(7) (8)	Page 132
6. Participation in a placing of equity securities	(9)	Not applicable
7. Contracts of significance	(10)	Not applicable
8. Contracts for the provisions of services by a controlling shareholder	(11)	Not applicable
9. Dividend waiver	(12) (13)	Pages 131 to 132
10. Agreements with controlling shareholder	(14)	Not applicable

Important events since 31st March 2018

There have been no important events affecting the company or any subsidiary since 31st March 2018.

2018 Annual General Meeting

Our 2018 AGM will be held at 11.00 am on Thursday 26th July 2018 at The Institute of Civil Engineering, One Great George Street, Westminster, London SW1P 3AA.

The notice of the 2018 AGM, together with an explanation of the resolutions to be considered at the meeting, is set out in a separate circular to shareholders. This circular is published on our website.

Auditor and disclosure of information

KPMG LLP will sign the 2018 Annual Report and Accounts and then retire as external auditors. Following a comprehensive tender, described in full on pages 108 and 109, PricewaterhouseCoopers LLP will be recommended for appointment as the company's external auditors at the AGM on 26th July 2018.

So far as each person serving as a director of the company is aware, at the date this Directors' Report was approved by the board there is no relevant audit information (that is, information needed by the auditor in connection with preparing its report) of which the company's auditor is unaware. Each such director confirms that he or she has taken all the steps that he or she ought to have taken as a director in order to make himself or herself aware of any relevant audit information and to establish that the company's auditor is aware of that information.

Management report

The Strategic Report and the Directors' Report together include the 'management report' for the purposes of the FCA's Disclosure and Transparency Rules (DTR 4.1.8R).

The Directors' Report was approved by the board on 30th May 2018 and is signed on its behalf by:



Simon Farrant
Company Secretary

Responsibility of Directors

Statement of directors' responsibilities in respect of the Annual Report and Accounts

The directors are responsible for preparing the annual report and the group and parent company accounts in accordance with applicable law and regulations.

Company law requires the directors to prepare group and parent company accounts for each financial year. Under company law they are required to prepare the group accounts in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union (EU) and other applicable law and have elected to prepare the parent company accounts on the same basis.

Under company law the directors must not approve the accounts unless they are satisfied that they give a true and fair view of the state of affairs of the group and parent company and of their profit or loss for that period. In preparing each of the group and parent company accounts, the directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable, relevant and reliable;
- state whether they have been prepared in accordance with IFRS as adopted by the EU;
- assess the group and parent company's ability to continue as a going concern, disclosing as applicable, matters related to going concern; and
- use the going concern basis of accounting unless they either intend to liquidate the group or the parent company or to cease operations, or have no realistic alternative but to do so.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the parent company's transactions and disclose with reasonable accuracy at any time the financial position of the parent company and enable them to ensure that its accounts comply with the Companies Act 2006. They are responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error, and have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the group and to detect fraud and other irregularities.

Under applicable law and regulations, the directors are also responsible for preparing a Strategic Report, Directors' Report, Remuneration Report and Corporate Governance statement that comply with that law and those regulations.

The directors are responsible for the maintenance and integrity of the corporate and financial information included on the company's website. Legislation in the UK governing the preparation and dissemination of accounts may differ from legislation in other jurisdictions.

Responsibility statement of the directors in respect of the Annual Report and Accounts

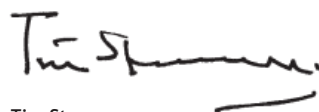
Each of the directors as at the date of the Annual Report and Accounts, whose names and functions are set out below:

- Tim Stevenson, Chairman
- Robert MacLeod, Chief Executive
- Anna Manz, Chief Financial Officer
- Odile Desforges, Non-Executive Director
- Alan Ferguson, Non-Executive Director
- Jane Griffiths, Non-Executive Director
- Chris Mottershead, Non-Executive Director
- John O'Higgins, Non-Executive Director
- John Walker, Executive Director

states that to the best of his or her knowledge:

- the group and parent company accounts, prepared in accordance with the applicable set of accounting standards, give a true and fair view of the assets, liabilities, financial position and profit or loss of the company and the undertakings included in the consolidation taken as a whole; and
- the management report (which comprises the Strategic Report and the Directors' Report) includes a fair review of the development and performance of the business and the position of the company and the undertakings included in the consolidation taken as a whole, together with a description of the principal risks and uncertainties that they face.

This responsibility statement was approved by the board on 30th May 2018 and is signed on its behalf by:



Tim Stevenson
Chairman



Accounts

The Accounts include the consolidated and parent company accounts and related notes, prepared in accordance with International Financial Reporting Standards, as well as the independent auditor's report.

Contents

138	Consolidated Income Statement
138	Consolidated Statement of Total Comprehensive Income
139	Consolidated and Parent Company Balance Sheets
140	Consolidated and Parent Company Cash Flow Statements
141	Consolidated Statement of Changes in Equity
142	Parent Company Statement of Changes in Equity
143	Accounting policies
150	Notes on the accounts
191	Reconciliation of non-GAAP measures to GAAP measures
192	Independent auditor's report



Accounts

Consolidated Income Statement

for the year ended 31st March 2018

	Notes	2018 £ million	2017 £ million
Revenue			
Cost of sales	1,2	14,122 (13,214)	12,031 (11,169)
Gross profit		908	862
Distribution costs		(123)	(124)
Administrative expenses		(260)	(225)
Loss on disposal of businesses	5	(7)	–
Loss on significant legal proceedings	6	(50)	–
Amortisation of acquired intangibles	7	(19)	(20)
Major impairment and restructuring charges	8	(90)	–
Operating profit	1,9	359	493
Finance costs	11	(43)	(38)
Finance income	11	5	7
Share of loss of joint venture and associate		(1)	–
Profit before tax		320	462
Income tax expense	12	(22)	(77)
Profit for the year		298	385
Attributable to:			
Equity shareholders		298	386
Non-controlling interests		–	(1)
		298	385
		pence	pence
Earnings per ordinary share attributable to equity shareholders			
Basic	13	155.2	201.2
Diluted	13	155.0	200.8

Consolidated Statement of Total Comprehensive Income

for the year ended 31st March 2018

	Notes	2018 £ million	2017 £ million
Profit for the year		298	385
Other comprehensive income:			
Items that will not be reclassified to profit or loss:			
Remeasurements of post-employment benefit assets and liabilities	17	103	(18)
Tax on above items taken directly to or transferred from equity	35	(31)	2
		72	(16)
Items that may be reclassified subsequently to profit or loss:			
Currency translation differences	36	(95)	163
Share of currency translation differences of joint venture and associate	36	–	2
Cash flow hedges	36	5	(2)
Fair value gains / (losses) on net investment hedges	36	6	(21)
Fair value gains on available-for-sale investments	36	–	7
		(84)	149
Other comprehensive (loss) / income for the year		(12)	133
Total comprehensive income for the year		286	518
Attributable to:			
Equity shareholders		286	519
Non-controlling interests		–	(1)
		286	518

The notes on pages 150 to 190 form an integral part of the accounts.

Consolidated and Parent Company Balance Sheets

as at 31st March 2018

		Group		Parent company	
	Notes	2018 £ million	2017 £ million	2018 £ million	2017 £ million
Assets					
Non-current assets					
Property, plant and equipment	18	1,155	1,235	278	282
Goodwill	19	574	607	123	123
Other intangible assets	20	295	288	166	137
Investments in subsidiaries	21	–	–	1,997	2,063
Investments in joint venture and associate	22	20	22	–	–
Deferred income tax assets	33	48	26	–	–
Available-for-sale investments	23	56	58	7	7
Interest rate swaps	28	6	17	6	17
Other receivables	25	38	28	1,013	1,120
Post-employment benefit net assets	17	236	117	226	107
Total non-current assets		2,428	2,398	3,816	3,856
Current assets					
Inventories	24	783	772	124	124
Current income tax assets		35	20	–	–
Trade and other receivables	25	1,228	1,139	1,377	1,139
Cash and cash equivalents – cash and deposits	28	329	330	218	248
Other financial assets	30	15	8	15	8
Total current assets		2,390	2,269	1,734	1,519
Total assets		4,818	4,667	5,550	5,375
Liabilities					
Current liabilities					
Trade and other payables	26	(1,012)	(968)	(2,552)	(2,579)
Current income tax liabilities		(149)	(134)	(56)	(15)
Cash and cash equivalents – bank overdrafts	28	(53)	(32)	(11)	(16)
Other borrowings and related swaps	28	(10)	(20)	(4)	(2)
Other financial liabilities	30	(12)	(15)	(14)	(16)
Provisions	32	(37)	(21)	(5)	(4)
Total current liabilities		(1,273)	(1,190)	(2,642)	(2,632)
Non-current liabilities					
Borrowings and related swaps	28	(951)	(1,011)	(951)	(1,011)
Deferred income tax liabilities	33	(94)	(113)	(43)	(27)
Employee benefit obligations	17	(103)	(112)	(9)	(10)
Provisions	32	(14)	(18)	(17)	(18)
Other payables	26	(5)	(6)	(492)	(509)
Total non-current liabilities		(1,167)	(1,260)	(1,512)	(1,575)
Total liabilities		(2,440)	(2,450)	(4,154)	(4,207)
Net assets		2,378	2,217	1,396	1,168
Equity					
Share capital	34	221	221	221	221
Share premium account		148	148	148	148
Shares held in employee share ownership trust (ESOT)		(48)	(55)	(48)	(55)
Other reserves	36	63	147	–	(1)
Retained earnings		1,994	1,776	1,075	855
Total equity attributable to equity shareholders		2,378	2,237	1,396	1,168
Non-controlling interests		–	(20)	–	–
Total equity		2,378	2,217	1,396	1,168

The accounts were approved by the Board of Directors on 30th May 2018 and signed on its behalf by:

R J MacLeod

Directors

A O Manz

The notes on pages 150 to 190 form an integral part of the accounts.

Accounts

Consolidated and Parent Company Cash Flow Statements

for the year ended 31st March 2018

Notes	Group		Parent company	
	2018 £ million	2017 £ million	2018 £ million	2017 £ million
Cash flows from operating activities				
Profit before tax	320	462	332	150
Adjustments for:				
Share of loss of joint venture and associate	1	–	–	–
Loss on disposal of businesses	7	–	–	–
Depreciation, amortisation, impairment losses and loss / (profit) on sale of non-current assets and investments	245	177	113	41
Share-based payments	10	11	7	7
Increase in inventories	(66)	(37)	–	–
(Increase) / decrease in receivables	(144)	(111)	(138)	303
Increase / (decrease) in payables	62	121	(88)	(137)
Increase / (decrease) in provisions	15	(27)	–	(3)
Contributions in excess of employee benefit obligations charge	(20)	(42)	(19)	(24)
Changes in fair value of financial instruments	(5)	(3)	(5)	(4)
Dividends received from subsidiaries	–	–	(264)	(38)
Net finance costs / (income)	38	31	(16)	(19)
Income tax paid	(77)	(59)	(10)	(9)
Net cash inflow / (outflow) from operating activities	386	523	(88)	267
Cash flows from investing activities				
Dividends received from joint venture	1	–	–	–
Dividends received from subsidiaries	–	–	264	38
Interest received	3	5	63	66
Purchases of property, plant and equipment	(157)	(194)	(37)	(36)
Purchases of intangible assets	(59)	(66)	(36)	(64)
Purchases of subsidiaries	–	–	–	(13)
Proceeds from sale of non-current assets and investments	7	4	5	–
Purchases of businesses net of cash acquired	–	(20)	–	–
Net proceeds from sale of businesses	5	–	–	–
Net cash (outflow) / inflow from investing activities	(200)	(271)	259	(9)
Cash flows from financing activities				
Purchase of own shares by ESOT	–	(6)	–	(6)
Proceeds from borrowings falling due within one year	2	–	–	–
Proceeds from borrowings falling due after more than one year	–	80	–	80
Repayment of borrowings falling due within one year	(14)	(129)	–	(116)
Repayment of borrowings falling due after more than one year	–	(4)	–	–
Dividends paid to equity shareholders	(146)	(139)	(146)	(139)
Settlement of currency swaps	(1)	(7)	(1)	(7)
Interest paid	(45)	(42)	(49)	(52)
Net cash outflow from financing activities	(204)	(247)	(196)	(240)
(Decrease) / increase in cash and cash equivalents in the year	(18)	5	(25)	18
Exchange differences on cash and cash equivalents	(4)	9	–	–
Cash and cash equivalents at beginning of year	298	284	232	214
Cash and cash equivalents at end of year	276	298	207	232
Reconciliation to net debt				
(Decrease) / increase in cash and cash equivalents in the year	(18)	5	(25)	18
Decrease in borrowings	12	53	–	36
Change in net debt resulting from cash flows	(6)	58	(25)	54
Borrowings acquired with subsidiaries	–	(5)	–	–
Exchange differences on net debt	43	(94)	47	(101)
Movement in net debt in year	37	(41)	22	(47)
Net debt at beginning of year	(716)	(675)	(764)	(717)
Net debt at end of year	(679)	(716)	(742)	(764)

The notes on pages 150 to 190 form an integral part of the accounts.

Consolidated Statement of Changes in Equity

for the year ended 31st March 2018

	Share capital £ million	Share premium account £ million	Shares held in ESOT £ million	Other reserves (note 36) £ million	Retained earnings £ million	Total attributable to equity holders £ million	Non-controlling interests £ million	Total equity £ million
At 1st April 2016	221	148	(55)	(2)	1,541	1,853	(19)	1,834
Profit for the year	–	–	–	–	386	386	(1)	385
Remeasurements of post-employment benefit assets and liabilities	–	–	–	–	(18)	(18)	–	(18)
Cash flow hedges	–	–	–	(2)	–	(2)	–	(2)
Net investment hedges	–	–	–	(21)	–	(21)	–	(21)
Available-for-sale investments	–	–	–	7	–	7	–	7
Currency translation differences	–	–	–	165	–	165	–	165
Tax on other comprehensive income	–	–	–	–	2	2	–	2
Total comprehensive income	–	–	–	149	370	519	(1)	518
Dividends paid (note 14)	–	–	–	–	(139)	(139)	–	(139)
Purchase of own shares by ESOT	–	–	(6)	–	–	(6)	–	(6)
Share-based payments	–	–	–	–	17	17	–	17
Cost of shares transferred to employees	–	–	6	–	(12)	(6)	–	(6)
Tax on share-based payments	–	–	–	–	(1)	(1)	–	(1)
At 31st March 2017	221	148	(55)	147	1,776	2,237	(20)	2,217
Profit for the year	–	–	–	–	298	298	–	298
Remeasurements of post-employment benefit assets and liabilities	–	–	–	–	103	103	–	103
Cash flow hedges	–	–	–	5	–	5	–	5
Net investment hedges	–	–	–	6	–	6	–	6
Currency translation differences	–	–	–	(95)	–	(95)	–	(95)
Tax on other comprehensive income	–	–	–	–	(31)	(31)	–	(31)
Total comprehensive income	–	–	–	(84)	370	286	–	286
Dividends paid (note 14)	–	–	–	–	(146)	(146)	–	(146)
Purchase of non-controlling interests	–	–	–	–	(9)	(9)	20	11
Share-based payments	–	–	–	–	17	17	–	17
Cost of shares transferred to employees	–	–	7	–	(14)	(7)	–	(7)
At 31st March 2018	221	148	(48)	63	1,994	2,378	–	2,378

The notes on pages 150 to 190 form an integral part of the accounts.

Accounts

Parent Company Statement of Changes in Equity

for the year ended 31st March 2018

	Share capital £ million	Share premium account £ million	Shares held in ESOT £ million	Other reserves (note 36) £ million	Retained earnings £ million	Total equity £ million
At 1st April 2016	221	148	(55)	(1)	874	1,187
Profit for the year	–	–	–	–	133	133
Remeasurements of post-employment benefit assets and liabilities	–	–	–	–	(21)	(21)
Cash flow hedges	–	–	–	(2)	–	(2)
Currency translation differences	–	–	–	2	–	2
Tax on other comprehensive income	–	–	–	–	3	3
Total comprehensive income	–	–	–	–	115	115
Dividends paid (note 14)	–	–	–	–	(139)	(139)
Purchase of own shares by ESOT	–	–	(6)	–	–	(6)
Share-based payments	–	–	–	–	15	15
Cost of shares transferred to employees	–	–	6	–	(10)	(4)
At 31st March 2017	221	148	(55)	(1)	855	1,168
Profit for the year	–	–	–	–	282	282
Remeasurements of post-employment benefit assets and liabilities	–	–	–	–	98	98
Cash flow hedges	–	–	–	4	–	4
Currency translation differences	–	–	–	(3)	–	(3)
Tax on other comprehensive income	–	–	–	–	(17)	(17)
Total comprehensive income	–	–	–	1	363	364
Dividends paid (note 14)	–	–	–	–	(146)	(146)
Share-based payments	–	–	–	–	15	15
Cost of shares transferred to employees	–	–	7	–	(12)	(5)
At 31st March 2018	221	148	(48)	–	1,075	1,396

The notes on pages 150 to 190 form an integral part of the accounts.

Accounting policies

for the year ended 31st March 2018

Basis of accounting and preparation

The accounts are prepared in accordance with International Financial Reporting Standards (IFRS) and interpretations issued by the International Financial Reporting Interpretations Committee (IFRIC) or the Standing Interpretations Committee (SIC) as adopted by the European Union.

For Johnson Matthey, there are no differences between IFRS as adopted by the European Union and full IFRS as published by the International Accounting Standards Board (IASB) and so the accounts comply with IFRS.

The accounts are prepared on the historical cost basis, except for certain assets and liabilities which are measured at fair value as explained below.

The parent company has not presented its own income statement, statement of total comprehensive income and related notes as permitted by section 408 of the Companies Act 2006.

Expenses within 2017's Consolidated Income Statement have been reclassified as follows: increase administrative expenses £22 million, reduce cost of sales £19 million and reduce distribution costs £3 million.

Basis of consolidation

The consolidated accounts comprise the accounts of the parent company and all its subsidiaries, including the employee share ownership trust, and include the group's interest in joint ventures and associates. Entities the group controls are accounted for as subsidiaries. Entities that are joint ventures or associates are accounted for using the equity method of accounting. Transactions and balances between group companies are eliminated. No profit is taken on transactions between group companies.

The results of businesses acquired or disposed of in the year are consolidated from or up to the effective date of acquisition or disposal, respectively. The net assets of businesses acquired are recognised in the consolidated accounts at their fair values at the date of acquisition.

In the parent company balance sheet, businesses acquired from other group companies are recognised at book value at the date of acquisition. The difference between the consideration paid and the book value of the net assets acquired is reflected in retained earnings.

Significant accounting policies

The group's and parent company's significant accounting policies are:

Foreign currencies

Foreign currency transactions are recorded in the functional currency of the relevant subsidiary, joint venture, associate or branch at the exchange rate at the date of the transaction. Foreign currency monetary assets and liabilities are retranslated into the relevant functional currency at the exchange rate at the balance sheet date.

Income statements and cash flows of overseas subsidiaries, joint ventures, associates and branches are translated into sterling at the average rates for the year. Balance sheets of overseas subsidiaries, joint ventures, associates and branches, including any fair value adjustments and related goodwill, are translated into sterling at the exchange rates at the balance sheet date.

Exchange differences arising on the translation of the net investment in overseas subsidiaries, joint ventures, associates and branches, less exchange differences arising on related foreign currency financial instruments which hedge the group's net investment in these operations, are taken to other comprehensive income. On disposal of the net investment, the cumulative exchange difference is reclassified from equity to operating profit. The group has taken advantage of the exemption allowed in IFRS 1 'First-time Adoption of International Reporting Standards' to deem the cumulative translation difference for all overseas subsidiaries and branches to be zero at 1st April 2004.

Other exchange differences are taken to operating profit.

Revenue

Revenue comprises all sales of goods and rendering of services at the fair value of consideration received or receivable after the deduction of any trade discounts and excluding sales taxes. Revenue is recognised when it can be measured reliably and the significant risks and rewards of ownership are transferred to the customer. With the sale of goods, this occurs:

- when the goods are despatched or delivered in line with the International Chamber of Commerce's International Commercial Terms (Incoterms®) as detailed in the relevant contract;
- when the goods are made available to the customer and ownership transfers before despatch; or
- on notification that the goods have been used when they are consignment products located at customers' premises.

With the rendering of services, revenue is recognised by reference to the stage of completion as measured by costs incurred to date as a proportion of estimated total costs.

With royalty and licence income, revenue is recognised in accordance with the substance of the relevant agreement. Where royalties or licences are part of a long-term contract with a single overall profit margin, revenue is recognised by reference to the stage of completion of the contract.

Accounts

Accounting policies

for the year ended 31st March 2018

Long-term contracts

Where the outcome of a long-term contract can be estimated reliably, revenue and costs are recognised by reference to the stage of completion. This is measured by contract costs incurred to date as a proportion of estimated total contract costs.

Where the outcome of a long-term contract cannot be estimated reliably, contract revenue is recognised to the extent of contract costs incurred that it is probable will be recoverable. Contract costs are recognised as expenses in the period in which they are incurred.

When it is probable that total contract costs will exceed total contract revenue, the expected loss is recognised as an expense immediately.

Finance costs and finance income

Finance costs that are directly attributable to the construction of an asset that necessarily takes a substantial period of time to get ready for its intended use are capitalised as part of the cost of that asset. Other finance costs and finance income are recognised in the income statement in the year incurred.

Grants

Grants related to assets are included in deferred income and released to the income statement in equal instalments over the expected useful lives of the related assets. Grants related to income are deducted in reporting the related expense.

Research and development

Research expenditure is charged to the income statement in the year incurred. Development expenditure is charged to the income statement in the year incurred unless it meets the recognition criteria for capitalisation. When the recognition criteria have been met, any further development expenditure is capitalised as an intangible asset.

Property, plant and equipment

Property, plant and equipment is stated at cost less accumulated depreciation and any provisions for impairment. Depreciation is provided at rates calculated to write-off the cost less estimated residual value of each asset over its useful life. Certain freehold buildings and plant and equipment are depreciated using the units of production method as this more closely reflects their expected consumption. All other assets are depreciated using the straight-line method. The useful lives vary according to the class of the asset, but are typically:

- leasehold property – 30 years (or the life of the lease if shorter);
- freehold buildings – 30 years; and
- plant and equipment – 4 to 10 years.

Freehold land is not depreciated.

Goodwill and other intangible assets

Goodwill arises on the acquisition of a business when the fair value of the consideration exceeds the fair value attributed to the net assets acquired (including contingent liabilities). It is subject to annual impairment reviews. Acquisition-related costs are charged to the income statement as incurred. The group and parent company have taken advantage of the exemption allowed under IFRS 1 and, therefore, goodwill arising on acquisitions made before 1st April 2004 is included at the carrying amount at that date less any subsequent impairments.

Other intangible assets are stated at cost less accumulated amortisation and any provisions for impairment. Customer contracts are amortised when the relevant income stream occurs using either a straight-line method or, where they relate to a long-term contract, a stage of completion method. All other intangible assets are amortised by using the straight-line method over the useful lives from the time they are first available for use. The estimated useful lives vary according to the specific asset, but are typically:

- customer contracts and relationships – 1 to 15 years;
- capitalised computer software – 3 to 10 years;
- patents, trademarks and licences – 3 to 20 years;
- acquired research and technology – 4 to 10 years; and
- capitalised development currently being amortised – 3 to 8 years.

Intangible assets which are not yet being amortised are subject to annual impairment reviews.

Investments in subsidiaries

Investments in subsidiaries are stated in the parent company's balance sheet at cost less any provisions for impairment. If a distribution is received from a subsidiary, the investment in that subsidiary is assessed for an indication of impairment.

Accounting policies

for the year ended 31st March 2018

Leases

Leases are classified as finance leases whenever they transfer substantially all the risks and rewards of ownership to the group. The assets are included in property, plant and equipment and the capital elements of the leasing commitments are shown as obligations under finance leases. The assets are depreciated on a basis consistent with similar owned assets or the lease term if shorter. The interest element of the lease rental is included in the income statement.

All other leases are classified as operating leases and the lease costs are expensed on a straight-line basis over the lease term.

Precious metal inventories

Inventories of gold, silver and platinum group metals are valued according to the source from which the metal is obtained. Metal which has been purchased and committed to future sales to customers or hedged in metal markets is valued at the price at which it is contractually committed or hedged, adjusted for unexpired contango and backwardation. Other precious metal inventories owned by the group, which are unhedged, are valued at the lower of cost and net realisable value using the weighted average cost formula.

Other inventories

Non-precious metal inventories are valued at the lower of cost, including attributable overheads, and net realisable value. Except where costs are specifically identified, the first-in, first-out cost formula is used to value inventories.

Cash and cash equivalents

Cash and deposits comprise cash at bank and in hand, including short-term deposits with a maturity date of three months or less from the date of acquisition. The group and parent company routinely use short-term bank overdraft facilities, which are repayable on demand, as an integral part of their cash management policy and, therefore, cash and cash equivalents in the cash flow statements are cash and deposits less bank overdrafts. Offset arrangements across group businesses have been applied to arrive at the net cash and overdraft figures.

Derivative financial instruments

The group and parent company use derivative financial instruments, in particular forward currency contracts and currency swaps, to manage the financial risks associated with their underlying business activities and the financing of those activities. The group and parent company do not undertake any speculative trading activity in derivative financial instruments.

Derivative financial instruments are measured at their fair value. Derivative financial instruments may be designated at inception as fair value hedges, cash flow hedges or net investment hedges if appropriate. Derivative financial instruments which are not designated as hedging instruments are classified as held for trading, but are used to manage financial risk.

The vast majority of forward precious metal price contracts are entered into and held for the receipt or delivery of precious metal and, therefore, are not recorded at fair value. If a forward precious metal price contract will be settled net in cash then it is designated and accounted for as a cash flow hedge.

Changes in the fair value of any derivative financial instruments that are not designated as, or are not determined to be, effective hedges are recognised immediately in the income statement.

Changes in the fair value of derivative financial instruments designated as fair value hedges are recognised in the income statement, together with the related changes in the fair value of the hedged asset or liability. Fair value hedge accounting is discontinued if the hedging instrument expires or is sold, terminated or exercised, the hedge no longer meets the criteria for hedge accounting or the designation is revoked.

Changes in the fair value of derivative financial instruments designated as cash flow hedges are recognised in other comprehensive income to the extent that the hedges are effective. Ineffective portions are recognised in the income statement immediately. If the hedged item results in the recognition of a non-financial asset or liability, the amount previously recognised in other comprehensive income is transferred out of equity and included in the initial carrying amount of the asset or liability. Otherwise, the amount previously recognised in other comprehensive income is transferred to the income statement in the same period that the hedged item is recognised in the income statement. If the hedging instrument expires or is sold, terminated or exercised, the hedge no longer meets the criteria for hedge accounting or the designation is revoked, amounts previously recognised in other comprehensive income remain in equity until the forecast transaction occurs. If a forecast transaction is no longer expected to occur, the amounts previously recognised in other comprehensive income are transferred to the income statement.

For hedges of net investments in foreign operations, the effective portion of the gain or loss on the hedging instrument is recognised in other comprehensive income, while the ineffective portion is recognised in the income statement. Amounts taken to other comprehensive income are reclassified from equity to the income statement when the foreign operations are sold or liquidated.

Accounts

Accounting policies

for the year ended 31st March 2018

Other financial instruments

All other financial instruments are initially recognised at fair value plus transaction costs. Subsequent measurement is as follows:

- Borrowings are measured at amortised cost unless they are designated as being fair value hedged, in which case they are remeasured for the fair value changes in respect of the hedged risk with these changes recognised in the income statement.
- Available-for-sale investments which are investments in equity instruments that have a quoted market price in an active market are fair valued at that price with the gain or loss recognised in other comprehensive income. Investments in equity instruments that do not have a quoted market price in an active market are valued at fair value if it can be measured reliably with the gain or loss recognised in other comprehensive income. If the fair value cannot be measured reliably, they are measured at cost.
- Other available-for-sale investments are measured at fair value with interest calculated using the effective interest method recognised in finance income and the remaining gain or loss recognised in other comprehensive income until the investment is derecognised. At that time, the cumulative gain or loss recognised in other comprehensive income will be transferred to the income statement.
- All other financial assets and liabilities, including short term receivables and payables, are measured at amortised cost less any impairment provision.

Taxation

Current and deferred tax are recognised in the income statement, except when they relate to items recognised directly in equity, in which case the related tax is also recognised in equity.

Current tax is the amount of income tax expected to be paid in respect of taxable profits using the tax rates that have been enacted or substantively enacted at the balance sheet date.

Deferred tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the balance sheet. It is provided using the tax rates that are expected to apply in the period when the asset or liability is settled, based on tax rates that have been enacted or substantively enacted at the balance sheet date.

Deferred tax assets are recognised to the extent that it is probable that future taxable profits will be available against which the temporary differences can be utilised. No deferred tax asset or liability is recognised in respect of temporary differences associated with investments in subsidiaries and branches where the group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

Provisions and contingencies

Provisions are recognised when the group has a present obligation as a result of a past event and a reliable estimate can be made of a probable adverse outcome, for example warranties, environmental claims and restructuring. Otherwise, material contingent liabilities are disclosed unless the probability of the transfer of economic benefits is remote. Contingent assets are only disclosed if an inflow of economic benefits is probable.

The parent company considers financial guarantees of its subsidiaries' borrowings and precious metal leases to be insurance contracts. These are treated as contingent liabilities unless it becomes probable that it will be required to make a payment under the guarantee.

Share-based payments and employee share ownership trust (ESOT)

The fair value of shares awarded to employees under the Performance Share Plan, Restricted Share Plan, long term incentive plan and deferred bonus is calculated by adjusting the share price on the date of allocation for the present value of the expected dividends that will not be received. The resulting cost is charged to the income statement over the relevant performance periods, adjusted to reflect actual and expected levels of vesting where appropriate.

The group and parent company provide finance to the ESOT to purchase company shares in the open market. Costs of running the ESOT are charged to the income statement. The cost of shares held by the ESOT is deducted in arriving at equity until they vest unconditionally with employees.

Accounting policies

for the year ended 31st March 2018

Post-employment benefits

The costs of defined contribution plans are charged to the income statement as they fall due.

For defined benefit plans, the group and parent company recognise the net assets or liabilities of the plans in their balance sheets. Assets are measured at their fair value at the balance sheet date. Liabilities are measured at present value using the projected unit credit method and a discount rate reflecting yields on high quality corporate bonds. The changes in plan assets and liabilities, based on actuarial advice, are recognised as follows:

- The current service cost is deducted in arriving at operating profit.
- The net interest cost, based on the discount rate at the beginning of the year, contributions paid in and the present value of the net defined benefit liabilities during the year, is included in finance costs.
- Past service costs and curtailment gains and losses are recognised in operating profit at the earlier of when the plan amendment or curtailment occurs and when any related restructuring costs or termination benefits are recognised.
- Gains or losses arising from settlements are included in operating profit when the settlement occurs.
- Remeasurements, representing returns on plan assets, excluding amounts included in interest, and actuarial gains and losses arising from changes in financial and demographic assumptions, are recognised in other comprehensive income.

Critical accounting policies

Certain of the group's and parent company's significant accounting policies are considered to be critical because of the level of complexity, judgement or estimation involved in their application and their impact on the accounts.

Post-employment benefits

The group's and parent company's defined benefit plans are assessed annually by qualified independent actuaries. The estimate of the liabilities of the plans is based on a number of actuarial assumptions.

There is a range of possible values for each actuarial assumption and the point within that range is estimated to most appropriately reflect the group's and parent company's circumstances. Small changes in these assumptions can have a significant impact on the estimate of the liabilities of the plans and, therefore, may result in a material change to the group's and parent company's financial position in the year ending 31st March 2019.

Goodwill, other intangible assets and other assets

The group and parent company have significant intangible assets from both business acquisitions and investments in new products and technologies. Some of those acquisitions and investments are at an early stage of commercial development and, therefore, carry a greater risk that they will not be commercially viable. Goodwill and intangible assets not yet ready for use are not amortised, but are subject to annual impairment reviews. Other intangible assets are amortised from the time they are first ready for use. Other assets are assessed for impairment when there is a triggering event that provides evidence that an asset may be impaired.

The impairment reviews require the use of estimates of future profit and cash generation based on financial budgets and plans approved by management covering a three-year period and the pre-tax discount rates used in discounting projected cash flows. The group does not consider that there is a significant risk that changes in goodwill and other intangible assets could result in a material adjustment to its financial position in the year ending 31st March 2019.

Tax provisions

Tax provisions are determined based on the tax laws and regulations that apply in each of the jurisdictions in which the group operates. Tax provisions are recognised where the impact of those laws and regulations is unclear and it is probable that there will be a tax adjustment representing a future outflow of funds to a tax authority or a consequent adjustment to the carrying value of a tax asset.

Provisions are measured using the best estimate of the most likely amount, being the most likely amount in a range of possible outcomes. The resolution of tax positions taken by the group can take a considerable period of time to conclude and, in some cases, it is difficult to predict the outcome. Group current income tax liabilities at 31st March 2018 of £149 million (2017: £134 million) include tax provisions of £86 million (2017: £89 million) and the estimation of the range of possible outcomes is an increase in those liabilities by £61 million (2017: £64 million) to a decrease of £50 million (2017: £51 million). The estimates made reflect where the group: faces routine tax audits or is in ongoing disputes with tax authorities; has identified potential tax exposures relating to transfer pricing; or is contesting the tax deductibility of certain business costs. The group does not consider that there is a significant risk that changes in tax provisions could result in a material adjustment to its financial position in the year ending 31st March 2019.

Accounts

Accounting policies

for the year ended 31st March 2018

Refining process

The group's and parent company's refining businesses process significant quantities of precious metal and there are uncertainties regarding the actual amount of metal in the refining system at any one time. The group's refining businesses process over four million ounces of platinum group metals per annum with a market value of around £3.4 billion. The majority of metal processed is owned by customers and the group and parent company must return pre-agreed quantities of refined metal based on assays of starting materials and other contractual arrangements, such as, the timing of the return of metal. The group and parent company calculate the profits or losses of their refining operations based on estimates, including the extent to which process losses are expected during refining. The risk of process losses or gains depends on the nature of the starting material being refined, the specific refining processes applied, the efficiency of those processes and the contractual arrangements.

Stock takes are performed to determine the volume and value of metal within the refining system compared with the calculated estimates, with the variance being a profit or a loss. Stock takes are, therefore, a key control in the assessment of the accuracy of the profit or loss of refining operations. Whilst refining is a complex, large scale industrial process, the group and parent company have appropriate processes and controls over the movement of material in their refineries and, historically, have not recorded material stock take gains or losses.

During the year ended 31st March 2018, the group and parent company did not perform a full stock take in their UK refineries due to high levels of customer demand and potential palladium shortages in the market. As a consequence, a stocktake of input materials and finished goods was performed, as in prior years, alongside additional procedures to support the estimates made as part of calculating the value of work in progress. The group and parent company do not consider that there is a significant risk of a material adjustment to its financial position in the year ending 31st March 2019 in respect of refining process gains or losses.

Sources of estimation uncertainty

Determining the carrying amounts of certain assets and liabilities at the balance sheet date requires estimation of the effects of uncertain future events. In the event that actual outcomes differ from those estimated, there may be an adjustment to the carrying amounts of those assets and liabilities within the next financial year. The group and parent company have made appropriate estimates and the only significant risks of material adjustments to their financial position during the year ending 31st March 2019 relate to the determination of the discount rate and inflation assumptions underpinning the valuation of the liabilities of the group's and parent company's defined benefit pension plans and, for the group, to the crystallisation of the contingent liability disclosed in note 32. A description of the discount rate and inflation assumptions, together with sensitivity analysis, is set out in note 17 to the group and parent company accounts. The group is unable to make a reliable estimate of any possible financial impact of the contingent liability at this stage.

Judgements made in applying accounting policies

In the course of preparing the financial statements, no judgements have been made in the process of applying the group's and parent company's accounting policies, other than those involving estimations, that have had a significant effect on the amounts recognised in the financial statements.

Adoption of revised standards and interpretations

In September 2017, the IFRS Interpretations Committee clarified that finance expenses on income tax balances should be reported within finance costs and certain penalties arising on settlements with tax authorities within administrative expenses. The group had previously reported finance expenses and penalties on income tax balances as part of income tax expense. With effect from 1st April 2017, the group has updated its treatment of these balances in accordance with this new guidance. Comparative information has not been restated on the basis that the impact of the change is not material.

In accordance with amendments to IAS 7 'Statement of Cash Flows', the group and parent company have provided reconciliations between the opening and closing balances for assets and liabilities arising from financing activities (note 29).

Accounting policies

for the year ended 31st March 2018

Standards issued but not yet applied

Standards effective from 1st April 2018

IFRS 9 'Financial Instruments' will be adopted from 1st April 2018. IFRS 9 introduces new requirements for recognition, classification and measurement, a new impairment model for financial assets based on expected credit losses and simplified hedge accounting, replacing the requirements of IAS 39 'Financial Instruments: Recognition and Measurement'.

The group and parent company have completed their reviews of the financial instruments they hold and the way in which those instruments are used. They have identified differences in accounting treatment, where applicable, and have updated their hedging documentation. The review has concluded that the new standard is not expected to have a significant impact on the group's and parent company's equity on transition. The key impact of adopting IFRS 9 is to change the group's and parent company's financial asset impairment provision processes from the current 'incurred loss' model to a forward looking 'expected loss' approach, resulting in earlier recognition of impairments. Other less significant differences in the group relate to the reclassification of certain financial assets from being valued at amortised cost to fair value through other comprehensive income.

Changes to the classification and measurement of financial assets are applied retrospectively by adjusting opening retained earnings at 1st April 2018. The group has chosen not to restate comparative information for prior periods. The provisional impact of adopting IFRS 9 on the group's equity as at 1st April 2018 is a decrease of less than £5 million.

IFRS 15 'Revenue from Contracts with Customers' will be adopted from 1st April 2018, superseding all revenue standards and interpretations in IFRS. IFRS 15 provides a principles-based approach for revenue recognition and requires that revenue is recognised as the distinct performance obligations promised within the contract are satisfied either at a point in time or over time.

Whilst some timing differences have been identified as a result of allocating revenue to distinct performance obligations or where the criteria set out in IFRS 15 for recognising revenue over time are not met, the group and parent company have completed their reviews of major existing contracts and have concluded that applying IFRS 15 will not have a significant impact on the timing and recognition of revenue once it is applied.

The group has chosen to apply IFRS 15 on a modified retrospective basis, recognising the cumulative effect of initial application as an adjustment to opening retained earnings for contracts which are not completed at the adoption date. This means that the comparative information continues to be recognised under existing revenue accounting requirements. The provisional impact of adopting IFRS 15 on the group's equity as at 1st April 2018 is an increase of less than £5 million.

Standards effective from 1st April 2019

IFRS 16 'Leases', which replaces IAS 17 'Leases', was EU endorsed in October 2017. Whilst lessor accounting is similar to IAS 17, lessee accounting is significantly different. Under IFRS 16, the group will recognise on the balance sheet a right-of-use asset and a lease liability for future lease payments in respect of all leases unless the underlying assets are of low value or the lease term is 12 months or less. In the income statement, rental expense on the impacted leases will be replaced with depreciation on the right-of-use asset and interest expense on the lease liability.

As set out in note 39, the group has operating lease commitments totalling £93 million at 31st March 2018 and, therefore, IFRS 16 will have a material impact on the group's balance sheet. The implications of the standard are currently under review and the group has not yet determined which transition option will be applied. As the impact of transition is dependent on the option chosen, the group is unable to quantify the effect at this time.

The group and parent company do not consider that any other standards or interpretations issued by the IASB, but not yet applicable, will have a significant impact on their reported results or net assets.

Accounts

Notes on the accounts

for the year ended 31st March 2018

1 Segmental information

Effective 1st April 2017, the group was reorganised into four operating sectors – Clean Air, Efficient Natural Resources, Health and New Markets. Segmental information for the year ended 31st March 2017 has been restated to reflect a change in group structure. The Group Management Committee (the chief operating decision maker as defined by IFRS 8 'Operating Segments') monitors the results of these operating sectors to assess performance and make decisions about the allocation of resources. Each operating sector is represented by a member of the Group Management Committee. These operating sectors represent the group's reportable segments. Their principal activities are described on pages 62 to 69. The performance of the operating sectors is assessed on sales excluding precious metals and underlying operating profit (see note 4). Sales between segments are made at market prices, taking into account the volumes involved.

The group received £1,810 million of revenue from one external customer (2017: £1,835 million) which is 13% (2017: 15%) of the group's revenue from external customers. The revenue is generated by the group's precious metal management activities so has a low margin due to high precious metal content and is reported in the Efficient Natural Resources sector.

Year ended 31st March 2018

	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Eliminations £ million	Total £ million
Revenue from external customers	4,248	9,237	252	385	–	14,122
Inter-segment revenue	260	2,342	–	18	(2,620)	–
Total revenue	4,508	11,579	252	403	(2,620)	14,122
External sales excluding precious metals	2,454	845	247	300	–	3,846
Inter-segment sales	–	111	–	12	(123)	–
Sales excluding precious metals	2,454	956	247	312	(123)	3,846
Segmental underlying operating profit	349	158	44	17	–	568
Unallocated corporate expenses						(43)
Underlying operating profit (note 4)						525
Loss on disposal of businesses (note 5)	–	–	–	(7)		(7)
Loss on significant legal proceedings (note 6)	(50)	–	–	–		(50)
Amortisation of acquired intangibles (note 7)	(3)	(7)	–	(9)		(19)
Major impairment and restructuring charges (note 8)	–	(13)	(56)	(21)		(90)
Operating profit / (loss)	296	138	(12)	(20)		359
Segmental net assets	1,133	1,083	481	208	–	2,905
Net debt						(679)
Post-employment benefit net assets and liabilities						133
Deferred income tax net liabilities						(46)
Provisions and non-current other payables						(56)
Investments in joint venture and associate						20
Unallocated corporate net assets						101
Net assets						2,378
Segmental capital expenditure	71	49	40	18	–	178
Other additions to non-current assets (excluding financial, deferred tax and post-employment benefit net assets)	11	–	–	–	–	11
Segmental total additions to non-current assets	82	49	40	18	–	189
Corporate capital expenditure						39
Total additions to non-current assets						228
Segment depreciation and amortisation	74	47	21	8	–	150
Amortisation of acquired intangibles (note 7)	3	7	–	9	–	19
	77	54	21	17	–	169
Corporate depreciation						6
Total depreciation and amortisation						175

Notes on the accounts

for the year ended 31st March 2018

1 Segmental information (continued)

Year ended 31st March 2017

	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Eliminations £ million	Total £ million
Revenue from external customers	3,779	7,643	241	368	–	12,031
Inter-segment revenue	175	1,724	–	18	(1,917)	–
Total revenue	3,954	9,367	241	386	(1,917)	12,031
External sales excluding precious metals	2,224	826	236	292	–	3,578
Inter-segment sales	–	93	–	16	(109)	–
Sales excluding precious metals	2,224	919	236	308	(109)	3,578
Segmental underlying operating profit	318	163	52	12	–	545
Unallocated corporate expenses						(32)
Underlying operating profit (note 4)						513
Amortisation of acquired intangibles (note 7)	(3)	(8)	–	(9)		(20)
Operating profit	315	155	52	3		493
Segmental net assets	1,090	1,132	526	209	–	2,957
Net debt						(716)
Post-employment benefit net assets and liabilities						5
Deferred income tax net liabilities						(87)
Provisions and non-current other payables						(45)
Investments in joint venture and associate						22
Unallocated corporate net assets						81
Net assets						2,217
Segmental capital expenditure	89	53	57	26	–	225
Other additions to non-current assets (excluding financial, deferred tax and post-employment benefit net assets)	3	–	–	24	–	27
Segmental total additions to non-current assets	92	53	57	50	–	252
Corporate capital expenditure						40
Total additions to non-current assets						292
Segment depreciation and amortisation	69	47	19	11	–	146
Amortisation of acquired intangibles (note 7)	3	8	–	9	–	20
Corporate depreciation	72	55	19	20	–	166
Total depreciation and amortisation						172

Accounts

Notes on the accounts

for the year ended 31st March 2018

1 Segmental information (continued)

The group's country of domicile is the UK. Revenue from external customers based on the customer's location and non-current assets based on the location of the assets are presented below:

	Revenue from external customers		Non-current assets	
	2018 £ million	2017 £ million	2018 £ million	2017 £ million
UK	4,613	3,640	849	839
Germany	1,347	1,118	276	260
Rest of Europe	1,597	1,655	236	240
USA	2,870	2,216	399	495
Rest of North America	232	319	33	38
China (including Hong Kong)	1,347	1,124	159	164
Rest of Asia	1,295	1,320	112	124
Rest of World	821	639	18	20
Sub-total	14,122	12,031	2,082	2,180
Deferred income tax assets			48	26
Available-for-sale investments			56	58
Interest rate swaps			6	17
Post-employment benefit net assets			236	117
Total			2,428	2,398

2 Revenue

	2018 £ million	2017 £ million
Sale of goods	13,950	11,853
Rendering of services	133	129
Royalties and licence income	39	49
Total revenue	14,122	12,031

3 Effect of exchange rate changes on translation of foreign subsidiaries' sales excluding precious metals and underlying operating profit

Average exchange rates used for translation of results of foreign operations are as follows:

	2018	2017
US dollar / £	1.328	1.308
Euro / £	1.134	1.191
Chinese renminbi / £	8.79	8.79

The main impact of exchange rate movements on the group's sales and operating profit comes from the translation of foreign subsidiaries' results into sterling.

	Year ended 31st March 2018 £ million	Year ended 31st March 2017 At last year's rates (restated) £ million	Year ended 31st March 2017 At this year's rates £ million	Change at this year's rates %
Sales excluding precious metals				
Clean Air	2,454	2,224	2,249	+9
Efficient Natural Resources	956	919	922	+4
Health	247	236	234	+6
New Markets	312	308	317	-2
Inter-segment sales	(123)	(109)	(111)	
Sales excluding precious metals	3,846	3,578	3,611	+7
Underlying operating profit				
Clean Air	349	318	326	+7
Efficient Natural Resources	158	163	165	-4
Health	44	52	51	-13
New Markets	17	12	12	+34
Unallocated corporate expenses	(43)	(32)	(32)	
Underlying operating profit	525	513	522	-

Notes on the accounts

for the year ended 31st March 2018

3 Effect of exchange rate changes on translation of foreign subsidiaries' sales excluding precious metals and underlying operating profit (continued)

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. In addition, in many cases, the value of precious metals is passed directly on to our customers.

Underlying profit and earnings are measures that the group believes provide a better guide to the underlying performance of the group. These measures exclude amortisation of acquired intangibles, major impairment and restructuring charges, profit or loss on disposal of businesses, gain or loss on significant legal proceedings together with associated legal costs, significant tax rates changes and, where relevant, related tax effects, and are reconciled to their equivalent GAAP measures in note 4.

4 Underlying profit reconciliations

	2018 £ million	2017 £ million
Underlying operating profit (note 1)	525	513
Loss on disposal of businesses (note 5)	(7)	–
Loss on significant legal proceedings (note 6)	(50)	–
Amortisation of acquired intangibles (note 7)	(19)	(20)
Major impairment and restructuring charges (note 8)	(90)	–
Operating profit	359	493
Underlying profit before tax	486	482
Loss on disposal of businesses (note 5)	(7)	–
Loss on significant legal proceedings (note 6)	(50)	–
Amortisation of acquired intangibles (note 7)	(19)	(20)
Major impairment and restructuring charges (note 8)	(90)	–
Profit before tax	320	462
Tax on underlying profit before tax	(86)	(82)
Tax on loss on significant legal proceedings (note 6)	16	–
Tax on amortisation of acquired intangibles (note 7)	4	5
Tax on major impairment and restructuring charges (note 8)	21	–
Tax thereon	41	5
Tax rate changes (note 12)	23	–
Income tax expense	(22)	(77)
Underlying profit for the year	400	401
Loss on disposal of businesses (note 5)	(7)	–
Loss on significant legal proceedings (note 6)	(50)	–
Amortisation of acquired intangibles (note 7)	(19)	(20)
Major impairment and restructuring charges (note 8)	(90)	–
Tax thereon	41	5
Tax rate changes (note 12)	23	–
Profit for the year attributable to equity shareholders	298	386

5 Loss on disposal of businesses

Profit or loss on disposal of businesses is shown separately on the face of the income statement and excluded from underlying operating profit. On 31st January 2018, the group sold its UK automotive battery systems business. After costs the net proceeds were £5 million which resulted in a loss on sale of £7 million.

6 Loss on significant legal proceedings

Gains or losses on significant legal proceedings, together with associated legal costs, are shown separately on the face of the income statement and excluded from underlying operating profit. The group has recognised a charge of £50 million in connection with the resolution of a contract dispute lawsuit related to a component supplied by the group in the US.

for the year ended 31st March 2018

The amortisation of intangible assets which arise on the acquisition of businesses, together with any subsequent impairment of these intangible assets, is shown separately on the face of the income statement and excluded from underlying operating profit.

Major impairment and restructuring charges are shown separately on the face of the income statement and excluded from underlying operating profit. As part of the group's operational efficiency programme announced on 31st March 2017, a restructuring and impairment charge of £90 million has been incurred in the year (2017: nil). The £90 million comprises £66 million asset write offs, £11 million provisions and £13 million cash costs incurred. Contained within this £90 million are costs for redundancies and business or plant closures as part of the optimisation of the manufacturing footprint in Health (including £36 million relating to the closure of the Riverside, US manufacturing facility and £17 million relating to the exit of certain operations in Portugal).

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

Audit fees paid to other auditors were £0.1 million (2017: £0.1 million).

Notes on the accounts

for the year ended 31st March 2018

11 Net finance costs

Net loss on remeasurement of foreign currency swaps held for trading
Net loss on remeasurement of fair value hedges and related hedged items to fair value
Interest payable on financial liabilities measured at amortised cost
Interest on post-employment benefits
Unwinding of discount on provisions and non-current payables

Total finance costs

Interest receivable on interest rate swaps
Interest receivable on available-for-sale investments, loans and receivables

Total finance income

Net finance costs

2018 £ million	2017 £ million
(3)	(5)
–	(1)
(39)	(31)
(1)	–
–	(1)
(43)	(38)
–	4
5	3
5	7
(38)	(31)

12 Taxation

Current tax

Corporation tax on profits for the year
Benefit from previously unrecognised tax losses, tax credits or temporary differences
Adjustment for prior years

Total current tax

Deferred tax

Origination and reversal of temporary differences
Tax rate adjustments
Write-downs, or reversal of previous write-downs, of deferred tax assets
Adjustment for prior years

Total deferred tax

Income tax expense

2018 £ million	2017 £ million
104	82
(1)	(1)
(11)	(12)
92	69
(35)	9
(25)	(4)
(9)	1
(1)	2
(70)	8
22	77

The tax charge for the year can be reconciled to the profit per the income statement as follows:

Profit before tax

Tax expense at UK corporation tax rate of 19% (2017: 20%)

Effects of:

Overseas tax rates
Expenses not deductible for tax purposes
Unutilised losses
Utilisation of tax losses and incentives
Adjustments for prior years
Innovation – tax incentives
Tax rate adjustments
Disposal of businesses
Irrecoverable withholding tax
Other

Tax expense for the year

2018 £ million	2017 £ million
320	462
61	92
–	13
13	5
8	3
(7)	(10)
(12)	(10)
(20)	(17)
(25)	(3)
1	–
1	5
2	(1)
22	77

Accounts

Notes on the accounts

for the year ended 31st March 2018

12 Taxation (continued)

Expenses not deductible for tax purposes in the year ended 31st March 2018 include certain non-deductible costs related to asset write-downs.

Utilisation of tax losses and incentives is mainly the benefit of tax incentives in Macedonia and the recognition of certain other previously unrecognised tax losses.

Adjustments for prior years includes some overseas tax provision releases following the successful conclusion of overseas tax audit negotiations and the expiry of relevant statute of limitations.

Tax rate adjustments include £24 million and £1 million relating to the US and UK respectively. The US federal tax rate was reduced from 35% to 21% with effect from 1st January 2018. In line with this change, the rate applying to US deferred tax assets and liabilities at 31st March 2018 has been reduced from 37% to 23% (including state taxes), creating a US tax rate adjustment which is partly reflected in the Consolidated Income Statement and partly in the Consolidated Statement of Total Comprehensive Income. The net non-underlying benefit in the Consolidated Income Statement is £23 million (note 4).

13 Earnings per ordinary share

	2018 pence	2017 pence
Basic	155.2	201.2
Diluted	155.0	200.8

Earnings per ordinary share have been calculated by dividing the profit attributable to equity shareholders by the weighted average number of shares in issue during the year.

	2018	2017
Weighted average number of shares in issue		
Basic	191,985,992	191,850,710
Dilution for long-term incentive plans	246,916	350,862
Diluted	192,232,908	192,201,572

Underlying earnings per ordinary share have been calculated by dividing the underlying profit for the year (note 4) by the weighted average number of shares in issue during the year.

	2018 pence	2017 pence
Underlying earnings per share		
Basic	208.4	209.1
Diluted	208.1	208.7

14 Dividends

	2018 £ million	2017 £ million
2015/16 final ordinary dividend paid – 52.0 pence per share	–	100
2016/17 interim ordinary dividend paid – 20.5 pence per share	–	39
2016/17 final ordinary dividend paid – 54.5 pence per share	104	–
2017/18 interim ordinary dividend paid – 21.75 pence per share	42	–
Total dividends	146	139

A final dividend of 58.25 pence per ordinary share has been proposed by the board which will be paid on 7th August 2018 to shareholders on the register at the close of business on 8th June 2018, subject to shareholders' approval. The estimated amount to be paid is £112 million and has not been recognised in these accounts.

Notes on the accounts

for the year ended 31st March 2018

15 Employee numbers and costs

The average monthly number of employees during the year was:

	2018	2017 (restated)
Clean Air	5,302	4,911
Efficient Natural Resources	3,670	3,846
Health	992	1,012
New Markets	1,538	1,751
Corporate and Central Research	817	694
Average number of employees	12,319	12,214

The number of temporary employees included above at 31st March 2018 is 367 (2017: 359).

The actual number of staff is:

	At 31st March 2018			At 31st March 2017 (restated)		
	Actual employees	Agency staff	Total headcount	Actual employees	Agency staff	Total headcount
Clean Air	5,470	554	6,024	4,948	416	5,364
Efficient Natural Resources	3,711	171	3,882	3,821	182	4,003
Health	964	113	1,077	1,031	101	1,132
New Markets	1,714	429	2,143	1,770	374	2,144
Corporate and Central Research	856	148	1,004	736	46	782
Total	12,715	1,415	14,130	12,306	1,119	13,425

Restated to reflect a change in group structure – see note 1.

Employee benefits expense

	2018 £ million	2017 £ million
Wages and salaries	548	526
Social security costs	59	56
Pension and other post-employment costs	69	46
Termination benefits	5	5
Share-based payments	17	17
Total employee benefits expense	698	650

Accounts

Notes on the accounts

for the year ended 31st March 2018

16 Share-based payments

After considering expected lapses due to leavers and the probability that performance conditions will not be met, the total expense recognised during the year in respect of equity-settled share-based payments, was £17 million (2017: £17 million).

Further details of the directors' remuneration under share-based payment plans are given in the Remuneration Report.

Performance Share Plan (PSP)

From 2017, shares are awarded to certain of the group's executive directors and senior managers under the PSP based on a percentage of salary and are subject to performance targets over a three-year period.

At 31st March 2018, 357,562 shares awarded in 2017 were outstanding. The minimum release of 15% of the award is subject to achieving underlying earnings per share (uEPS) growth of 4% compound per annum over the three-year period to 31st March 2020 and the full release is subject to uEPS growing by at least 10% compound per annum. The number of awarded shares released will vary on a straight-line basis between these points. Awards will lapse if the uEPS growth is less than the minimum.

Awards to the executive directors are also subject to a deferred release whereby a third is released on the third anniversary of the award date and the remaining vested shares are released in equal instalments on the fourth and fifth anniversaries of the award date. The Remuneration Committee is entitled to claw back the awards to the executive directors in cases of misstatement or misconduct.

Activity relating to the PSP during the year was:

	2018 Number of allocated shares	2017 Number of allocated shares
Outstanding at the start of the year	–	–
Awarded during the year	370,505	–
Forfeited during the year	(12,943)	–
Outstanding at the end of the year	357,562	–

The fair value of the shares awarded during the year under the PSP was 2,548.9 pence per share. The fair value was based on the share price at the date of award of 2,764.0 pence adjusted for the present value of the expected dividends that will not be received at an expected dividend rate of 2.71%.

Restricted Share Plan (RSP)

From 2017, shares are awarded to certain of the group's senior managers below the board under the RSP based on a percentage of salary. Awards under the RSP are not subject to performance targets. The shares are subject only to the condition that the employee remains employed by the group on the vesting date (three years after the award date).

Activity relating to the RSP during the year was:

	2018 Number of allocated shares	2017 Number of allocated shares
Outstanding at the start of the year	–	–
Awarded during the year	85,203	–
Forfeited during the year	(4,858)	–
Released during the year	(298)	–
Outstanding at the end of the year	80,047	–

The fair value of the shares awarded during the year under the RSP was 2,548.9 pence per share. The fair value was based on the share price at the date of award of 2,764.0 pence adjusted for the present value of the expected dividends that will not be received at an expected dividend rate of 2.71%.

Notes on the accounts

for the year ended 31st March 2018

16 Share-based payments (continued)

Long term incentive plan (LTIP)

Prior to 2017, shares were awarded to approximately 1,300 of the group's executive directors, senior managers and middle managers under the LTIP based on a percentage of salary and were subject to performance targets over a three-year period.

At 31st March 2018, 1,350,170 shares awarded in 2015 and 2016 (at 31st March 2017: 2,175,761 shares awarded in 2014, 2015 and 2016) were outstanding, together with 20,013 shares awarded in 2014 subject to deferred release as explained below.

For the 2016 awards, the minimum release of 15% of the award is subject to achieving underlying earnings per share (uEPS) growth of 4% compound per annum over the three-year period to 31st March 2019 and the full release is subject to uEPS growing by at least 10% compound per annum. The number of awarded shares released will vary on a straight-line basis between these points. Awards will lapse if the uEPS growth is less than the minimum.

For the 2015 awards, the minimum release of 15% of the award was subject to achieving uEPS growth of 6% compound per annum over the three-year period to 31st March 2018 and the full release was subject to uEPS growing by at least 12% compound per annum. An underpin applies to the 2015 award for certain senior employees below the board who are key to supporting and implementing the group's strategy. Actual uEPS growth was 5.1% and therefore was below the performance range. However, 65,876 shares will vest in August 2018 as a result of the underpin awarded to certain employees. All other awards will lapse in full.

From 2014 onwards, awards to the executive directors are also subject to a deferred release whereby a third is released on the third anniversary of the award date and the remaining vested shares are released in equal instalments on the fourth and fifth anniversaries of the award date. The Remuneration Committee is entitled to claw back the awards to the executive directors in cases of misstatement or misconduct.

Activity relating to the LTIP during the year was:

	2018 Number of awarded shares	2017 Number of awarded shares
Outstanding at the start of the year	2,175,761	2,138,725
Awarded during the year	–	881,548
Forfeited during the year	(194,782)	(144,373)
Released during the year	(156,849)	(226,858)
Expired during the year	(453,947)	(473,281)
Outstanding at the end of the year	1,370,183	2,175,761

The fair value of the shares awarded during the prior year under the LTIP was 3,066.3 pence per share. The fair value was based on the share price at the date of award of 3,273.0 pence adjusted for the present value of the expected dividends that will not be received at an expected dividend rate of 2.18%.

Deferred bonus

A proportion of the bonus payable to executive directors and members of the Group Management Committee is awarded as shares and deferred for three years. The Remuneration Committee is entitled to claw back the deferred element in cases of misstatement or misconduct or other relevant reason as determined by it.

Activity relating to the deferred bonus during the year was:

	2018 Number of awarded shares	2017 Number of awarded shares
Outstanding at the start of the year	83,956	69,237
Awarded during the year	24,831	16,008
Released during the year	(27,006)	(1,289)
Outstanding at the end of the year	81,781	83,956

The fair value of the shares awarded during the year under the deferred bonus was 2,481.0 pence per share award (2017: 3,000.4 pence per share award). The fair value was based on the share price at the date of award of 2,764.0 pence (2017: 3,273.0 pence) adjusted for the present value of the expected dividends that will not be received at an expected dividend rate of 2.71% (2017: 2.18%).

Accounts

Notes on the accounts

for the year ended 31st March 2018

16 Share-based payments (continued)**All employee share incentive plan (SIP) – UK and Overseas**

Under the SIP, all employees with at least one year of service with the group and who are employed by a participating group company are entitled to contribute up to 2.5% of base pay each month, subject to a £125 per month limit. The SIP trustees buy shares (partnership shares) at market value each month with the employees' contributions. For each partnership share purchased, the group purchases two shares (matching shares) which are awarded to the employee.

In the UK SIP, if the employee sells or transfers partnership shares within three years of the date of award, the linked matching shares are forfeited.

In the overseas SIP, partnership shares and matching shares are subject to a three-year holding period and cannot be sold or transferred during that time.

During the year, 201,476 (2017: 196,276) matching shares under the SIP were awarded to employees. These are nil cost awards on which performance conditions are substantially completed at the date of grant and, consequently, the fair value of these awards is based on the market value of the shares at that date.

401k approved savings investment plans (401k plans)

In the US, there are two 401k plans, one for salaried employees and one for hourly employees. Salaried employees may contribute up to 50% of their base pay and hourly employees up to 20% of their base pay, both subject to a statutory limit. Salaried employees choosing Johnson Matthey Plc share matching are matched 100% of the first 4% contributed and hourly employees are matched 50% of the first 6% contributed. Employees may contribute after one month of service and are eligible for matching after one year of service.

During the year, 6,560 (2017: 14,870) shares under the 401k plans were awarded to employees. These are nil cost awards on which performance conditions are substantially completed at the date of grant and, consequently, the fair value of these awards is based on the market value of the shares at that date.

17 Post-employment benefits**17a Group****Background****Pension plans**

The group operates a number of post-employment retirement and medical benefit plans around the world, the forms of which vary with conditions and practices in the countries concerned. The retirement plans in the UK, US and other countries include both defined contribution and defined benefit plans.

For defined contribution plans, retirement benefits are determined by the value of funds arising from contributions paid in respect of each employee and the investment returns on those contributions prior to retirement. The group also makes payments to employees' personal pension plans.

For defined benefit plans, which include final salary, career average and other types of plans with committed pension payments, the retirement benefits are based on factors such as the employee's pensionable salary and length of service. The majority of the group's final salary and career average defined benefit retirement plans are closed to new entrants but remain open to ongoing accrual for current members.

Regulatory framework and governance

The UK pension plan, the Johnson Matthey Employees Pension Scheme (JMEPS), is a registered arrangement established under trust law and, as such, is subject to UK pension, tax and trust legislation. It is managed by a corporate trustee, JMEPS Trustees Limited. The trustee board includes representatives appointed by both the parent company and employees, and includes an independent chairman.

Although the parent company bears the financial cost of the plan, the trustee directors are responsible for the overall management and governance of JMEPS, including compliance with all applicable legislation and regulations. The trustee directors are required by law to act in the interests of all relevant beneficiaries and: to set certain policies; to manage the day to day administration of the benefits; and to set the plan's investment strategy following consultation with the parent company.

UK pensions are regulated by the Pensions Regulator whose statutory objectives and regulatory powers are described on its website: www.thepensionsregulator.gov.uk.

The US pension plans are qualified pension arrangements and are subject to the requirements of the Employee Retirement Income Security Act, the Pension Protection Act 2006 and the Department of Labor and Internal Revenue. The plans are managed by a pension committee which acts as the fiduciary and, as such, is ultimately responsible for: the management of the plans' investments; compliance with all applicable legislation and regulations; and overseeing the general management of the plans.

Other trustee or fiduciary arrangements that have similar responsibilities and obligations are in place for the group's other funded defined benefit pension plans outside of the UK and US.

Notes on the accounts

for the year ended 31st March 2018

17 Post-employment benefits (continued)

17a Group (continued)

Background (continued)

Benefits

The UK pension plan is segregated into two sections – a legacy section which provides final salary and career average pension benefits and a cash balance section. The final salary element of the legacy section was closed to future accrual of benefits from 1st April 2010 and the career average element of the legacy section was closed to new entrants on 1st October 2012 but remains open to future accrual for existing members. All new entrants join the cash balance section of the plan.

The legacy section provides benefits to members in the form of a set level of pension payable for life based on the member's length of service and final pensionable salary at retirement or averaged over their career with the company. The benefits attract inflation-related increases both before and after retirement.

The cash balance section provides benefits to members at the point of retirement in the form of a cash lump sum. The benefits attract inflation-related increases before retirement but, following the payment of the retirement lump sum benefit, the plan has no obligation to pay any further benefits to the member.

The group operates two defined benefit pension plans in the US. The hourly pension plan is for unionised employees and provides a fixed retirement benefit for life based upon years of service. The salaried pension plan provides retirement benefits for life based on the member's length of service and final pensionable salary (averaged over the last five years). The salaried plan benefits attract inflation-related increases before leaving, but are non-increasing thereafter. On retirement, members in either plan have the option to take the cash value of their benefit instead of a lifetime annuity in which case the plan has no obligation to pay any further benefits to the member.

The US salaried pension plan was closed to new entrants on 1st September 2013 but remains open to future accrual for existing members. All new non-unionised US employees now join a defined contribution plan.

Other post-employment benefits

The group's principal post-employment medical plans are in the UK and US, and are unfunded arrangements that have been closed to new entrants for over ten years.

Maturity profile

The estimated weighted average durations of the defined benefit obligations of the main plans as at 31st March 2018 are:

	Weighted average duration years
Pensions:	
UK	19
US	12
Post-retirement medical benefits:	
UK	12
US	14

Funding

Introduction

The group's principal defined benefit retirement plans are funded through separate fiduciary or trustee administered funds that are independent of the sponsoring company. The contributions paid to these arrangements are jointly agreed by the sponsoring company and the relevant trustee or fiduciary body after each funding valuation and in consultation with independent qualified actuaries. The plans' assets, together with the agreed funding contributions, should be sufficient to meet the plans' future pension obligations.

Accounts

Notes on the accounts

for the year ended 31st March 2018

17 Post-employment benefits (continued)

17a Group (continued)

Funding (continued)

UK valuations

UK legislation requires that pension plans are funded prudently and that, when undertaking a funding valuation (every three years), assets are taken at their market value and liabilities are determined based on a set of prudent assumptions set by the trustee following consultation with their appointed actuary. The assumptions used for funding valuations may, therefore, differ to the actuarial assumptions used for IAS 19 accounting purposes.

The last funding valuation of JMEPS was carried out as at 1st April 2015. This valuation showed that there was a deficit of £69 million in the legacy section of the plan, or £28 million after taking account of the future additional deficit funding contributions from the special purpose vehicle (SPV) set up in January 2013 called Johnson Matthey (Scotland) Limited Partnership. To address the deficit, the parent company agreed to continue to make deficit contributions of £23 million per year up to 31st December 2019. The valuation also revealed a surplus of £2 million in the defined benefit cash balance section.

The SPV was set up to provide additional deficit reduction contributions and to provide greater security to the trustee. The group invested £50 million in a bond portfolio which is beneficially held by the SPV. The income generated by the SPV is used to make annual distributions of £3.5 million to JMEPS for a period of up to 25 years. These annual distributions are only payable if the legacy section of JMEPS continues to be in deficit. This bond portfolio is held as a non-current available-for-sale investment (note 23) and the group's liability to pay the income to the plan is not a plan asset under IAS 19, although it is for actuarial funding valuation purposes. The SPV is exempt from the requirement to prepare audited annual accounts as it is included on a consolidated basis in these accounts.

In accordance with the governing documentation of JMEPS, any future plan surplus would be returned to the parent company by way of a refund assuming gradual settlement of the liabilities over the lifetime of the plan. As such, there are no adjustments required in respect of IFRIC 14 – 'IAS 19 – The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction'.

US valuations

The last annual review of the US defined benefit pension plans was carried out by a qualified actuary as at 1st July 2017 and showed a deficit of \$16 million on the projected funding basis. The assumptions used for funding valuations may differ to the actuarial assumptions used for IAS 19 accounting purposes.

Other valuations

Similar funding valuations are undertaken on the group's other defined benefit pension plans outside of the UK and US in accordance with prevailing local legislation.

Risk management

The group is exposed to a number of risks relating to its post-retirement pension plans, the most significant of which are:

Risk	Mitigation
Market (investment) risk Asset returns may not move in line with the liabilities and may be subject to volatility.	<p>The group's various plans have highly diversified investment portfolios, investing in a wide range of assets that provide reasonable assurance that no single security or type of security could have a material adverse impact on the plan.</p> <p>A de-risking strategy is in place to reduce volatility in the plans as a result of the mismatch between the assets and liabilities. As the funding level of the plans improve and hit pre-agreed triggers, plan investments are switched from return-seeking assets to liability-matching assets.</p> <p>The plans implement partial currency hedging on their overseas assets to mitigate currency risk.</p>
Interest (discount) rate risk Liabilities are sensitive to movements in bond yields (interest rates), with lower interest rates leading to an increase in the valuation of liabilities, albeit the impact on the plan's funding level will be partially offset by an increase in the value of its bond holdings.	<p>The group's defined benefit plans hold a high proportion of their assets in government or corporate bonds, which provide a natural hedge against falling interest rates.</p> <p>In the UK, this interest rate hedge is extended by the use of interest rate swaps, such that approximately 70% of the plan's interest rate risk is currently hedged. The swaps are held with several banks to reduce counterparty risk.</p>
Inflation risk Liabilities are sensitive to movements in inflation, with higher inflation leading to an increase in the valuation of liabilities.	<p>Where plan benefits provide inflation-related increases, the plan holds some inflation-linked assets which provide a natural hedge against higher than expected inflation increases.</p> <p>In the UK, this inflation hedge is extended by the use of inflation swaps, such that approximately 70% of the plan's inflation risk is currently hedged. The swaps are held with several banks to reduce counterparty risk.</p> <p>During the year ended 31st March 2018, 34% of eligible pensioners in the UK plan accepted the offer of a pension increase exchange, which reduced the amount of future inflationary pension payable in exchange for higher non-increasing pension.</p>

Notes on the accounts

for the year ended 31st March 2018

17 Post-employment benefits (continued)

17a Group (continued)

Funding (continued)

Risk management (continued)

Risk	Mitigation
Longevity risk	
The majority of the group's defined benefit plans provide benefits for the life of the member, so the liabilities are sensitive to life expectancy, with increases in life expectancy leading to an increase in the valuation of liabilities.	<p>The group has closed most of its defined benefit pension plans to new entrants, replacing them with either a cash balance plan or defined contribution plans, both of which are unaffected by life expectancy.</p> <p>For the plans where a benefit for life continues to be payable, prudent mortality assumptions are used that appropriately allow for a future improvement in life expectancy. These assumptions are reviewed on a regular basis.</p>

Contributions

During the year, total contributions to the group's post-employment defined benefit plans were £69 million (2017: £70 million), including deficit contributions of £23 million (2017: £23 million) in respect of JMEPS.

It is estimated that the group will contribute about £65 million to the post-employment defined benefit plans during the year ending 31st March 2019.

IAS 19 accounting

Principal actuarial assumptions

Qualified independent actuaries have updated the IAS 19 valuations of the group's major defined benefit plans to 31st March 2018. The assumptions used are chosen from a range of possible actuarial assumptions which, due to the long term nature of the plans, may not necessarily be borne out in practice.

Financial assumptions

	2018 UK plans %	2018 US plans %	2018 Other plans %	2017 UK plans %	2017 US plans %	2017 Other plans %
First year's rate of increase in salaries	3.75	3.00	2.50	3.10	3.00	2.59
Ultimate rate of increase in salaries	3.75	3.00	2.50	3.85	3.00	2.59
Rate of increase in pensions in payment	2.85	–	1.50	3.05	–	1.50
Discount rate	2.70	4.00	2.33	2.60	4.10	2.15
Inflation		2.20	1.60		2.20	1.61
– UK Retail Prices Index (RPI)	3.00			3.10		
– UK Consumer Prices Index (CPI)	2.00			2.10		
Current medical benefits cost trend rate	5.40	2.95	–	5.40	2.95	–
Ultimate medical benefits cost trend rate	5.40	2.95	–	5.40	2.95	–

Demographic assumptions

The mortality assumptions are based on country-specific mortality tables and, where appropriate, include an allowance for future improvements in life expectancy. In addition, where credible data exists, actual plan experience is taken into account. The group's most substantial pension liabilities are in the UK and the US where, using the mortality tables adopted, the expected lifetime of average members currently at age 65 and average members at age 65 in 25 years' time (i.e. members who are currently aged 40 years) is respectively:

	Currently aged 65 UK plan	US plans	Aged 65 in 25 years UK plan	US plans
Male	87	86	89	88
Female	89	88	91	90

Accounts

Notes on the accounts

for the year ended 31st March 2018

17 Post-employment benefits (continued)

17a Group (continued)

Financial information

Plan assets

Movements in the fair value of plan assets during the year were:

	UK pension £ million	UK post-retirement medical benefits £ million	US pensions £ million	US post-retirement medical benefits £ million	Other £ million	Total £ million
At 1st April 2016	1,581	–	255	–	39	1,875
Interest income	59	–	11	–	1	71
Return on plan assets excluding interest	303	–	(2)	–	2	303
Employee contributions	4	–	1	–	–	5
Company contributions	56	–	9	2	3	70
Benefits paid	(55)	–	(21)	(2)	(2)	(80)
Exchange adjustments	–	–	39	–	4	43
At 31st March 2017	1,948	–	292	–	47	2,287
Administrative expenses	–	–	(1)	–	–	(1)
Interest income	51	–	11	–	1	63
Return on plan assets excluding interest	(11)	–	8	–	(2)	(5)
Employee contributions	3	–	1	1	–	5
Company contributions	56	–	10	1	2	69
Benefits paid	(68)	–	(15)	(2)	(2)	(87)
Exchange adjustments	–	–	(34)	–	1	(33)
At 31st March 2018	1,979	–	272	–	47	2,298

The fair values of plan assets are analysed as follows:

	2018 UK pension £ million	2018 US pensions £ million	2018 Other £ million	2017 UK pension £ million	2017 US pensions £ million	2017 Other £ million
Quoted corporate bonds	1,093	137	5	1,069	143	1
Inflation and interest rate swaps	63	–	–	73	–	–
Quoted government bonds	22	87	–	26	97	–
Cash and cash equivalents	60	–	–	52	1	–
Quoted equity	630	48	2	654	51	2
Unquoted equity	47	–	–	17	–	–
Property	64	–	–	57	–	–
Insurance policies	–	–	40	–	–	44
	1,979	272	47	1,948	292	47

The UK plan's unquoted equities are assets within a pooled infrastructure fund where the underlying assets are a broad range of private infrastructure investments, diversified by geographic region, infrastructure sector, underlying asset type and development stage. These infrastructure assets are valued using widely recognised valuation techniques which use market data and discounted cash flows. The same valuation approach is used to determine the value of the swaps and insurance policies. The UK plan's property is a unitised fund where the underlying assets are taken at market value. The valuation of the fund is periodically independently audited.

The defined benefit pension plans do not invest directly in Johnson Matthey Plc shares and no property or other assets owned by the pension plans are used by the group.

The assets for the cash balance section of the UK plan are held separately from the assets of the legacy section. At 31st March 2018, the defined benefit obligation related to the contributory cash balance section was £43 million (2017: £33 million) and the fair value of the plan assets was £44 million (2017: £32 million).

Notes on the accounts

for the year ended 31st March 2018

17 Post-employment benefits (continued)

17a Group (continued)

Financial information (continued)

Defined benefit obligation

Movements in the defined benefit obligation during the year were:

	UK pension £ million	UK post- retirement medical benefits £ million	US pensions £ million	US post- retirement medical benefits £ million	Other £ million	Total £ million
At 1st April 2016	(1,480)	(11)	(276)	(48)	(70)	(1,885)
Current service cost – in operating profit	(28)	–	(10)	(1)	(2)	(41)
Current service cost – capitalised	(1)	–	–	–	–	(1)
Past service (cost) / credit	(3)	–	–	17	–	14
Interest cost	(55)	–	(12)	(2)	(2)	(71)
Employee contributions	(4)	–	(1)	–	–	(5)
Remeasurements due to changes in:						
Financial assumptions	(402)	(1)	2	(3)	(5)	(409)
Demographic assumptions	77	2	6	–	2	87
Benefits paid	55	–	21	2	2	80
Exchange adjustments	–	–	(42)	(7)	(7)	(56)
At 31st March 2017	(1,841)	(10)	(312)	(42)	(82)	(2,287)
Current service cost – in operating profit	(41)	–	(8)	(1)	(3)	(53)
Past service credit	4	–	–	–	1	5
Interest cost	(48)	–	(12)	(2)	(2)	(64)
Employee contributions	(3)	–	(1)	(1)	–	(5)
Remeasurements due to changes in:						
Financial assumptions	93	–	(7)	4	3	93
Demographic assumptions	15	1	(2)	1	–	15
Benefits paid	68	–	15	2	2	87
Exchange adjustments	–	–	35	5	(1)	39
At 31st March 2018	(1,753)	(9)	(292)	(34)	(82)	(2,170)

The past service credit in the UK pension plan during the year ended 31st March 2018 is a result of the pension increase exchange exercise, partially offset by a past service cost in respect of pension enhancements for eligible employees who have been made redundant. In the year ended 31st March 2017, a past service credit arose in the US post-retirement medical benefits plan due to plan amendments capping the group's contribution towards medical coverage by limiting the increase in medical inflation to a cost of living increase and giving retirees a choice between the current Platinum plan and a Gold plan.

The remeasurement gain due to changes in financial assumptions in the UK pension plan during the year ended 31st March 2018 mainly reflects a 20 basis-point increase in the real (after inflation) discount rate caused by rising corporate bond yields and falling market-implied inflation.

Reimbursement rights

A government subsidy is receivable under the US Medicare legislation as the US post-retirement medical benefits plan is actuarially equivalent to the Medicare Prescription Drug Act and there is an insurance policy taken out to reinsure the pension commitments of one of the small pension plans which does not meet the definition of a qualifying insurance policy. These are accounted for as reimbursement rights and are shown on the balance sheet in post-employment benefit net assets.

Movements in the reimbursement rights during the year were:

	UK pension £ million	UK post- retirement medical benefits £ million	US pensions £ million	US post- retirement medical benefits £ million	Other £ million	Total £ million
At 1st April 2016	–	–	–	6	1	7
Return on assets excluding interest	–	–	–	1	–	1
Exchange adjustments	–	–	–	1	–	1
At 31st March 2017 and 31st March 2018	–	–	–	8	1	9

Accounts

Notes on the accounts

for the year ended 31st March 2018

17 Post-employment benefits (continued)

17a Group (continued)

Financial information (continued)

Net post-employment benefit assets and liabilities

The net post-employment benefit assets and liabilities are:

	UK pension £ million	UK post- retirement medical benefits £ million	US pensions £ million	US post- retirement medical benefits £ million	Other £ million	Total £ million
At 31st March 2018						
Defined benefit obligation	(1,753)	(9)	(292)	(34)	(82)	(2,170)
Fair value of plan assets	1,979	–	272	–	47	2,298
Reimbursement rights	–	–	–	8	1	9
Net post-employment benefit assets and liabilities	226	(9)	(20)	(26)	(34)	137
At 31st March 2017						
Defined benefit obligation	(1,841)	(10)	(312)	(42)	(82)	(2,287)
Fair value of plan assets	1,948	–	292	–	47	2,287
Reimbursement rights	–	–	–	8	1	9
Net post-employment benefit assets and liabilities	107	(10)	(20)	(34)	(34)	9

These are included in the balance sheet as follows:

	2018 Post- employment benefit net assets £ million	2018 Employee benefit net obligations £ million	2018 Total £ million	2017 Post- employment benefit net assets £ million	2017 Employee benefit net obligations £ million	2017 Total £ million
UK pension plan	226	–	226	107	–	107
UK post-retirement medical benefits plan	–	(9)	(9)	–	(10)	(10)
US pension plans	–	(20)	(20)	–	(20)	(20)
US post-retirement medical benefits plan	8	(34)	(26)	8	(42)	(34)
Other plans	2	(36)	(34)	2	(36)	(34)
Total post-employment plans	236	(99)	137	117	(108)	9
Other long-term employee benefits		(4)			(4)	
Total long term employee benefit obligations		(103)			(112)	

Income statement

Amounts recognised in the income statement for long term employment benefits were:

	2018 £ million	2017 £ million
Administrative expenses	(1)	–
Current service cost	(53)	(41)
Past service credit	5	14
Defined benefit post-employment costs charged to operating profit	(49)	(27)
Defined contribution plans' expense	(19)	(18)
Other long term employee benefits	(1)	(1)
Charge to operating profit	(69)	(46)
Interest on post-employment benefits charged to finance costs	(1)	–
Charge to profit before tax	(70)	(46)

Sensitivity analysis

The calculations of the defined benefit obligations are sensitive to the assumptions used. The following summarises the estimated impact on the group's main plans of a change in the assumption while holding all other assumptions constant. This sensitivity analysis may not be representative of the actual change as it is unlikely that the change in assumptions would occur in isolation of one another.

Notes on the accounts

for the year ended 31st March 2018

17 Post-employment benefits (continued)

17a Group (continued)

Sensitivity analysis (continued)

Financial assumptions

A 0.1% change in the discount rate and inflation assumptions would (increase) / decrease the UK and US pension plans' defined benefit obligations at 31st March 2018 as follows:

	0.1% increase		0.1% decrease	
	UK plan £ million	US plans £ million	UK plan £ million	US plans £ million
Effect of discount rate	34	2	(35)	(5)
Effect of inflation	(32)	–	21	–

Demographic assumptions

A one-year increase in life expectancy would increase the UK and US pension plans' defined benefit obligation by £58 million and £6 million, respectively.

17b Parent company

The parent company is the sponsoring employer of the group's UK defined benefit pension plan and the UK post-retirement medical benefits plan. There is no contractual agreement or stated policy for charging the net defined benefit cost for the plans to the individual group entities. The parent company recognises the net defined benefit cost for these plans and information is disclosed in note 17a.

18 Property, plant and equipment

18a Group

	Freehold land and buildings £ million	Long and short leasehold £ million	Plant and machinery £ million	Assets in the course of construction £ million	Total £ million
Cost					
At 1st April 2016	524	23	1,660	154	2,361
Additions	4	–	38	156	198
Acquisitions	–	–	1	–	1
Reclassifications	15	2	70	(87)	–
Disposals	(1)	–	(23)	–	(24)
Exchange adjustments	46	2	136	14	198
At 31st March 2017	588	27	1,882	237	2,734
Additions	7	–	40	114	161
Reclassifications	21	–	114	(135)	–
Disposals	(12)	–	(25)	(1)	(38)
Disposal of businesses (note 5)	–	–	(3)	–	(3)
Exchange adjustments	(26)	(2)	(89)	(6)	(123)
At 31st March 2018	578	25	1,919	209	2,731
Accumulated depreciation and impairment					
At 1st April 2016	207	12	1,051	5	1,275
Charge for the year	19	2	118	–	139
Reversal of impairment losses	–	–	(2)	–	(2)
Disposals	(1)	–	(21)	–	(22)
Exchange adjustments	19	1	88	1	109
At 31st March 2017	244	15	1,234	6	1,499
Charge for the year	20	1	122	–	143
Impairment losses	7	–	30	3	40
Disposals	(8)	–	(24)	–	(32)
Disposal of businesses (note 5)	–	–	(1)	–	(1)
Exchange adjustments	(13)	(1)	(59)	–	(73)
At 31st March 2018	250	15	1,302	9	1,576
Carrying amount at 31st March 2018	328	10	617	200	1,155
Carrying amount at 31st March 2017	344	12	648	231	1,235
Carrying amount at 1st April 2016	317	11	609	149	1,086

Accounts

Notes on the accounts

for the year ended 31st March 2018

18 Property, plant and equipment (continued)

18a Group (continued)

Finance costs capitalised were £4 million (2017: £5 million) and the capitalisation rate used to determine the amount of finance costs eligible for capitalisation was 3.3% (2017: 3.5%).

The impairment losses for the year ended 31st March 2018 of £40 million were included in major impairment and restructuring charges (note 8). The impairment includes £30 million as a result of the closure of the Riverside, US manufacturing facility in the Health Sector. The recoverable amount of the plant is estimated to be nil based on fair value less costs to sell using level 2 inputs (see note 30) reflecting its specialised nature. The reversal of impairment losses in the prior year represented adjustments to major impairment and restructuring charges.

18b Parent company

	Freehold land and buildings £ million	Long and short leasehold £ million	Plant and machinery £ million	Assets in the course of construction £ million	Total £ million
Cost					
At 1st April 2016	124	2	514	17	657
Additions	2	–	14	20	36
Reclassifications	–	–	7	(7)	–
Disposals	–	–	(7)	–	(7)
At 31st March 2017	126	2	528	30	686
Additions	1	–	13	26	40
Reclassifications	6	–	17	(23)	–
Disposals	(3)	–	(2)	(2)	(7)
At 31st March 2018	130	2	556	31	719
Accumulated depreciation and impairment					
At 1st April 2016	50	1	322	–	373
Charge for the year	4	–	33	–	37
Disposals	–	–	(6)	–	(6)
At 31st March 2017	54	1	349	–	404
Charge for the year	4	–	33	–	37
Impairment losses	–	–	1	–	1
Disposals	–	–	(1)	–	(1)
At 31st March 2018	58	1	382	–	441
Carrying amount at 31st March 2018	72	1	174	31	278
Carrying amount at 31st March 2017	72	1	179	30	282
Carrying amount at 1st April 2016	74	1	192	17	284

Finance costs capitalised were £2 million (2017: £2 million) and the capitalisation rate used to determine the amount of finance costs eligible for capitalisation was 3.3% (2017: 3.5%).

Notes on the accounts

for the year ended 31st March 2018

19 Goodwill

Cost

At 1st April 2016
Acquisitions (note 37)
Exchange adjustments

At 31st March 2017
Disposal of businesses (note 5)
Exchange adjustments

At 31st March 2018

Impairment

At 1st April 2016 and 31st March 2017
Impairment losses

At 31st March 2018

Carrying amount at 31st March 2018

Carrying amount at 31st March 2017

Carrying amount at 1st April 2016

	Group £ million	Parent company £ million
At 1st April 2016	570	123
Acquisitions (note 37)	7	–
Exchange adjustments	30	–
At 31st March 2017	607	123
Disposal of businesses (note 5)	(9)	–
Exchange adjustments	(13)	–
At 31st March 2018	585	123
At 1st April 2016 and 31st March 2017	–	–
Impairment losses	11	–
At 31st March 2018	11	–
Carrying amount at 31st March 2018	574	123
Carrying amount at 31st March 2017	607	123
Carrying amount at 1st April 2016	570	123

The impairment losses for the year ended 31st March 2018 of £11 million were included in major impairment and restructuring charges (note 8).

Goodwill arising on the acquisition of businesses is allocated, at acquisition, to the cash-generating units (CGUs) that are expected to benefit from that business combination. Goodwill is allocated as follows:

	2018 £ million	Group 2017 (restated) £ million	2018 £ million	Parent company 2017 (restated) £ million
Clean Air				
– Non-light Duty Catalysts	85	85	–	–
Efficient Natural Resources				
– Process Technologies	314	325	113	113
– Other	3	3	–	–
Health				
– Macfarlan Smith	117	117	–	–
– Pharmaceutical Materials and Services	26	29	2	2
New Markets				
– Water Technologies	–	11	–	–
– Other	29	37	8	8
	574	607	123	123

Restated to reflect a change in group structure (see note 1).

New Markets – Other comprises CGUs with goodwill balances individually less than £10 million. The group's UK automotive battery systems business was sold in January 2018 (note 5). The net assets disposed of included goodwill of £9 million.

The group and parent company test goodwill annually for impairment or more frequently if there are indications that goodwill might be impaired. The recoverable amounts of the CGUs are determined using value in use calculations which use cash flow projections based on financial budgets and plans covering a three-year period approved by management. The budgets and plans are based on a number of key assumptions. Assumptions on the likelihood and timing of new product launches are based on management's best estimate of what may happen. Foreign exchange rates are based on actual forward rates at the time the budgets were prepared and are held constant over the budget and plan years. Other assumptions, such as market share, expected changes to selling prices, product profitability, precious metal prices and other direct input costs, are based on past experience and management's expectations of future changes in the markets using external sources of information where appropriate. These cash flows are then extrapolated using the long term average growth rates for the relevant products, industries and countries in which the CGUs operate. The cash flows are discounted at the group's estimated pre-tax weighted average cost of capital adjusted for the estimated tax cash flows and risk applicable to each CGU.

Accounts

Notes on the accounts

for the year ended 31st March 2018

19 Goodwill (continued)

The key assumptions are:

	Discount rate 2018	Discount rate 2017	Long term growth rate 2018	Long term growth rate 2017
Clean Air – Non-light Duty Catalysts	9.9%	9.5%	0.0%	1.6%
Efficient Natural Resources – Process Technologies	10.5%	9.9%	2.4%	2.9%
Health				
- Macfarlan Smith	8.1%	7.4%	2.8%	3.2%
- Pharmaceutical Materials and Services	8.8%	9.2%	2.8%	3.2%
New Markets – Water Technologies	13.5%	11.5%	3.0%	5.0%

The growth rate for the Clean Air – Non-light Duty Catalysts CGU for years four to ten is expected to be 1.5% (2017: 3.0%). After that, growth is expected to slow and, therefore, the long term growth rate above is used for year 11 onwards.

With the exception of the Water Technologies CGU, the impairment tests result in headroom of at least 35% over the carrying value of the relevant CGU's net assets. The Water Technologies CGU represents a portfolio of water purification products and services, including the MIOX and Finex businesses acquired during 2016. Goodwill totalling £11 million has been fully impaired reflecting lower growth rate assumptions for these businesses. The total intangibles impairment in respect of the Water Technologies CGU is £15 million, which has been allocated against goodwill (£11 million) and other intangible assets (£4 million). Following the impairments, the residual carrying value of the Water Technologies CGU is £15 million.

20 Other intangible assets

20a Group

	Customer contracts and relationships £ million	Computer software £ million	Patents, trademarks and licences £ million	Acquired research and technology £ million	Development expenditure £ million	Total £ million
Cost						
At 1st April 2016	150	116	41	61	141	509
Additions	–	35	13	–	19	67
Acquisitions (note 37)	1	–	13	1	–	15
Disposals	–	(1)	–	–	–	(1)
Exchange adjustments	13	4	4	2	16	39
At 31st March 2017	164	154	71	64	176	629
Additions	–	38	–	–	18	56
Disposals	–	(1)	–	–	–	(1)
Disposal of businesses	(5)	–	–	(11)	–	(16)
Exchange adjustments	(7)	(3)	(2)	–	(14)	(26)
At 31st March 2018	152	188	69	53	180	642
Accumulated amortisation and impairment						
At 1st April 2016	89	45	24	26	100	284
Charge for the year	9	5	4	7	8	33
Disposals	–	(1)	–	–	–	(1)
Exchange adjustments	8	3	2	2	10	25
At 31st March 2017	106	52	30	35	118	341
Charge for the year	9	5	3	6	9	32
Impairment losses	1	–	3	1	2	7
Disposals	–	(1)	–	–	–	(1)
Disposal of businesses	(5)	–	–	(11)	–	(16)
Exchange adjustments	(4)	(2)	(1)	–	(9)	(16)
At 31st March 2018	107	54	35	31	120	347
Carrying amount at 31st March 2018	45	134	34	22	60	295
Carrying amount at 31st March 2017	58	102	41	29	58	288
Carrying amount at 1st April 2016	61	71	17	35	41	225

Notes on the accounts

for the year ended 31st March 2018

20 Other intangible assets (continued)

20b Parent company

Cost

At 1st April 2016

Additions

At 31st March 2017

Additions

At 31st March 2018

Accumulated amortisation and impairment

At 1st April 2016

Charge for the year

At 31st March 2017

Charge for the year

Impairment losses

At 31st March 2018

Carrying amount at 31st March 2018

Carrying amount at 31st March 2017

Carrying amount at 1st April 2016

	Computer software £ million	Patents, trademarks and licences £ million	Acquired research and technology £ million	Development expenditure £ million	Total £ million
At 1st April 2016	80	7	11	12	110
Additions	33	26	–	1	60
At 31st March 2017	113	33	11	13	170
Additions	35	–	–	3	38
At 31st March 2018	148	33	11	16	208
At 1st April 2016	19	1	1	8	29
Charge for the year	2	1	1	–	4
At 31st March 2017	21	2	2	8	33
Charge for the year	2	1	1	1	5
Impairment losses	–	3	1	–	4
At 31st March 2018	23	6	4	9	42
Carrying amount at 31st March 2018	125	27	7	7	166
Carrying amount at 31st March 2017	92	31	9	5	137
Carrying amount at 1st April 2016	61	6	10	4	81

21 Investments in subsidiaries

At 1st April 2016

Additions

At 31st March 2017

Impairment losses

At 31st March 2018

	Cost of investments in subsidiaries £ million	Accumulated impairment £ million	Carrying amount £ million
At 1st April 2016	2,242	(192)	2,050
Additions	13	–	13
At 31st March 2017	2,255	(192)	2,063
Impairment losses	–	(66)	(66)
At 31st March 2018	2,255	(258)	1,997

Impairment losses in the year ended 31st March 2018 have been recognised following changes to the group's structure. The subsidiaries are shown in note 41.

Accounts

Notes on the accounts

for the year ended 31st March 2018

22 Investments in joint venture and associate

	2018 £ million	2017 £ million
Investment in joint venture	5	6
Investment in associate	15	16
At end of year	20	22

The movements in the year were:

	Joint venture £ million	Associate £ million	Total £ million
At 1st April 2016	4	16	20
Group's share of profit / (loss) for the year	1	(1)	–
Group's share of other comprehensive income – currency translation differences	1	1	2
Group's share of total comprehensive income	2	–	2
At 31st March 2017	6	16	22
Group's share of total comprehensive income – loss for the year	–	(1)	(1)
Dividends received	(1)	–	(1)
At 31st March 2018	5	15	20

The group has an 11.1% interest in the ordinary share capital of Shanghai Bi Ke Clean Energy Technology Co Ltd (CECC) and has significant influence in this entity as CECC requires unanimous board decisions. As a result, this investment is accounted for as an investment in an associate in the group accounts. In addition, the parent company has a revenue share agreement with CECC which is accounted for as a non-current available-for-sale investment (note 23).

23 Non-current available-for-sale investments

	2018 £ million	Group 2017 £ million	2018 £ million	Parent company 2017 £ million
Quoted bonds purchased to fund pension deficit	53	54	–	–
Unquoted investments	3	4	7	7
	56	58	7	7

The quoted bonds are measured at fair value using level 1 inputs (note 30). There is no active market for the unquoted investments since they are investments in a company that is in the start-up phase and in investment vehicles that invest in start-up companies and are categorised as level 3 (note 30). The parent company's investment is the revenue share agreement with CECC (note 22). Movements in the unquoted investments in the year are shown below (given their size, no additional detail has been provided):

	Group £ million	Parent company £ million
At 1st April 2016	6	7
Impairment losses	(2)	–
At 31st March 2017	4	7
Impairment losses	(1)	–
At 31st March 2018	3	7

Notes on the accounts

for the year ended 31st March 2018

24 Inventories

Raw materials and consumables
Work in progress
Finished goods and goods for resale

	Group		Parent company
2018 £ million	2017 £ million	2018 £ million	2017 £ million
232	235	31	28
259	257	18	27
292	280	75	69
783	772	124	124

The group also holds customers' materials in the process of refining and fabrication and for other reasons.

25 Trade and other receivables

Current

Trade receivables
Amounts receivable from long-term contract customers
Amounts receivable from subsidiaries
Prepayments and accrued income
Value added tax and other sales tax receivable
Other receivables

Current trade and other receivables

Non-current

Amounts receivable from subsidiaries
Prepayments and accrued income

Non-current other receivables

	Group		Parent company
2018 £ million	2017 £ million	2018 £ million	2017 £ million
1,049	951	165	164
16	14	–	1
–	–	1,149	908
85	86	19	16
34	44	11	14
44	44	33	36
1,228	1,139	1,377	1,139
–	–	1,013	1,120
38	28	–	–
38	28	1,013	1,120

26 Trade and other payables

Current

Trade payables
Amounts payable to long term contract customers
Amounts payable to subsidiaries
Accruals and deferred income
Other payables

Current trade and other payables

Non-current

Amounts payable to subsidiaries
Other payables

Non-current other payables

	Group		Parent company
2018 £ million	2017 £ million	2018 £ million	2017 £ million
597	529	205	160
21	31	–	–
–	–	2,198	2,295
306	314	110	96
88	94	39	28
1,012	968	2,552	2,579
–	–	489	506
5	6	3	3
5	6	492	509

27 Long-term contracts

Contract revenue recognised
Contracts in progress at the year end:
Costs incurred plus recognised profits less recognised losses to date
Amount of advances received

	Group		Parent company
2018 £ million	2017 £ million	2018 £ million	2017 £ million
42	61	2	1
237	265	2	1
30	28	–	1

Accounts

Notes on the accounts

for the year ended 31st March 2018

28 Net debt

28a Cash and cash equivalents

Cash and deposits

Bank overdrafts

Cash and cash equivalents

	Group		Parent company
2018 £ million	2017 £ million	2018 £ million	2017 £ million
329	330	218	248
(53)	(32)	(11)	(16)
276	298	207	232

28b Net debt

Non-current borrowings and related swaps

Current borrowings and related swaps

Total borrowings

Cash and deposits

Non-current interest rate swap assets

Net debt

(951)	(1,011)	(951)	(1,011)
(63)	(52)	(15)	(18)
(1,014)	(1,063)	(966)	(1,029)
329	330	218	248
6	17	6	17
(679)	(716)	(742)	(764)

Bank and other loans

1.945% €124 million European Investment Bank (EIB) loan 2019

\$50 million KfW IPEX-Bank GmbH (KfW) loan 2020

4.66% €100 million Bonds 2021

€166 million EIB loan 2022

3.26% \$150 million Bonds 2022

2.99% \$165 million Bonds 2023

2.44% €20 million Bonds 2023

3.57% £65 million Bonds 2024

3.565% \$50 million KfW loan 2024

3.14% \$130 million Bonds 2025

3.39% \$180 million Bonds 2028

Cross currency interest rate swaps designated as net investment hedges

Cross currency interest rate swaps designated as fair value hedges

Interest rate swaps designated as fair value hedges

Non-current borrowings and related swaps

Cash and cash equivalents – bank overdrafts

Other current borrowings and related swaps

Current borrowings and related swaps

Other bank and other loans

Cross currency interest rate swaps designated as net investment hedges

Cross currency interest rate swaps designated as fair value hedges

Other current borrowings and related swaps

Cross currency interest rate swaps designated as cash flow hedges

Interest rate swaps designated as fair value hedges

Non-current interest rate swap – assets

(109)	(107)	(109)	(107)
(36)	(40)	(36)	(40)
(87)	(86)	(87)	(86)
(145)	(142)	(145)	(142)
(106)	(123)	(106)	(123)
(117)	(132)	(117)	(132)
(17)	(17)	(17)	(17)
(65)	(65)	(65)	(65)
(36)	(40)	(36)	(40)
(97)	(104)	(97)	(104)
(128)	(148)	(128)	(148)
(7)	(7)	–	–
–	–	(7)	(7)
(1)	–	(1)	–
(951)	(1,011)	(951)	(1,011)
(53)	(32)	(11)	(16)
(10)	(20)	(4)	(2)
(63)	(52)	(15)	(18)
(8)	(20)	(2)	(2)
(2)	–	–	–
–	–	(2)	–
(10)	(20)	(4)	(2)
6	15	6	15
–	2	–	2
6	17	6	17

The 3.26% \$150 million Bonds 2022 have been swapped into floating rate US dollars. \$100 million of the 3.14% \$130 million Bonds 2025 have been swapped into sterling at 2.83%. All borrowings bear interest at fixed rates with the exception of the 2020 KfW loan, the 2022 EIB loan, a loan with a book value of £2 million and the bank overdrafts, which bear interest at commercial floating rates.

The cross currency and interest rate swaps are measured at fair value using level 2 inputs (note 30). The bonds which are designated as being fair value hedged are remeasured for the fair value changes in respect of the hedged risk using level 2 inputs. The fair values are estimated by discounting the future contractual cash flows using appropriate market sourced data at the balance sheet date.

Notes on the accounts

for the year ended 31st March 2018

29 Movements in assets and liabilities arising from financing activities

29a Group

	2017 £ million	Cash outflow £ million	Non-cash movements			2018 £ million
			Transfers £ million	Foreign exchange movements £ million	Fair value and other movements £ million	
Non-current assets						
Interest rate swaps	17	–	(2)	(9)	–	6
Non-current liabilities						
Borrowings and related swaps	(1,011)	1	4	56	(1)	(951)
Current liabilities						
Other borrowings and related swaps	(20)	12	(2)	–	–	(10)
		13	–	47	(1)	
Dividends paid to equity shareholders		146				
Interest paid		45				
Net cash outflow from financing activities		204				

29b Parent company

	2017 £ million	Cash outflow £ million	Non-cash movements			2018 £ million
			Transfers £ million	Foreign exchange movements £ million	Fair value and other movements £ million	
Non-current assets						
Interest rate swaps	17	–	(2)	(9)	–	6
Non-current liabilities						
Borrowings and related swaps	(1,011)	1	4	56	(1)	(951)
Current liabilities						
Other borrowings and related swaps	(2)	–	(2)	–	–	(4)
		1	–	47	(1)	
Dividends paid to equity shareholders		146				
Interest paid		49				
Net cash outflow from financing activities		196				

30 Other financial assets and liabilities

	2018 £ million	Group 2017 £ million	2018 £ million	Parent company 2017 £ million
Other financial assets				
Forward foreign exchange contracts designated as cash flow hedges	6	4	6	4
Forward foreign exchange contracts and currency swaps held for trading	9	4	9	4
Other financial assets	15	8	15	8
Other financial liabilities				
Forward foreign exchange contracts designated as cash flow hedges	(2)	(6)	(4)	(7)
Forward precious metal price contracts designated as cash flow hedges	(3)	(2)	(3)	(2)
Forward foreign exchange contracts and currency swaps held for trading	(7)	(6)	(7)	(7)
Foreign exchange swaps designated as hedges of a net investment in foreign operations	–	(1)	–	–
Other financial liabilities	(12)	(15)	(14)	(16)

Accounts

Notes on the accounts

for the year ended 31st March 2018

30 Other financial assets and liabilities (continued)

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

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

Of the other financial assets listed above, all are measured at fair value using level 2 inputs. All other financial liabilities are measured at fair value using level 2 inputs.

The fair value of forward foreign exchange contracts, forward precious metal price contracts and currency swaps is estimated using appropriate market sourced data at the balance sheet date.

31 Financial risk management

The group's and parent company's activities expose them to a variety of financial risks including credit risk, market risk and liquidity risk. Market risk includes foreign currency risk, interest rate risk and price risk. The main financial risks managed by the group and parent company, under policies approved by the board, are credit risk, foreign currency risk, interest rate risk and liquidity risk. The group and parent company use derivative financial instruments, in particular forward currency contracts and currency swaps, to manage their financial risks associated with their underlying business activities and the financing of those activities. Some derivative financial instruments used to manage financial risk are not designated as hedges and, therefore, are classified as 'held for trading'. The group and parent company do not undertake any speculative trading activity in financial instruments.

31a Credit risk

Within certain businesses, the group and parent company derive a significant proportion of their revenue from sales to major customers. Sales to individual customers are frequently high if the value of precious metals is included in the price. The failure of any such company to honour its debts could materially impact the group's and parent company's results. The group and parent company derive significant benefit from trading with their large customers and manage the risk at many levels. Each sector has a credit committee that regularly monitors its exposure. The Audit Committee receives a report every six months that details all significant credit limits, amounts due and amounts overdue within the group and the relevant actions being taken. At 31st March 2018, trade receivables for the group amounted to £1,049 million (2017: £951 million) (parent company £165 million (2017: £164 million)). £799 million (2017: £691 million) of these receivables at group level (£115 million (2017: £101 million) at parent company level) arose in Clean Air which mainly supplies the automotive industry including car and truck manufacturers and component suppliers. Although Clean Air has a wide spread of available customers, the concentrated nature of this industry means that amounts owed by individual customers can be large. Other parts of the group tend to sell to a larger number of customers and amounts owed tend to be lower. At 31st March 2018, for the group as a whole, no single outstanding balance exceeded 2% (2017: 2%) of revenue. No assets have been taken possession of as collateral.

The credit profiles of the group's and parent company's customers are obtained from credit rating agencies where possible and are closely monitored. The scope of these reviews includes amounts overdue and credit limits. Generally, payments in the automotive industry and in the other markets in which the group operates, are made promptly.

Trade receivables are considered impaired when the amount is in dispute, customers are in financial difficulty or for other reasons which imply there is doubt over the recoverability of the debt. Trade receivables can be analysed as:

	2018 £ million	Group 2017 £ million	2018 £ million	Parent company 2017 £ million
Amounts neither past due nor impaired	966	885	152	149
Amounts past due but not impaired				
less than 30 days	62	50	7	11
30 – 90 days	19	9	6	2
more than 90 days	2	6	–	2
Total past due but not impaired	83	65	13	15
Amounts impaired	9	7	3	1
Specific allowances for bad and doubtful debts	(9)	(6)	(3)	(1)
Carrying amount of impaired receivables	–	1	–	–
Trade receivables net of allowances	1,049	951	165	164

Notes on the accounts

for the year ended 31st March 2018

31 Financial risk management (continued)

31a Credit risk (continued)

Movements in the allowances for impairments were:

	Group		Parent company	
	2018 £ million	2017 £ million	2018 £ million	2017 £ million
At beginning of year	6	7	1	1
Charge for year	5	2	2	–
Released	(2)	(2)	–	–
Utilised	–	(2)	–	–
Exchange adjustments	–	1	–	–
At end of year	9	6	3	1

The group's financial assets included in sundry receivables are all current and not impaired. Of the parent company's amounts receivable from subsidiaries £128 million is impaired (2017: £128 million).

The credit risk on cash and deposits and derivative financial instruments is limited because the counterparties with significant balances are banks with strong credit ratings. The exposure to individual banks is monitored frequently against internally-defined limits, together with the bank's credit ratings and credit default swap prices. As at 31st March 2018, the maximum net exposure with a single bank for cash and deposits was £67 million (2017: £49 million) for the group and £12 million (2017: £22 million) for the parent company, whilst the largest mark to market exposure for derivative financial instruments to a single bank was £3 million (2017: £10 million) for the group and parent company. The group and parent company also use money market funds to invest surplus cash thereby further diversifying credit risk and, at 31st March 2018, the group's and parent company's exposure to these funds was £171 million (2017: £211 million). The amounts on deposit at the year end represent the group's and parent company's maximum exposure to credit risk on cash and deposits.

The parent company also guarantees some of its subsidiaries' borrowings, partly through interest netting arrangements, payables and precious metal leases, and its exposure at 31st March 2018 was £32 million (2017: £28 million).

31b Foreign currency risk

The group operates globally with a significant amount of its profit earned outside the UK. In order to protect the group's sterling balance sheet and reduce cash flow risk, the group has financed most of its investment in the US and Europe by borrowing US dollars and euros, respectively. Although much of this funding is obtained by directly borrowing the relevant currency, a part is achieved through currency swaps which can be more efficient and reduce costs. To a lesser extent, the group has also financed a portion of its investment in China using a currency swap.

The group has designated the currency swaps, a US dollar loan and euro loans (fair value of the loans was £167 million (2017: a US dollar loan and a euro loan with a fair value of £67 million)) as hedges of net investments in foreign operations as they hedge the changes in values of the subsidiaries' net assets against movements in exchange rates. The change in the value of the net investment hedges from movements in foreign currency exchange rates is recognised in equity and is offset by an equal and opposite movement in the carrying value of the net assets of the subsidiaries.

The main currencies of the net debt after taking into account the effect of the currency swaps were:

	Group		Group		Parent company		Parent company	
	Borrowings 2018 £ million	Borrowings 2017 £ million	Cash 2018 £ million	Cash 2017 £ million	Borrowings 2018 £ million	Borrowings 2017 £ million	Cash 2018 £ million	Cash 2017 £ million
Sterling	976	911	596	678	977	898	588	689
US dollar	608	658	547	500	608	662	537	486
Euro	473	526	273	239	476	526	260	234
Chinese renminbi	68	68	30	43	45	68	2	2
Hong Kong dollar	53	23	132	94	53	23	132	94
Swedish krona	53	66	–	–	53	66	–	–
Other currencies	154	124	128	106	125	99	76	73
	2,385	2,376	1,706	1,660	2,337	2,342	1,595	1,578

Accounts

Notes on the accounts

for the year ended 31st March 2018

31 Financial risk management (continued)**31b Foreign currency risk** (continued)

The group's objective is to match foreign currency assets and liabilities at an entity level in order to avoid any impact on the income statement of the entity resulting from movements in exchange rates.

The group and parent company use forward exchange contracts to hedge foreign exchange exposures arising on forecast receipts and payments in foreign currencies. These are designated and accounted for as cash flow hedges. The majority of the cash flows are expected to occur in the year ending 31st March 2019.

The main impact of movements in exchange rates on the group's results arises on translation of overseas subsidiaries' profits into sterling. The group's largest exposure is to the US dollar and a 5% (6.6 cent (2017: 6.5 cent)) movement in the average exchange rate for the US dollar against sterling would have had an £11 million (2017: £10 million) impact on underlying operating profit. The group is also exposed to the euro and a 5% (5.7 cent (2017: 6.0 cent)) movement in the average exchange rate for the euro against sterling would have had a £10 million (2017: £10 million) impact on underlying operating profit. This exposure is part of the group's economic risk of operating globally which is essential to remain competitive in the markets in which it operates.

31c Interest rate risk

The group's and parent company's interest rate risk arises from their fixed rate borrowings (fair value risk) and floating rate borrowings (cash flow risk). Their policy is to optimise interest cost and reduce volatility in reported earnings and equity. They manage their risk by reviewing the profile of their debt regularly and by selectively using interest rate and cross currency swaps to maintain borrowings in appropriate currencies and at competitive rates. The group and parent company have designated one (2017: one) US dollar fixed rate to US dollar floating rate swap as a fair value hedge as it hedges the changes in the fair value of bonds attributable to changes in interest rates. The losses on the interest rate swaps in the year ended 31st March 2018 were £3 million (2017: £8 million) and the gains on the bonds attributable to the hedged risk were £3 million (2017: £6 million). The group and parent company have designated the US dollar fixed interest rate to sterling fixed interest rate cross currency swap as a cash flow hedge as it hedges the movement in the cash flows of the hedged bond attributable to changes in the US dollar / sterling exchange rate. Its cash flows are expected to occur in 2025 when the bond which it hedges matures and, therefore, the exchange effect on it is expected to be realised in the income statement in 2025. The interest element is realised in the income statement each year. At 31st March 2018, 99% (2017: 99%) of the group's net debt and 90% (2017: 92%) of the parent company's net debt were at fixed rates with an average interest rate of 3.1% (2017: 3.1%). The remaining debt is funded on a floating rate basis. Based on the group's net debt funded at floating rates, after taking into account the effect of the swaps, a 1% change in all interest rates would have an immaterial impact on the group's profit before tax.

31d Fair value of financial instruments

The fair value of financial instruments is approximately equal to book value except for:

	2018		2017	
	Carrying amount £ million	Fair value £ million	Carrying amount £ million	Fair value £ million
Group				
US Dollar Bonds 2022, 2023, 2025 and 2028	(448)	(420)	(507)	(503)
Euro Bonds 2021 and 2023	(104)	(118)	(103)	(120)
Euro EIB loan 2019	(109)	(113)	(107)	(112)
Sterling Bonds 2024	(65)	(71)	(65)	(74)
KfW US dollar loan 2024	(36)	(35)	(40)	(42)
	2018		2017	
	Carrying amount £ million	Fair value £ million	Carrying amount £ million	Fair value £ million
Parent company				
Amounts receivable from subsidiaries	2,162	2,232	2,028	2,145
Amounts payable to subsidiaries	(2,687)	(2,701)	(2,801)	(2,829)
US Dollar Bonds 2022, 2023, 2025 and 2028	(448)	(420)	(507)	(503)
Euro Bonds 2021 and 2023	(104)	(118)	(103)	(120)
Euro EIB loan 2019	(109)	(113)	(107)	(112)
Sterling Bonds 2024	(65)	(71)	(65)	(74)
KfW US dollar loan 2024	(36)	(35)	(40)	(42)

The fair values are calculated using level 2 inputs (note 30) by discounting future cash flows to net present values using appropriate market interest rates prevailing at the year end.

There were no transfers of any financial instrument between the levels of the fair value hierarchy (note 30) during the year.

Notes on the accounts

for the year ended 31st March 2018

31 Financial risk management (continued)

31e Liquidity risk

The group's and parent company's policy on funding capacity is to ensure that they always have sufficient long term funding and committed bank facilities in place to meet foreseeable peak borrowing requirements. At 31st March 2018, the group and parent company had borrowings under committed bank facilities of nil (2017: nil). The group and parent company also have a number of uncommitted facilities, including metal leases, and overdraft lines at their disposal.

Undrawn committed bank facilities

Expiring in more than one year but not more than two years

Expiring in more than two years

	Group		Parent company
2018 £ million	2017 £ million	2018 £ million	2017 £ million
362	399	362	399
148	100	148	100
510	499	510	499

The maturity analyses for financial liabilities showing the remaining contractual undiscounted cash flows, including future interest payments, are:

Group as at 31st March 2018

	Within 1 year £ million	1 to 2 years £ million	2 to 5 years £ million	After 5 years £ million	Total £ million
Bank overdrafts	53	–	–	–	53
Bank and other loans – principal	10	109	375	461	955
Bank and other loans – interest payments	26	24	55	34	139
Financial liabilities in trade and other payables	952	1	2	–	955
Total non-derivative financial liabilities	1,041	134	432	495	2,102
Foreign exchange forwards and swaps – payments	736	28	–	–	764
Foreign exchange forwards and swaps – receipts	(727)	(28)	–	–	(755)
Total derivative financial liabilities	9	–	–	–	9

Group as at 31st March 2017

	Within 1 year £ million	1 to 2 years £ million	2 to 5 years £ million	After 5 years £ million	Total £ million
Bank overdrafts	32	–	–	–	32
Bank and other loans – principal	20	2	232	760	1,014
Bank and other loans – interest payments	34	26	70	55	185
Financial liabilities in trade and other payables	890	–	2	1	893
Total non-derivative financial liabilities	976	28	304	816	2,124
Foreign exchange forwards and swaps – payments	991	–	–	–	991
Foreign exchange forwards and swaps – receipts	(977)	–	–	–	(977)
Total derivative financial liabilities	14	–	–	–	14

Parent company as at 31st March 2018

	Within 1 year £ million	1 to 2 years £ million	2 to 5 years £ million	After 5 years £ million	Total £ million
Bank overdrafts	11	–	–	–	11
Bank and other loans – principal	4	109	375	461	949
Bank and other loans – interest payments	25	24	55	34	138
Financial liabilities in trade and other payables	2,539	–	1	489	3,029
Total non-derivative financial liabilities	2,579	133	431	984	4,127
Foreign exchange forwards and swaps – payments	789	29	–	–	818
Foreign exchange forwards and swaps – receipts	(783)	(29)	–	–	(812)
Total derivative financial liabilities	6	–	–	–	6

Accounts

Notes on the accounts

for the year ended 31st March 2018

31 Financial risk management (continued)

31e Liquidity risk (continued)

Parent company as at 31st March 2017

	Within 1 year £ million	1 to 2 years £ million	2 to 5 years £ million	After 5 years £ million	Total £ million
Bank overdrafts	16	–	–	–	16
Bank and other loans – principal	2	2	232	760	996
Bank and other loans – interest payments	30	26	70	55	181
Financial liabilities in trade and other payables	2,574	–	2	506	3,082
Total non-derivative financial liabilities	2,622	28	304	1,321	4,275
Foreign exchange forwards and swaps – payments	1,050	2	–	–	1,052
Foreign exchange forwards and swaps – receipts	(1,038)	(2)	–	–	(1,040)
Total derivative financial liabilities	12	–	–	–	12

31f Offsetting financial assets and liabilities

The group and parent company only offset financial assets and liabilities when they currently have a legally enforceable right to offset the recognised amounts and they intend to either settle on a net basis or realise the asset and settle the liability simultaneously. The following financial assets and liabilities are subject to offsetting, enforceable master netting arrangements or similar agreements:

Group as at 31st March 2018

Cash and cash equivalents – cash and deposits
Other financial assets
Cash and cash equivalents – bank overdrafts
Other financial liabilities

Gross financial assets / (liabilities) £ million	Amounts set off £ million	Net amounts in balance sheet £ million	Related amounts not set off £ million	Net £ million
396	(67)	329	–	329
15	–	15	(7)	8
(120)	67	(53)	–	(53)
(12)	–	(12)	7	(5)

Group as at 31st March 2017

Cash and cash equivalents – cash and deposits
Other financial assets
Cash and cash equivalents – bank overdrafts
Other financial liabilities

Gross financial assets / (liabilities) £ million	Amounts set off £ million	Net amounts in balance sheet £ million	Related amounts not set off £ million	Net £ million
401	(71)	330	–	330
8	–	8	(7)	1
(103)	71	(32)	–	(32)
(15)	–	(15)	7	(8)

Parent company as at 31st March 2018

Cash and cash equivalents – cash and deposits
Other financial assets
Cash and cash equivalents – bank overdrafts
Other financial liabilities

Gross financial assets / (liabilities) £ million	Amounts set off £ million	Net amounts in balance sheet £ million	Related amounts not set off £ million	Net £ million
254	(36)	218	–	218
15	–	15	(7)	8
(47)	36	(11)	–	(11)
(14)	–	(14)	7	(7)

Parent company as at 31st March 2017

Cash and cash equivalents – cash and deposits
Other financial assets
Cash and cash equivalents – bank overdrafts
Other financial liabilities

Gross financial assets / (liabilities) £ million	Amounts set off £ million	Net amounts in balance sheet £ million	Related amounts not set off £ million	Net £ million
267	(19)	248	–	248
8	–	8	(8)	–
(35)	19	(16)	–	(16)
(16)	–	(16)	8	(8)

Notes on the accounts

for the year ended 31st March 2018

31 Financial risk management (continued)

31g Capital management

The group's policy for managing capital is to maintain an efficient balance sheet to ensure that the group always has sufficient resources to be able to invest in future growth. The group has a long term target of a return on invested capital (underlying operating profit divided by average capital employed over the year) of 20% to ensure focus on efficient use of the group's capital. See the section on return on invested capital in the Financial Review. The group also has a long term target of net debt (including post tax pension deficits) to EBITDA of between 1.5 and 2.0 times, although in any given year it may fall outside this range depending on future plans. See the section on capital structure in the Financial Review.

Net debt (including post-tax pension deficits) is reduced for the quoted bonds purchased to fund the UK pension deficit. Since the UK pension plan is in surplus, the pension deficits do not include the UK plan and, therefore, an amendment has been made to the definition of net debt (including post-tax pension deficits) to reduce it for these bonds (net of the related deferred tax) only when the UK pension plan is in deficit.

	2018 £ million	2017 £ million
Average net debt	923	879
Average equity	2,276	1,937
Average capital employed	3,199	2,816
Net debt	(679)	(716)
Pension deficits	(56)	(56)
Related deferred taxation	10	13
Net debt (including post-tax pension deficits)	(725)	(759)
Profit for the year	298	385
Add back:		
Depreciation and amortisation	175	172
Income tax expense	22	77
Share of loss of joint venture and associate	1	–
Net finance costs	38	31
Loss on disposal of businesses	7	–
Loss on significant legal proceedings	50	–
Major impairment and restructuring charges	90	–
Earnings before interest, tax, depreciation and amortisation (EBITDA)	681	665
Return on invested capital (underlying operating profit (note 4) divided by average capital employed)	16.4%	18.2%
Net debt (including post tax pension deficits) to EBITDA	1.1 times	1.1 times

32 Provisions and contingent liabilities

32a Group provisions

	Restructuring provisions £ million	Warranty and technology provisions £ million	Other provisions £ million	Total £ million
At 1st April 2017	12	11	16	39
Charge for year	14	2	28	44
Utilised	(10)	–	(13)	(23)
Released	(1)	(3)	(2)	(6)
Disposal of businesses (note 5)	–	(1)	–	(1)
Exchange adjustments	–	–	(2)	(2)
At 31st March 2018	15	9	27	51

Accounts

Notes on the accounts

for the year ended 31st March 2018

32 Provisions and contingent liabilities (continued)**32a Group provisions** (continued)

	2018 £ million	2017 £ million
Current	37	21
Non-current	14	18
Total provisions	51	39

The restructuring provisions arise across the group and the majority are expected to be fully utilised by 31st March 2019.

The warranty and technology provisions represent management's best estimate of the group's liability under warranties granted and remedial work required under technology licences, based on past experience in Clean Air, Efficient Natural Resources and New Markets. Warranties generally cover a period of up to three years.

The other provisions include environmental, onerous contract and legal provisions arising across the group. Amounts provided reflect management's best estimate of the expenditure required to settle the obligations at the balance sheet date. They are expected to be fully utilised within the next 15 years.

The group has recognised a charge in connection with the resolution of a contract dispute lawsuit related to a component supplied by the group in the US (note 6). At 31st March 2018, there is a provision of £18 million in respect of this settlement agreement which is estimated to be fully utilised over the next two years.

32b Group contingent liabilities

Johnson Matthey has been informed of failures in certain engine systems for which the group supplied a particular coated substrate as a component for emissions after-treatment. The extent to which, if any, the reported failures are due to the coated substrate supplied by Johnson Matthey group companies has not been demonstrated. Potential solutions for the reported engine system issues and any associated costs have not yet been notified to the group. Johnson Matthey has not been contacted by any regulatory authority and no Johnson Matthey group company has been served with any contract dispute lawsuit, nor has any formal claim for recovery of identified costs been made at this point. Having reviewed its contractual obligations and the information currently available to it, the group believes that were it to be served with a contract dispute lawsuit, it would have defensible warranty positions in respect of its supplies of coated substrate for the after-treatment systems in the affected engines. If required, it will vigorously assert its available contractual protections and defences. The outcome of any discussions is not certain, nor is the group able to make a reliable estimate of the possible financial impact at this stage, if any.

32c Parent company

	Restructuring provisions £ million	Other provisions £ million	Total £ million
At 1st April 2017	2	20	22
Charge for year	4	2	6
Utilised	(2)	(4)	(6)
At 31st March 2018	4	18	22

	2018 £ million	2017 £ million
Current	5	4
Non-current	17	18
Total provisions	22	22

The restructuring provisions are expected to be fully utilised by 31st March 2019.

The other provisions include onerous contracts, legal provisions and provisions to buy metal to cover positions created by the parent company selling metal belonging to subsidiaries. Amounts provided reflect management's best estimate of the expenditure required to settle the obligations at the balance sheet date.

Details of guarantees given by the parent company are disclosed in note 31a.

Notes on the accounts

for the year ended 31st March 2018

33 Deferred taxation

33a Group

	Property, plant and equipment £ million	Post- employment benefits £ million	Provisions £ million	Inventories £ million	Intangibles £ million	Other £ million	Total deferred tax (assets) / liabilities £ million
At 1st April 2016	52	(2)	(17)	(13)	38	19	77
(Credit) / charge to income	(5)	8	(1)	1	(9)	14	8
Acquisitions (note 37)	–	–	(1)	–	–	(1)	(2)
Tax on items taken directly to or transferred from equity	–	(2)	–	–	–	1	(1)
Exchange adjustments	7	(4)	(3)	(1)	5	1	5
At 31st March 2017	54	–	(22)	(13)	34	34	87
(Credit) / charge to income	(29)	(3)	(5)	2	(11)	(24)	(70)
Tax on items taken directly to or transferred from equity	–	31	–	–	–	–	31
Exchange adjustments	(4)	2	2	1	(2)	(1)	(2)
At 31st March 2018	21	30	(25)	(10)	21	9	46

	2018 £ million	2017 £ million
Deferred tax assets	(48)	(26)
Deferred tax liabilities	94	113
	46	87

Deductible temporary differences, unused tax losses and unused tax credits not recognised on the balance sheet total £147 million (2017: £120 million) of which £40 million is expected to expire within 5 years, £5 million within 5 to 10 years and £102 million carry no expiry date.

Deferred tax liabilities have not been recognised on temporary differences of £1,416 million (2017: £1,328 million) associated with investments in subsidiaries.

33b Parent company

	Property, plant and equipment £ million	Post- employment benefits £ million	Provisions £ million	Inventories £ million	Other £ million	Total deferred tax liabilities £ million
At 1st April 2016	8	25	–	(7)	9	35
(Credit) / charge to income	(6)	3	(1)	–	(1)	(5)
Tax on items taken directly to or transferred from equity	–	(3)	–	–	–	(3)
At 31st March 2017	2	25	(1)	(7)	8	27
(Credit) / charge to income	(6)	3	(1)	2	1	(1)
Tax on items taken directly to or transferred from equity	–	17	–	–	–	17
At 31st March 2018	(4)	45	(2)	(5)	9	43

Deductible temporary differences, unused tax losses and unused tax credits not recognised on the balance sheet are £2 million (2017: £2 million) and have no expiry date.

Accounts

Notes on the accounts

for the year ended 31st March 2018

34 Share capital

Issued and fully paid ordinary shares

At 1st April 2016, 31st March 2017 and 31st March 2018

Number	£ million
198,940,606	221

Details of outstanding allocations under the company's long-term incentive plans and awards under the deferred bonus which have yet to mature are disclosed in note 16.

At the last annual general meeting on 28th July 2017, shareholders approved a resolution for the company to make purchases of its own shares up to a maximum number of 19,353,343 ordinary shares of 110⁴/₅₃ pence each. The resolution remains valid until the conclusion of this year's annual general meeting. The company will purchase its own shares when the board believes it to be in the best interests of the shareholders generally and will result in an increase in earnings per share.

The group and parent company's employee share ownership trust (ESOT) also buys shares on the open market and holds them in trust for employees participating in the group's executive long term incentive plans. At 31st March 2018, the ESOT held 1,560,224 shares (2017: 1,743,333 shares) which had not yet vested unconditionally to employees. Computershare Trustees (CI) Limited, as trustee for the ESOT, has waived its dividend entitlement.

The total number of treasury shares held was 5,407,176 (2017: 5,407,176) at a total cost of £92 million (2017: £92 million).

35 Tax effects relating to other comprehensive income

	Before tax £ million	2018 Tax £ million	Net of tax £ million	Before tax £ million	2017 Tax £ million	Net of tax £ million
Currency translation differences	(95)	1	(94)	165	–	165
Cash flow hedges	5	(1)	4	(2)	–	(2)
Fair value gains / (losses) on net investment hedges taken to equity	6	–	6	(21)	–	(21)
Fair value gains on available-for-sale investments	–	–	–	7	–	7
Remeasurements of post-employment benefit assets and liabilities	103	(18)	85	(18)	4	(14)
Tax rate adjustments	–	(13)	(13)	–	(2)	(2)
Total other comprehensive income	19	(31)	(12)	131	2	133

The US federal tax rate was reduced from 35% to 21% with effect from 1st January 2018. In line with this change, the rate applying to US deferred tax assets and liabilities at 31st March 2018 has been reduced from 37% to 23% (including state taxes), creating a US tax rate adjustment which is partly reflected in the Consolidated Income Statement and partly in the Consolidated Statement of Total Comprehensive Income.

Notes on the accounts

for the year ended 31st March 2018

36 Other reserves

36a Group

	Capital redemption reserve £ million	Foreign currency translation £ million	Available-for-sale reserve £ million	Hedging reserve £ million	Total other reserves £ million
At 1st April 2016	7	–	–	(9)	(2)
Cash flow hedges – losses taken to equity	–	–	–	(8)	(8)
Cash flow hedges – transferred to income statement	–	–	–	6	6
Fair value losses on net investment hedges taken to equity	–	(21)	–	–	(21)
Fair value gains on available-for-sale investments	–	–	5	–	5
Fair value losses on available-for-sale investments transferred to income statement	–	–	2	–	2
Currency translation differences on foreign currency net investments and related loans taken to equity	–	165	–	–	165
At 31st March 2017	7	144	7	(11)	147
Cash flow hedges – losses taken to equity	–	–	–	(3)	(3)
Cash flow hedges – transferred to income statement	–	–	–	8	8
Fair value gains on net investment hedges taken to equity	–	6	–	–	6
Currency translation differences on foreign currency net investments and related loans taken to equity	–	(95)	–	–	(95)
Tax on items taken directly to or transferred from equity	–	1	–	(1)	–
At 31st March 2018	7	56	7	(7)	63

Cash flow hedges transferred to the income statement are included in:

	2018 £ million	2017 £ million
Revenue	(7)	9
Cost of sales	15	(3)
	8	6

36b Parent company

	Capital redemption reserve £ million	Foreign currency translation £ million	Available-for-sale reserve £ million	Hedging reserve £ million	Total other reserves £ million
At 1st April 2016	7	(3)	3	(8)	(1)
Cash flow hedges – losses taken to equity	–	–	–	(3)	(3)
Cash flow hedges – transferred to income statement	–	–	–	1	1
Currency translation differences on foreign operations taken to equity	–	2	–	–	2
At 31st March 2017	7	(1)	3	(10)	(1)
Cash flow hedges – losses taken to equity	–	–	–	(5)	(5)
Cash flow hedges – transferred to income statement	–	–	–	9	9
Currency translation differences on foreign operations taken to equity	–	(3)	–	–	(3)
At 31st March 2018	7	(4)	3	(6)	–

Accounts

Notes on the accounts

for the year ended 31st March 2018

37 Acquisitions

In the year ended 31st March 2017, the group made two acquisitions relating to the New Markets Sector: on 1st April 2016, 100% of the share capital of MIOX Corporation, a developer and supplier of advanced water disinfectant technology and, on 31st May 2016, 100% of the share capital of Finex Oy, a supplier of advanced polymer resin technology.

The fair value of the combined net assets acquired was £14 million, consideration paid £21 million and goodwill arising £7 million. The goodwill arising was attributable to opportunities to access expertise and anticipated future synergies and was not expected to be deductible for tax purposes. There were no acquisition fair value amendments to this goodwill in the year ended 31st March 2018.

38 Precious metal operating leases

The group leases, rather than purchases, precious metals to fund temporary peaks in metal requirements provided market conditions allow. These leases are from banks for specified periods (typically a few months) and for which the group pays a fee. These arrangements are classified as operating leases. The group holds sufficient precious metal inventories to meet all the obligations under these lease arrangements as they fall due. At 31st March 2018, precious metal leases were £184 million (2017: £77 million).

39 Commitments

	Group		Parent company	
	2018 £ million	2017 £ million	2018 £ million	2017 £ million
Capital lease commitments – future capital expenditure contracted but not provided:				
Property, plant and equipment	20	16	–	2
Other intangible assets	15	3	5	–
Operating lease commitments:				
Future minimum amounts payable under non-cancellable operating leases				
Within one year	16	19	3	3
From one to five years	41	38	8	9
After five years	36	40	10	11
	93	97	21	23

The group and parent company lease some of its property, plant and equipment which are used by the group and parent company in their operations.

40 Transactions with related parties

Transactions between the parent company and its subsidiaries, which are related parties, have been eliminated on consolidation and so are only disclosed for the parent company's accounts. The group's joint venture and associate are related parties. Guarantees of subsidiaries' liabilities are disclosed in note 31a.

	Group		Parent company	
	2018 £ million	2017 £ million	2018 £ million	2017 £ million
Trading transactions with joint venture: purchases of goods	–	5	–	5
Trading transactions with associate: rendering of services	–	1	–	–
Trading transactions with subsidiaries				
Sale of goods	–	–	2,189	1,848
Purchases of goods	–	–	790	503
Income from service charges	–	–	47	35
Amounts receivable from subsidiaries	–	–	295	198
Amounts payable to subsidiaries	–	–	79	193
Loans to subsidiaries	–	–	1,867	1,830
Loans from subsidiaries	–	–	2,608	2,608

The group's post-employment benefits plans are related parties and the group's and parent company's transactions with them are disclosed in note 17.

Notes on the accounts

for the year ended 31st March 2018

40 Transactions with related parties (continued)

Key management personnel

The key management of the group and parent company consist of the Board of Directors and the members of the Group Management Committee (GMC). During the year ended 31st March 2018, the GMC had an average of eight members (2017: ten members). The only transactions with any key management personnel was compensation charged in the year which was:

	2018 £ million	2017 £ million
Short term employee benefits	6	6
Share-based payments	3	3
Termination benefits	–	1
Non-executive directors' fees and benefits	1	1
Total compensation of key management personnel	10	11

Balances outstanding at the year end were nil (2017: termination benefits of £1 million). Information on the directors' remuneration is given in the Remuneration Report.

41 Related undertakings

A full list of related undertakings at 31st March 2018 (comprising subsidiaries, joint ventures and associates) is set out below. Those held directly by the parent company are marked with an asterisk (*) and those held jointly by the parent company and a subsidiary are marked with a cross (+). All the companies are wholly owned unless otherwise stated. All the related undertakings are involved in the principal activities of the group. Unless otherwise stated, the share class of each related undertaking comprises ordinary shares only.

Entity	Registered address
+Johnson Matthey Argentina S.A.	Tucumán 1 Piso 4, CP 1049, Buenos Aires, Argentina
Johnson Matthey (Aust.) Ltd	64 Lillie Crescent, Tullamarine VIC 3043, Australia
+Johnson Matthey Holdings Limited	64 Lillie Crescent, Tullamarine VIC 3043, Australia
Johnson Matthey Belgium BVBA	Pegasuslaan 5, 1831 Diegem, Belgium
Tracerco Europe BVBA	1731 Zellik, Z3 Doornveld 115, Belgium
The Argent Insurance Co. Limited	Clarendon House, 2 Church Street, Hamilton, HM11, Bermuda
Johnson Matthey Brasil Ltda	Avenida Macuco, 726, 12th Floor, Edifício International Office, CEP04523-001, Brazil
Stepac Brazil Ltda	Rua Itapolis, nº 1921, Pacaembu, São Paulo, 01245-000, Brazil
Tracerco do Brasil – Diagnosticos de Processos Industriais Ltda	Rua Victor Civita, 66, bloco 2, salas 501/502, Condomínio Rio Office Park, Barra da Tijuca, Rio de Janeiro, CEP 22775-044, Brazil
Johnson Matthey Battery Materials Ltd.	280 Liberté Ave, Candiac Québec J5R 6X1, Canada
Tracerco Radioactive Diagnostic Services Canada Inc.	8908 60 Avenue NW, Edmonton AB, T6E 6A6, Canada
Johnson Matthey Argillon (Shanghai) Emission Control Technologies Ltd.	No. 298, East Rong Le Road, Songjiang District, Shanghai, China
Johnson Matthey Battery Materials (Changzhou) Co., Ltd.	1 Xin Wei Liu Road, Changzhou Export Processing Zone, Changzhou, Jiangsu Province, China
Johnson Matthey Chemical Process Technologies (Shanghai) Company Limited	Room 1066, Building 1, No 215 Lian He Bei Lu, Fengxian District, Shanghai, China
Johnson Matthey Clean Energy Technologies (Beijing) Co., Ltd	2007C, 20th Floor, No. 21 Building, No.5 Community, Shu Guang Xi Lane, Chaoyang District, Beijing, China
Johnson Matthey Process Technologies (Beijing) Co., Ltd.	Unit No. 2001-2007A, No. 21 Building, Shuguangxi Lane A5, Chaoyang District, Beijing, China
Johnson Matthey Research & Development (Yantai) Co., Ltd.	No. 9 Wuxi Road, Yantai Economic and Technology Development Zone, Yantai, Shandong Province, China
Johnson Matthey (Shanghai) Catalyst Co., Ltd.	586 Dongxing Road, Songjiang Industry Zone, Shanghai, 201613, China
Johnson Matthey (Shanghai) Chemicals Limited	588 Dongxing Road, Songjiang Industry Zone, Shanghai, 201613, China
Johnson Matthey (Shanghai) Trading Limited	Room 1615B, No. 118 Xinling Road, Waigaoqiao Free Trade Zone, Shanghai, China
Johnson Matthey (Tianjin) Chemical Co., Ltd.	Suite 1-1201, BoRun Commercial Plaza, Tianjin Development Zone, China
Johnson Matthey (Zhangjiagang) Environmental Protection Technology Co., Ltd	Room 807, Changjiang Building, ZJG FTZ, China
Johnson Matthey (Zhangjiagang) Precious Metal Technology Co., Ltd.	Rm. 1116-1117, The Petrochemical Trading Edifice, Zhangjiagang Free Trade Zone, Jiangsu Province, China
Qingdao Johnson Matthey Hero Catalyst Company Limited (51.0%)	New Material Industrial Park, Shiyuan Road, Qinda Industrial Park, Chengyang District, Qingdao, 200331, China

Accounts

Notes on the accounts

for the year ended 31st March 2018

41 Related undertakings (continued)

Entity

Shanghai Bi Ke Clean Energy Technology Co Ltd (11.1%)

Shanghai Johnson Matthey Applied Materials Technologies Co., Ltd

Tracerco China Process Diagnostics & Instrumentation
(Shanghai) Co., Ltd.

Johnson Matthey A/S

*AG Holding Ltd

*Cascade Biochem Limited ¹

*Fuel Cell Today Limited

Illumink Limited

*JMEPS Trustees Limited

Johnson Matthey Battery Systems Engineering Limited

*Johnson Matthey (CM) Limited

Johnson Matthey Davy Technologies International Limited

*Johnson Matthey Davy Technologies Limited

*Johnson Matthey Fuel Cells Limited

Johnson Matthey Investments Limited

*Johnson Matthey (Nominees) Limited

*Johnson Matthey Precious Metals Limited

Johnson Matthey South Africa Holdings Limited

Johnson Matthey Tianjin Holdings Limited

*Katalco Limited

Matthey Finance Limited

*Matthey Holdings Limited

*Synetix Limited

*Tracerco Limited

Finex Oy

Johnson Matthey Finland Oy

Kiinteistö Oy Kotkan Huumantie 5 (70.0%)

Johnson Matthey SAS

Johnson Matthey Battery Materials GmbH

Johnson Matthey Catalysts (Germany) GmbH

Johnson Matthey Chemicals GmbH

Johnson Matthey GmbH & Co. KG ²

Johnson Matthey Holding GmbH

Johnson Matthey Management GmbH

Johnson Matthey Piezo Products GmbH

Johnson Matthey Redwitz Real Estate (Germany) B.V. & Co. KG ²Johnson Matthey Argillon Power Plant Catalysts Holdings
(Hong Kong) Limited

Johnson Matthey Hong Kong Limited

Johnson Matthey Pacific Limited ³

Johnson Matthey Process Technologies Holdings Hong Kong Limited

Johnson Matthey Tracerco Holdings Hong Kong Limited

Johnson Matthey Yantai Holdings (Hong Kong) Limited

Macfarlan Smith (Hong Kong) Limited

Johnson Matthey Chemicals India Private Limited

Johnson Matthey India Private Limited

Registered address

Room 427 Building 2 No 351 Guo Shou Jing Road, China (Shanghai)
Pilot Free Trade Zone, ChinaArea A, 1st Floor, Building 7, 298 East Rong Le Road, Songjiang District,
Shanghai, ChinaSection G Floor 2, Building 7, No 298 Rong Le East Road, Songjiang
Industry Zone, Shanghai, China

Frederikssundvej 274D, DK-2700 Brønshøj, Copenhagen, Denmark

5th Floor, 25 Farringdon Street, London, EC4A 4AB, England

5th Floor, 25 Farringdon Street, London, EC4A 4AB, England

5th Floor, 25 Farringdon Street, London, EC4A 4AB, England

5th Floor, 25 Farringdon Street, London, EC4A 4AB, England

5th Floor, 25 Farringdon Street, London, EC4A 4AB, England

5th Floor, 25 Farringdon Street, London, EC4A 4AB, England

5th Floor, 25 Farringdon Street, London, EC4A 4AB, England

5th Floor, 25 Farringdon Street, London, EC4A 4AB, England

5th Floor, 25 Farringdon Street, London, EC4A 4AB, England

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5th Floor, 25 Farringdon Street, London, EC4A 4AB, England

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5th Floor, 25 Farringdon Street, London, EC4A 4AB, England

5th Floor, 25 Farringdon Street, London, EC4A 4AB, England

5th Floor, 25 Farringdon Street, London, EC4A 4AB, England

Seppolantie 1, Kotka, 48230, Finland

Autokatu 6, 20380 Turku, Finland

c/o Finex Oy, Seppolantie 1, Kotka, 48230, Finland

Les Diamants – Immeuble B, 41 rue Delizy, 93500 Pantin, France

Ostenriederstr. 15, 85368 Moosburg a.d. Isar, Germany

Bahnhofstrasse 43, 96257 Redwitz an der Rodach, Germany

Wardstrasse 17, D-46446 Emmerich am Rhein, Germany

Otto-Volger-Strasse 9b, 65843 Sulzbach, Germany

Bahnhofstrasse 43, 96257 Redwitz an der Rodach, Germany

Otto-Volger-Strasse 9b, 65843 Sulzbach, Germany

Bahnhofstrasse 43, 96257 Redwitz an der Rodach, Germany

Bahnhofstrasse 43, 96257 Redwitz an der Rodach, Germany

Unit 2-6, 8/F, 909 Cheung Sha Wan Road, Cheung Sha Wan,

Kowloon, Hong Kong

Unit 2-6, 8/F, 909 Cheung Sha Wan Road, Cheung Sha Wan, Kowloon,
Hong KongUnit 2-6, 8/F, 909 Cheung Sha Wan Road, Cheung Sha Wan, Kowloon,
Hong KongUnit 2-6, 8/F, 909 Cheung Sha Wan Road, Cheung Sha Wan, Kowloon,
Hong KongUnit 2-6, 8/F, 909 Cheung Sha Wan Road, Cheung Sha Wan, Kowloon,
Hong KongUnit 2-6, 8/F, 909 Cheung Sha Wan Road, Cheung Sha Wan, Kowloon,
Hong KongUnit 2-6, 8/F, 909 Cheung Sha Wan Road, Cheung Sha Wan, Kowloon,
Hong KongPlot No 6A, MIDC Industrial Estate, Talaja, District Raigad,
Maharashtra 410208, India

103, Ashoka Estate, 24, Barakhamba Road, New Delhi – 110 001, India

Notes on the accounts

for the year ended 31st March 2018

41 Related undertakings (continued)

Entity

Johnson Matthey Limited
Stepac L.A. Ltd.

Johnson Matthey Italia S.r.l.
Johnson Matthey Fuel Cells Japan Limited
Johnson Matthey Japan Godo Kaisha
Johnson Matthey DOOEL Skopje
*Johnson Matthey Sdn. Bhd.

Johnson Matthey Services Sdn. Bhd.

Tracerco Asia Sdn. Bhd.

Tracerco Asia Services Sdn. Bhd.

Johnson Matthey de Mexico, S. de R.L. de C.V.

Johnson Matthey Servicios, S. de R.L. de C.V.
Interat Europe B.V.
Johnson Matthey Advanced Glass Technologies B.V.
Johnson Matthey B.V.
Johnson Matthey Holdings B.V.
Johnson Matthey Netherlands B.V.
Johnson Matthey Netherlands 2 B.V.
Matthey Finance B.V.¹
Tracerco Norge AS
Johnson Matthey Battery Systems Spółka z ograniczoną odpowiedzialnością
Johnson Matthey Poland Spółka z ograniczoną odpowiedzialnością
Macfarlan Smith Portugal, Lda
Johnson Matthey Catalysts LLC
International Diol Company (4.3%)

*Anipel Limited
*Bitrex Limited
*Johnson Matthey General Partner (Scotland) Limited
*Johnson Matthey (Scotland) Limited Partnership²
Macfarlan Smith Limited
*Meconic Limited
Johnson Matthey Singapore Private Limited
Johnson Matthey (Proprietary) Limited

Johnson Matthey Research South Africa (Proprietary) Limited

Johnson Matthey Salts (Proprietary) Limited

Johnson Matthey Catalysts Korea Limited

Johnson Matthey Korea Limited

Johnson Matthey AB
Johnson Matthey Formox AB
Johnson Matthey & Brandenberger AG
Johnson Matthey Finance GmbH
Johnson Matthey Finance Zurich GmbH
LiFePO4+C Licensing AG

Registered address

24/26 City Quay, Dublin 2, D02 NY19, Ireland
Tefen Industrial Park Bldg. #12, Post Box 73, Tefen, Western Galilee, 2495900, Israel
No 2, Via Talucchi, Turin, Italy
5123-3 Kitsuregawa, Sakura-shi, Tochigi, 329-1412, Japan
5123-3 Kitsuregawa, Sakura-shi, Tochigi, 329-1412, Japan
TIDZ Skopje 1, 1041 Ilinden, Macedonia
Suite 16-10, Level 16, Wisma UOA II, 21 Jalan Pinang, 50450 Kuala Lumpur, Malaysia
Suite 16-10, Level 16, Wisma UOA II, 21 Jalan Pinang, 50450 Kuala Lumpur, Malaysia
Suite 16-10, Level 16, Wisma UOA II, 21 Jalan Pinang, 50450 Kuala Lumpur, Malaysia
Suite 16-10, Level 16, Wisma UOA II, 21 Jalan Pinang, 50450 Kuala Lumpur, Malaysia
Av. de Margues y Av. de la Canada, 2a Etapa Parque Industrial Bernardo Quintana, El Marques, Querataro C.P., 76246, Mexico
Av Ramon Rivera Lara 6620, Parque Industrial Juarez, Chihuahua, Mexico
Stationsstraat 50, 3451 BZ, Vleuten, Netherlands
Fregatweg 38, 6222 NZ Maastricht, Netherlands
Otto-Volger-Strasse 9b, 65843 Sulzbach/Ts. Germany
Fregatweg 38, 6222 NZ Maastricht, Netherlands
Fregatweg 38, 6222 NZ Maastricht, Netherlands
Fregatweg 38, 6222 NZ Maastricht, Netherlands
Fregatweg 38, 6222 NZ Maastricht, Netherlands
Kokstadflaten 35, 5257 Kokstad, Norway

PL 44-109 Gliwice, ul. Einsteina 36, Poland
Żłota 59, 00-120 Warszawa, Warsaw, Poland
Largo de São Carlos 3, 1200-410 Lisboa, Portugal
1 Transportny Proezd, 660027 Krasnoyarsk, Russia
1st Basic Industrial Road 218, P.O. Box 12021, Jubail Industrial City, 31961, Saudi Arabia
10 Wheatfield Road, Edinburgh, Midlothian, EH11 2QA, Scotland
10 Wheatfield Road, Edinburgh, Midlothian, EH11 2QA, Scotland
10 Wheatfield Road, Edinburgh, Midlothian, EH11 2QA, Scotland
10 Wheatfield Road, Edinburgh, Midlothian, EH11 2QA, Scotland
Wheatfield Road, Edinburgh, Midlothian, EH11 2QA, Scotland
10 Wheatfield Road, Edinburgh, Midlothian, EH11 2QA, Scotland
80 Robinson Road, #02-00 Singapore 068898
Corner Henderson and Premier Roads, Germiston South Ext 7, Gauteng, South Africa
Corner Henderson and Premier Roads, Germiston South Ext 7, Gauteng, South Africa
Corner Henderson and Premier Roads, Germiston South Ext 7, Gauteng, South Africa
A-dong 2906-ho, 13 Heungdeok 1-ro, Giheung-gu, Yongin-si, Gyeonggi-do, South Korea
418, Ideok-ro, Iwol-myeon, Jincheon-gun, Chungcheongbuk-do, South Korea
Viktor Hasselblads gata 8, 421 31 Västra Frölunda, Göteborg, Sweden
SE-284 80, Perstorp, Sweden
Glattalstrasse 18, 8052 Zurich, Switzerland
Hertensteinstrasse 51, 6004 Lucerne, Switzerland
Glattalstrasse 18, 8052 Zurich, Switzerland
Hertensteinstrasse 51, 6004 Lucerne, Switzerland

Accounts

Notes on the accounts

for the year ended 31st March 2018

41 Related undertakings (continued)

Entity

Johnson Matthey (Thailand) Limited

Johnson Matthey Holdings (Thailand) Limited

Johnson Matthey Services (Trinidad and Tobago) Limited

Stepac Ambalaj Malzemeleri Sanayi Ve Ticaret Anonim Sirketi
JM Holdings UK LLC

JM Holdings US LLC

Johnson Matthey Fuel Cells, Inc.

Johnson Matthey Holdings, Inc.

Johnson Matthey Inc.⁴

Johnson Matthey Japan, Inc.

Johnson Matthey Materials, Inc.

Johnson Matthey North America, Inc.

Johnson Matthey Overseas Holdings Inc.

Johnson Matthey Pharmaceutical Materials, Inc.

Johnson Matthey Process Technologies, Inc.

Johnson Matthey Stationary Emissions Control LLC

Johnson Matthey US 2 LLC

Matthey Pharmaceutical Alkaloids, LLC (50.0%)

MIOX Corporation

Red Maple LLC (50.0%)

Registered address

1858/12 Interlink Tower, 5th Floor, Bangna-Trad Road,
Bangna Sub-District, Bangna District, Bangkok, Thailand1858/12 Interlink Tower, 5th Floor, Bangna-Trad Road,
Bangna Sub-District, Bangna District, Bangkok, ThailandQueen's Park Place, 17-20 Queens Park West, Port of Spain, Trinidad
and TobagoGüzeloba Mah. Rauf Denktaş Cad., No.56/101, Muratpaşa/Antalya, Turkey
Corporation Service Company, 2711 Centerville Road, Suite 400,
Wilmington DE 19808, USACorporation Service Company, 2711 Centerville Road, Suite 400,
Wilmington DE 19808, USACorporation Service Company, 2711 Centerville Road, Suite 400,
Wilmington DE 19808, USACorporation Service Company, 2711 Centerville Road, Suite 400,
Wilmington DE 19808, USACorporation Service Company, 2595 Interstate Drive, Suite 103
PA 17110, USACorporation Service Company, 2711 Centerville Road, Suite 400,
Wilmington DE 19808, USACSC Lawyers Incorporating Service, 2730 Gateway Oaks Drive,
Suite 100, Sacramento CA 95833, USACorporation Trust Center, 1209 Orange Street, Wilmington
DE 19801, USACorporation Service Company, 2711 Centerville Road, Suite 400,
Wilmington DE 19808, USACorporation Service Company, 2711 Centerville Road, Suite 400,
Wilmington DE 19808, USACorporation Service Company, 2711 Centerville Road, Suite 400,
Wilmington DE 19808, USACorporation Service Company, 2711 Centerville Road, Suite 400,
Wilmington DE 19808, USACorporation Service Company, 2711 Centerville Road, Suite 400,
Wilmington DE 19808, USACorporation Trust Center, 1209 Orange Street, Wilmington
DE 19801, USACorporation Service Company, 2711 Centerville Road, Suite 400,
Wilmington DE 19808, USACorporation Service Company, 2711 Centerville Road, Suite 400,
Wilmington DE 19808, USA

In some jurisdictions in which the group operates, share classes are not defined and in these instances, for the purpose of disclosure, these holdings have been classified as ordinary shares.

¹ Ordinary and preference shares² Limited partnership, no share capital³ Ordinary and non-cumulative redeemable preference shares⁴ Ordinary and series A preferred stock

Reconciliation of non-GAAP measures to GAAP measures

for the year ended 31st March 2018

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

Sales excluding precious metals (sales)

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. In addition, in many cases, the value of precious metals is passed directly on to our customers.

Underlying profit and earnings

These are the equivalent GAAP measures adjusted to exclude amortisation of acquired intangibles, major impairment and restructuring charges, profit or loss on disposal of businesses, gain or loss on significant legal proceedings together with associated legal costs, significant tax rate changes and, where relevant, related tax effects. The group believes that these measures provide a better guide to the underlying performance of the group. These are reconciled in note 4.

Margin

Underlying operating profit divided by sales excluding precious metals.

Working capital days

Non-precious metal related inventories, trade and other receivables and trade and other payables (including any classified as held for sale) divided by sales excluding precious metals for the last three months multiplied by 90 days.

Free cash flow

Net cash flow from operating activities, after net interest paid, net purchases of non-current assets and investments and dividends received from joint venture.

Capex

Additions of property, plant and equipment plus additions of other intangible assets.

Capex to depreciation ratio

Capex divided by depreciation. Depreciation is the depreciation charge of property, plant and equipment plus the amortisation charge of other intangible assets excluding amortisation of acquired intangibles (note 7).

Working capital (excluding precious metals)

	2018 £ million	2017 £ million
Inventories	783	772
Trade and other receivables	1,228	1,139
Trade and other payables	(1,012)	(968)
Total working capital	999	943
Less precious metal working capital	(404)	(335)
Working capital (excluding precious metals)	595	608

Free cash flow

	2018 £ million	2017 £ million
Net cash flow from operating activities	386	523
Dividends received from joint venture	1	–
Interest received	3	5
Interest paid	(45)	(42)
Purchases of non-current assets and investments	(216)	(260)
Proceeds from sale of non-current assets and investments	7	4
Free cash flow	136	230

Other

Other non-GAAP measures are reconciled in the relevant note.

Accounts

Independent auditor's report

to the members of Johnson Matthey Plc



1. Our opinion is unmodified

We have audited the accounts of Johnson Matthey Plc ("the company") for the year ended 31st March 2018 which comprise the Consolidated Income Statement, Consolidated Statement of Comprehensive Income, Consolidated and Parent Company Balance Sheets, Consolidated and Parent Company Cash Flow Statements, Consolidated and Parent Company Statement of Changes in Equity, and the related notes, including the Accounting Policies.

In our opinion:

- the accounts give a true and fair view of the state of the group's and of the parent company's affairs as at 31st March 2018 and of the group's profit for the year then ended;
- the group accounts have been properly prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union (EU);
- the parent company accounts have been properly prepared in accordance with IFRS as adopted by the EU and as applied in accordance with the provisions of the Companies Act 2006; and
- the accounts have been prepared in accordance with the requirements of the Companies Act 2006 and, as regards the group accounts, Article 4 of the IAS Regulation.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ("ISAs (UK)") and applicable law. Our responsibilities are described below. We believe that the audit evidence we have obtained is a sufficient and appropriate basis for our opinion. Our audit opinion is consistent with our report to the Audit Committee.

We were appointed as auditor by the shareholders in 1985. The period of total uninterrupted engagement is for the 33 financial years ended 31st March 2018. We have fulfilled our ethical responsibilities under, and we remain independent of the group in accordance with, UK ethical requirements including the FRC Ethical Standard as applied to listed public interest entities. No non-audit services prohibited by that standard were provided.

Overview

Materiality: £23 million (2017: £22 million)
group accounts 5% (2017: 5%) of adjusted profit before tax as a whole

Coverage 83% (2017: 84%) of group profit before tax

Risks of material misstatement vs 2017

Recurring risks	Refinery process and stock takes	◀▶
	Taxation accounting	◀▶
New:	Product claims and uncertainties	▲
	Carrying value of goodwill and other intangibles	▼

Independent auditor's report

to the members of Johnson Matthey Plc

2. Key audit matters: our assessment of risks of material misstatement

Key audit matters are those matters that, in our professional judgement, were of most significance in the audit of the accounts and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by us, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. We summarise below the key audit matters (changed from 2017 to include product claims and uncertainties and to remove post-employment benefits), in decreasing order of significance, in arriving at our audit opinion above, together with our key audit procedures to address those matters and, as required for public interest entities, our results from those procedures. These matters were addressed, and our results are based on procedures undertaken, in the context of, and solely for the purpose of, our audit of the accounts as a whole, and in forming our opinion thereon, and consequently are incidental to that opinion, and we do not provide a separate opinion on these matters.

	The risk	Our response
Group and company Refinery process and stock takes <p>The group refines over four million ounces of platinum group metals per annum with a market value of £3.4 billion.</p> <p><i>Refer to page 105 (Audit Committee Report) and page 148 (accounting policy).</i></p>	Physical quantities: <p>The group refines a significant amount of metal as set out in note 1. The year end metal inventory quantity is determined from: (i) assay estimates of the metal contained in the carrier material entering and refined metal leaving the refining process, and (ii) estimates of process losses, rolled forward from (iii) assay estimates of the metal content in the plants at the time of stock takes which take place at different times earlier than the financial year end. Furthermore, the plants process material on behalf of third parties, whereby the group must return pre-agreed recoverable quantities of refined metal to those parties; under or over recovery or other loss directly impacts the group's own metal inventory.</p> <p>A full stock take was not performed at the UK refineries during the year which led to an increased period between the previous stock take and the financial year end.</p> <p>The year end metal inventory is dependent upon the physical quantities measured in the assay samples in (i) and (iii). The risks are such that a small variation in estimates could have a material effect on the valuation of inventory in the accounts.</p>	<p>Our procedures included:</p> <ul style="list-style-type: none"> – Control observations: Assessing through observation, interview and reperformance on a sample basis the adequacy of group controls over the assay system, metal processing and inventory including physical security, metal receipt and dispatch, metal recording, reconciling the production and accounting systems, assaying and stock takes; – Count attendance and design: Attending certain physical stock takes to verify the design and implementation of stock take processes and physical quantities counted; – Count vs system reconciliation: Seeking to understand and corroborate the reasons for significant or unusual movements in inventory quantities between the accounting records and the physical stock takes; Evaluating the roll forward of inventory from the point of stock take to the year end to assess the potential for misstatement; – Benchmarking assumptions: Challenging the assay estimates taken by management by comparing these to assay estimates undertaken by customers and third party umpires; – Historical comparisons: Assessing provisions for inventory loss compared to historical trends and stock take results to assess the likelihood and quantum of processing loss (if any) of metal between the date of the stock take and the year end date; and – Assessing transparency: Considering the adequacy of the group's disclosures about the degree of estimation involved in arriving at the measured inventory. <p>Our results: As a result we found the valuation of inventory to be acceptable (2017: acceptable).</p>
Group and company Taxation accounting <p>Tax provisions of £86 million (2017: £89 million).</p> <p><i>Refer to page 106 (Audit Committee Report), page 147 (accounting policy) and pages 155-156 (financial disclosures).</i></p>	Subjective estimate: <p>The group operates in multiple jurisdictions governed by national tax laws and regulations and is required to estimate the tax effect of cross border transactions including transfer pricing arrangements. Where the precise impact of these laws and regulations on indirect taxes and the tax payable on profits arising in those jurisdictions is unclear, the group seeks to make reasonable estimates to determine the tax charge arising.</p>	<p>Our procedures included:</p> <ul style="list-style-type: none"> – Our taxation expertise: With the assistance of our own local and international tax specialists who have knowledge of the relevant indirect and direct tax regimes and experience in their application, analysing and challenging the assumptions used to determine the tax charge and provisioning; and benchmarking assumptions; and assessing correspondence with the relevant tax authorities including the status of tax authority audits and inquiries; and – Assessing transparency: Considering the adequacy of the group's disclosures in respect of tax and uncertain tax positions. <p>Our results: From the evidence obtained, we found the level of tax provisioning to be acceptable (2017: acceptable).</p>

Accounts

Independent auditor's report

to the members of Johnson Matthey Plc

2. Key audit matters: our assessment of risks of material misstatement (continued)

	The risk	Our response
<p>Group</p> <p>Product claims and uncertainties</p> <p>Provision of £18 million included within other provisions of £27 million.</p> <p>In addition the group has a contingent liability for potential further product claims for which the outcome of any discussions is uncertain, and where the group is unable to make a reliable estimate of any possible financial consequence at this stage.</p> <p><i>Refer to page 106 (Audit Committee Report), page 148 (accounting policy) and pages 181-182 (financial disclosures).</i></p>	<p>Subjective estimate:</p> <p>The group's products are complex and produced to exacting standards. Product quality issues may be identified subsequent to delivery to and installation by customers. Accordingly at any point in time the group may be exposed to product liability issues including claims for damages or compensation.</p> <p>The group holds provisions for the potential costs associated with these risks. The assumptions underpinning these provisions are inherently uncertain.</p> <p>Dispute outcome:</p> <p>Where the group is unable to make a reliable estimate of potential exposures it discloses these risks as a contingent liability. Should the group be unable to successfully defend its position, these risks could give rise to a future liability.</p>	<p>Our procedures included:</p> <ul style="list-style-type: none"> – Enquiry of lawyers: Inspection of correspondence with internal and external counsel and formal confirmations from counsel of open cases; – Test of detail: In relation to quantified issues, considering the status of discussions with customers, then testing and challenging the basis of the group's calculations including the rectification or remediation cost estimates; and – Assessing transparency: Considering the adequacy of the group's disclosures in respect of the loss on significant legal proceedings and contingent liabilities. <p>Our results: From the evidence obtained, we found the level of provisioning and disclosure in respect of product claims to be acceptable.</p>
<p>Group</p> <p>Carrying value of goodwill and other intangible assets</p> <p>Goodwill of £574 million (2017: £607 million) and other intangible assets of £295 million (2017: £288 million). In the current year there was a pre-tax impairment charge of £11 million against the carrying value of the Water Technologies CGU reflecting lower growth rate assumptions for these businesses.</p> <p><i>Refer to page 106 (Audit Committee Report), page 147 (accounting policy) and page 169-170 (financial disclosures).</i></p>	<p>Forecast-based valuation:</p> <p>The group has significant intangible assets and goodwill arising from the acquisition of businesses and investments in new products and technologies. Some investments and recent acquisitions are still at an early stage of commercial development and as such, carry a greater risk that they will not be commercially viable.</p> <p>Recoverability of these assets is based on forecasting and discounting future cash flows, which are inherently judgemental.</p>	<p>Our procedures included:</p> <ul style="list-style-type: none"> – Assessing methodology: Obtaining the discounted cash flow models and assessing the principles and integrity of each model; – Benchmarking assumptions: Challenging the group's valuation assumptions for its cash flow projections such as discount rates and cost inflation, with reference to internally and externally derived sources; – Our valuations expertise: Assessing the inputs based on our own insights and experience and challenging the appropriateness of the discount rate with the assistance of our own valuation specialists; – Sensitivity analysis: Performing breakeven analysis on the assumptions noted above; – Historical comparisons: Assessing the group's historical forecasting accuracy by comparing the group's prior year forecasts with actuals; and – Assessing transparency: Considering the adequacy of the group's disclosures in respect of impairment testing and whether disclosures about the sensitivity of the outcome of the impairment assessment to changes in key assumptions properly reflected the risks inherent in the valuations. <p>Our results: As a result of our testing we found the resulting estimate of the recoverable amount of goodwill and other intangible assets to be acceptable (2017: acceptable).</p>

We continue to perform procedures over post-employment benefits. However, following our review of our previous year's audit findings, we have not assessed this as one of the most significant risks in our current year audit and, therefore, it is not separately identified in our report for 2018.

Independent auditor's report

to the members of Johnson Matthey Plc

3. Our application of materiality and an overview of the scope of our audit

Materiality for the group accounts as a whole was set at £23.0 million (2017: £22.0 million), determined with reference to a benchmark of group profit before tax, excluding the loss on disposal of businesses, the loss on significant legal proceedings and major impairment and restructuring charges as disclosed on the face of the Consolidated Income Statement, of which it represents 5% (2017: 5%). We agreed to report to the Audit Committee any corrected or uncorrected identified profit misstatements exceeding £0.5 million (2017: £0.5 million), in addition to other identified misstatements warranting reporting on qualitative grounds. Materiality for the parent company financial statements as a whole was set at £20 million (2017: £20 million) determined with reference to a benchmark of company total assets, of which it represents 0.4% (2017: 0.4%).

In establishing the overall approach to our audit, we considered the decentralised nature of the group's operations, the risk profile of countries where the group operates, our historical audit findings and changes taking place within the business. We also considered the financial significance and risks associated with each business together with any local statutory audit requirements.

Of the group's 55 (2017: 57) reporting components, we subjected 44 (2017: 44) to audits for group reporting purposes, 8 (2017: 10) to specified risk focused audit procedures over revenue, inventory and receivables and 3 (2017: 3) to specified risk focused audit procedures over inventory, including in China, Germany, India, Macedonia, South Africa, the UK and the US. The components for which we performed specified risk-focused procedures were not individually financially significant enough to require an audit for group reporting purposes, but did present specific individual risks that needed to be addressed. The components within the scope of our work accounted for 89% of group revenue, 83% of group profit before tax and 82% of group total assets.

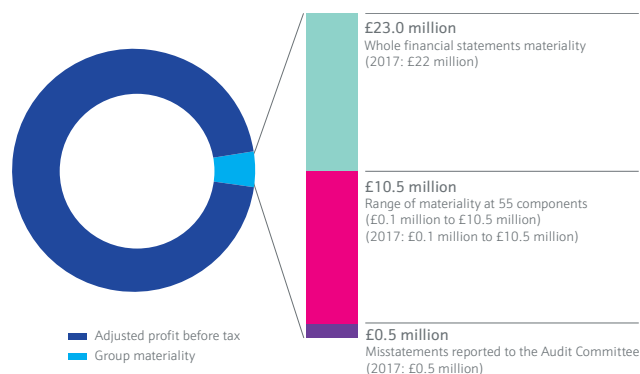
For the remaining components, we performed analysis at an aggregated group level to re-examine our assessment that there were no significant risks of material misstatement within these, including through examining reports from local auditors on the results of their statutory audit work. In total these statutory audits comprise 6% of group revenue, 7% of group profit before tax and 10% of group total assets.

The group audit team instructed component auditors as to the significant areas to be covered, including the relevant risks detailed above and the information to be reported back. The group team approved component materiality, which ranged from £0.1 million to £10.5 million (2017: £0.1 million to £10.5 million), having regard to the mix of size and risk profile of the group across the components. The work on 43 of the 55 components was performed by the component auditors and the rest by the group team.

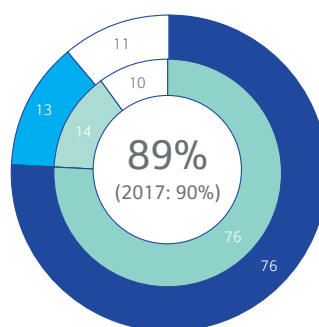
The group audit team visited six component locations (2017: six) in China, Macedonia, South Africa, the Netherlands, the UK and the US to assess the audit risk and strategy. Telephone conference meetings were also held with these component auditors and all others that were not physically visited. At these visits and meetings, the findings reported to the group audit team were discussed in more detail, and any further work required by the group audit team was then performed by the component auditor.

Adjusted profit before tax
£467 million
(2017: £462 million)

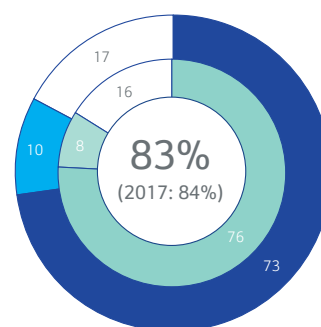
Group Materiality
£23 million
(2017: £22 million)



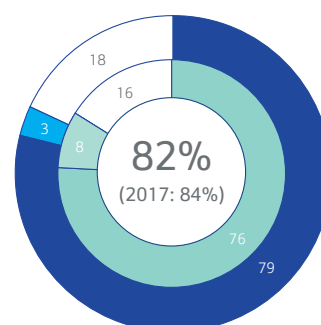
Group revenue



Group profit before tax



Group total assets



■ Full scope for group audit purposes 2018
■ Specified risk-focused audit procedures 2018
■ Full scope for group audit purposes 2017
■ Specified risk-focused audit procedures 2017
■ Residual components

Accounts

Independent auditor's report

to the members of Johnson Matthey Plc

4. We have nothing to report on going concern

We are required to report to you if:

- we have anything material to add or draw attention to in relation to the directors' statement on page 135 on the use of the going concern basis of accounting with no material uncertainties that may cast significant doubt over the group's and company's use of that basis for a period of at least 12 months from the date of approval of the financial statements; or
- the related statement under the Listing Rules set out on page 74 is materially inconsistent with our audit knowledge.

We have nothing to report in these respects.

5. We have nothing to report on the other information in the annual report

The directors are responsible for the other information presented in the Annual Report together with the financial statements. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except as explicitly stated below, any form of assurance conclusion thereon.

Our responsibility is to read the other information and, in doing so, consider whether, based on our financial statements audit work, the information therein is materially misstated or inconsistent with the financial statements or our audit knowledge. Based solely on that work we have not identified material misstatements in the other information.

Strategic Report and Directors' Report

Based solely on our work on the other information:

- we have not identified material misstatements in the Strategic Report and the Directors' Report;
- in our opinion the information given in those reports for the financial year is consistent with the financial statements; and
- in our opinion those reports have been prepared in accordance with the Companies Act 2006.

Directors' Remuneration Report

The part of the Directors' Remuneration Report to be audited extends from the Single Figure Table of Remuneration on page 123 to, and including, the Statement of directors' shareholding on page 126; and in addition comprises the Explanation of figures on page 124, the Variable pay – additional disclosures, including bases of calculation and outcomes on pages 124 to 125, LTIP outcomes on page 126 and the Pension entitlements on page 126.

In our opinion the part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006.

Disclosures of principal risks and longer term viability

Based on the knowledge we acquired during our financial statements audit, we have nothing material to add or draw attention to in relation to:

- the directors' confirmation within the viability statement that they have carried out a robust assessment of the principal risks facing the group, including those that would threaten its business model, future performance, solvency and liquidity;
- the principal risks disclosures describing these risks and explaining how they are being managed and mitigated; and
- the directors' explanation in the viability statement of how they have assessed the prospects of the group, over what period they have done so and why they considered that period to be appropriate, and their statement as to whether they have a reasonable expectation that the group will be able to continue in operation and meet its liabilities as they fall due over the period of their assessment, including any related disclosures drawing attention to any necessary qualifications or assumptions.

Under the Listing Rules we are required to review the viability statement. We have nothing to report in this respect.

Corporate governance disclosures

We are required to report to you if:

- we have identified material inconsistencies between the knowledge we acquired during our financial statements audit and the directors' statement that they consider that the annual report and financial statements taken as a whole is fair, balanced and understandable and provides the information necessary for shareholders to assess the group's position and performance, business model and strategy; or
- the section of the annual report describing the work of the Audit Committee does not appropriately address matters communicated by us to the Audit Committee; or
- a corporate governance statement has not been prepared by the company.

We are required to report to you if the Corporate Governance Statement does not properly disclose a departure from the 11 provisions of the UK Corporate Governance Code specified by the Listing Rules for our review.

We have nothing to report in these respects.

Based solely on our work on the other information described above:

- with respect to the Corporate Governance Statement disclosures about internal control and risk management systems in relation to financial reporting processes and about share capital structures:
 - we have not identified material misstatements therein; and
 - the information therein is consistent with the financial statements; and
- in our opinion, the Corporate Governance Statement has been prepared in accordance with relevant rules of the Disclosure Guidance and Transparency Rules of the Financial Conduct Authority.

Independent auditor's report

to the members of Johnson Matthey Plc

6. We have nothing to report on the other matters on which we are required to report by exception

Under the Companies Act 2006, we are required to report to you if, in our opinion:

- parent company, or returns adequate for our audit have not been received from branches not visited by us; or
- the parent company financial statements and the part of the Directors' Remuneration Report to be audited are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

We have nothing to report in these respects.

7. Respective responsibilities

Directors' responsibilities

the directors are responsible for: the preparation of the financial statements including being satisfied that they give a true and fair view; such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error; assessing the group and parent company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern; and using the going concern basis of accounting unless they either intend to liquidate the group or the parent company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or other irregularities (see below), or error, and to issue our opinion in an auditor's report. Reasonable assurance is a high level of assurance, but does not guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud, other irregularities or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

A fuller description of our responsibilities is provided on the FRC's website at www.frc.org.uk/auditorsresponsibilities.

Irregularities – ability to detect

We identified areas of law and regulation that could reasonably be expected to have a material effect on the financial statements from our experience, through discussion with the directors and other management (as required by auditing standards), and from inspection of the group's regulatory and legal correspondence.

We had regard to laws and regulations in areas that directly affect the financial statements including financial reporting (including related company legislation) and taxation legislation. We considered the extent of compliance with those laws and regulations as part of our procedures on the related financial statement items.

In addition we considered the impact of laws and regulations in the specific areas of health and safety and anti-bribery recognising the nature of the group's activities that may inadvertently affect the financial statements. With the exception of any known or possible non-compliance, and as required by auditing standards, our work in respect of these was limited to enquiry of the directors and other management and inspection of regulatory and legal correspondence. We considered the effect of any known or possible non-compliance in these areas as part of our procedures on the related financial statement items.

We communicated identified laws and regulations throughout our team and remained alert to any indications of non-compliance throughout the audit. This included communication from the group to component audit teams of relevant laws and regulations identified at group level, with a request to report on any indications of potential existence of non-compliance with relevant laws and regulations (irregularities) in these areas, or other areas directly identified by the component team.

As with any audit, there remained a higher risk of non-detection of irregularities, as these may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.

8. The purpose of our audit work and to whom we owe our responsibilities

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members, as a body, for our audit work, for this report, or for the opinions we have formed.

Stephen Oxley (Senior Statutory Auditor)
for and on behalf of KPMG LLP, Statutory Auditor
Chartered Accountants
15 Canada Square
London, E14 5GL

30th May 2018



Contents

200	Basis of reporting – non-financial data
203	Verification of non-financial data
204	GRI Standard Content Index
206	Shareholder information
208	Glossary of terms
209	Index
210	Financial calendar 2018/19
IBC	Company details

Other Information



Our basis of non-financial reporting and information for shareholders.

Also includes a summary of our Global Reporting Initiative disclosures, a glossary and an index.

Other Information

Basis of reporting – non-financial data

This report has been prepared in accordance with the GRI Standards: Core option. It covers the period from 1st April 2017 to 31st March 2018. Our last annual report was published in June 2017.

Johnson Matthey compiles, assesses and discloses non-financial information for a number of reasons:

- where there is a legal obligation (UK Companies Act, mandatory carbon reporting, UK Modern Slavery Act);
- to help drive improved business performance;
- to demonstrate to institutional investors that Johnson Matthey's business approach is responsible, ethical, sustainable and offers a sound value proposition;
- to demonstrate to our customers that Johnson Matthey's business conduct meets or exceeds all of the required standards and expectations;
- to demonstrate to other stakeholders that Johnson Matthey conducts its business in an ethical, responsible and sustainable manner; and
- to benchmark our corporate performance against peer group companies.

This report has been developed to incorporate the group's significant economic, environmental and social impacts and is set within the context of the United Nations Brundtland definition of sustainability (1987) and our own sustainable business goals to 2025. The principles of inclusivity, materiality and responsiveness help to shape the structure of the report and in setting priorities for reporting. The report also explains how we are continuing to build sustainability into our business planning and decision making processes and how, through our governance processes, we manage social, environmental and ethical matters across the group.

Performance data covers all sites which are under the financial control of the group, including all manufacturing, research and warehousing operations of the parent company and its subsidiaries.

For the purposes of reporting, separate business units resident at the same location are counted as separate sites. Data from 70 sites was included in this report, 57 of which are manufacturing sites.

Data from new facilities is included from the point at which the facility becomes owned by the company and operational. All non-financial performance data is reported on a financial year basis unless otherwise stated.

Baseline year data has been restated, where necessary, to account for changes in best practice methodologies for reporting. The processes in place to internally and externally verify the reported non-financial data are described on page 203. Certain employee data is included in the financial accounts and is also subject to separate external audit.

Calculation methodologies for KPIs relating to six sustainable business goals to 2025

Definition of employees and contractors

A standard definition of employees and contractors has been implemented in 2017/18 across the group for all reporting of people-related goals:

Employees	Contractors			
	Agency workers	Outsourced function	Specialist service	Projects
Continuously site based.	Continuously site based.	Continuously or regularly site based.	One-off project or regularly based on site.	One-off project.
Contract signed directly between JM and individual and paid regular salary and other benefits by JM.	Person employed by an agency performing tasks that would be expected to be undertaken by a JM employee.	Facility management – catering, cleaning or grounds maintenance; IT and occupational health if outsourced.	Smallscale building or ground works; repairing specialist plant or equipment; low level maintenance; small scale repairs to offices or other buildings; stack monitoring.	Construction work, capital project work, major maintenance activities.
Work is directly supervised by JM.	Work is directly supervised by JM.	Work is supervised by contractor and monitored by JM.	Work is supervised by contractor and monitored by JM.	Work is supervised by contractor and monitored by JM.
Reported as: employees	Reported as: temporary worker	Reported as: contractor	Reported as: contractor	Reported as: contractor

Goal 1: Health and safety:

Aspire to zero harm

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 lost workday case is defined as an incident where an employee or contractor is unable to work for more than one scheduled working day as a result of a work-related injury or illness.

Total recordable injury and illness rate (TRIIR) is defined as the number of recordable cases per 200,000 hours worked in a rolling year.

A recordable case (as defined under the US Occupational Safety and Health Administration (OSHA) Regulations) is defined as a work related accident or illness that results in one or more of the following: absence of more than one day; medical treatment beyond first aid; death; loss of consciousness and restricted work or transfer to another job.

The **OSHA severity rate** is a calculation that gives a company an average of the number of lost days per recordable incident.

OSHA severity rate = $\frac{(\text{total lost days in the year} \times 200,000)}{\text{total hours worked during the year}}$

Occupational illness incidence rate in the year = $\frac{(\text{number of new occupational illnesses diagnosed in the year}) \times 1,000}{(\text{average number of employees in the year})}$

200,000 hours represents 100 full time equivalent workers working 40 hours per week for 50 weeks per year.

LTIIR by event type definitions

Slip, trip or fall:

- A slip injury occurs where there is too little friction or traction between an individual's footwear and the walking surface.
- A trip injury occurs when the foot hits an object causing a person to lose balance.
- A fall injury is recorded when someone falls from an elevated surface (e.g. roof), object or temporary work platform (e.g. ladder) or into an opening in a floor or a hole in the ground.
- Struck against is an injury occurring as a result of coming into contact with a surface or object in which the action was initiated by the person (e.g. when a screwdriver slips).

Process safety rate definition

Johnson Matthey has adopted International Council of Chemical Association's (ICCA) process safety metric. The metric first requires a determination that the event is to be included in the process safety event severity rate (PSESR) calculation and then determining the severity using the severity table.

In determining this rate, 1 point is assigned for each Level 4 incident attribute, 3 points for each Level 3 attribute, 9 points for each Level 2 attribute, and 27 points for each Level 1 attribute.

The PSESR is recorded as a 12 month rolling number. Total worker hours include employees, temporary employees and contractors.

Process safety performance indicator (PSPI) 2 = Process safety event severity rate (PSESR) Level 1 to 4

$$= \frac{(\text{Total severity score for all events} \times 200,000)}{(\text{Total worker hours})}$$

Theoretically, a process safety event could be assigned a minimum of 1 point (i.e. the incident meets the attributes of a Level 4 incident in only one category) or a maximum of 135 points (i.e. the incident meets the attributes of a Level 1 incident in each of the five categories).

Goal 2: Our people:

Employee engagement and enablement

Johnson Matthey invites all its permanent and fixed term contract employees to voluntarily complete its employee survey once every two years to determine the wellbeing of its staff using a standard methodology defined and audited by the Korn Ferry Hay Group. All responses are submitted confidentially to a third party and results are independently analysed and reported back to JM management. Through the survey we measure attributes on a scale of 0 to 100%:

- employee engagement = how committed and motivated employees are to give their best to Johnson Matthey;
- employee enablement = how well employees' jobs and work environment support peak performance in Johnson Matthey.

Diversity and Inclusion (D&I) plan progress

A detailed roadmap of activities to be completed on JM's journey to D&I excellence out to 2025 has been approved. A measurement tracker has been deployed at both the site and group level to ensure a consistent methodology to record progress on this journey.

Progress is tracked against the D&I plan using Johnson Matthey's in-house methodology.

Goal 3: Low carbon operations:

Operational carbon footprint reduction

Our operational carbon footprint, reported in tonnes of carbon dioxide (CO₂) equivalent, includes Scope 1 and Scope 2 emissions.

We report Scope 1 greenhouse gas (GHG) emissions from processes and energy use and convert the total group energy use to tonnes CO₂ equivalent using conversion factors for each emissions source as published by Defra in July 2017. For the first time in 2017/18 we have included nitrous oxide (N₂O), refrigerant and methane process emissions to air in our Scope 1 calculations. In this report we have restated our 2016/17 emissions using this new methodology.

Our Scope 2 emissions are calculated using the 'dual reporting' methodology outlined in the GHG Protocol corporate standard 2015 revision, www.ghgprotocol.org. For the location based method of Scope 2 accounting, for all facilities outside of the US, we use national carbon intensity factors related to the consumption of grid electricity in 2015 made available in the 2017 edition of the world CO₂ emissions database of the International Energy Agency. They were purchased under licence in February 2018 for sole use in company reporting. For US facilities we use regional carbon factors published by the Environmental Protection Agency in January 2017, eGRID data 2016. For the market based method of Scope 2 accounting, we have applied the hierarchy of sources for determination of appropriate carbon intensity factors, as outlined in Table 6.3 on page 48 of the GHG Protocol 2015 edition guidance. We have successfully obtained carbon intensity factors directly from our grid electricity suppliers in the EU, USA and Australia. However, it has not been possible to obtain this from suppliers in China, India, South Africa and non-OECD Europe.

Under the UK mandatory GHG reporting requirements, we are required to ensure that the quantification of GHG emissions and data reliability are sufficient to meet our obligation under the UK Companies Act 2006 (Strategic and Directors' Reports) Regulations 2013. The data we have presented for our carbon footprint in this report contains all Johnson Matthey's material GHG emissions and therefore meets the requirements of this legislation. We have included a mandatory GHG report in the table on page 45.

Other Information

In 2018 we introduced a new methodology for normalising our carbon emissions based on production output. The denominator is defined as 'tonnes of manufactured product sold externally'. Only sold products manufactured on JM premises are included. For sales of precious metal containing solutions from our Pgm Services only the weight of the precious metal is included in the calculation. For all other products, the total shipped weight of product is included.

$$\text{Carbon intensity of JM operations} = \frac{\text{total JM group Scope 1 + Scope 2 GHG emissions}}{\text{Tonnes of manufactured products sold externally by JM}}$$

Responsible sourcing
4

Goal 4: Responsible sourcing:

Sustainable supplier assessment and compliance

We will ensure supplier awareness, understanding and acceptance of the JM Supplier Code of Conduct. We will seek evidence of adherence to the mandatory requirements of the JM Supplier Code of Conduct – demonstrated by assessment and, where necessary, audit of suppliers. These will be quantified on an annual basis.

A strategic supplier is defined using JM in-house criteria.

Sustainable products
5

Goal 5: Sustainable products:

Sustainability impacts of our products

- (a) We will measure the correlation and classification of annualised sales of Johnson Matthey's products, services and technologies against the 169 specific targets of the 17 United Nations Sustainable Development Goals (UN SDGs).
- (b) We have set quantitative targets that focus on the UN SDGs that are most material to our stakeholders or most relevant to our business impact. We will measure our progress towards these targets annually.

Both (a) and (b) are calculated using Johnson Matthey's in-house methodology.

Community engagement
6

Goal 6: Community engagement:

Employee volunteering

This KPI is an annual record of the total number of employee volunteering days undertaken by permanent employees within their local communities, in accordance with JM's global Employee Volunteering Policy.

The volunteering is recorded in periods of half days. Shorter periods of volunteering are not included in the data. The recorded volunteering days may have been completed either on company time or on paid company leave. Volunteering done on unpaid leave, or outside normal working hours, is not included in the reported numbers.

The length of a standard day varies slightly from location to location, between seven and eight hours.

In determining the in-kind contribution of employees' volunteering we take the number of volunteering days reported in the year and multiply it by the group average cost of one day of employee time.

$$\text{Average cost of one day of employee time} = \frac{\text{total employee benefits expense in year}}{\text{Number of working days in year}}$$

Number of working days in a year is five days per week for 50 weeks per year.

Verification of non-financial data

The board reviews corporate social responsibility (CSR) and broader sustainability issues as part of its risk management process.

All data is reviewed by internal sustainability experts and at appropriate levels of management up to and including the Group Management Committee. Health and safety data is reviewed by group health and safety experts and as part of a formal group environment, health and safety (EHS) internal audit programme.

Certain human resources data forms part of Johnson Matthey's accounts which are subject to limited audit.

Johnson Matthey also uses external specialists to review specific sustainability issues. Over the past year this has included external audits or reviews of people management systems, health and safety (OHSAS 18001) and environmental management systems (such as ISO 14001, ISO 50001 and RC 4001).

In 2018 we commissioned Carbon Smart Ltd to provide external assurance and commentary on the company's sustainability reporting of our key performance indicators and data pertaining to our 2017/18 environment, health and safety performance. Carbon Smart have subsequently provided the following summary assurance report:

"Johnson Matthey appointed Carbon Smart to provide third party assurance of the company's global reported Scope 1, 2 and 3 greenhouse gas (GHG) emissions, total energy, total waste (solid and hazardous), water consumption and specified health and safety indicators for the reporting period 2017/18. Carbon Smart carried out a limited assurance engagement in accordance with the requirements of the ISAE 3000 (revised) standard including the specificities of ISAE 3410 for assuring GHG emissions data, and key health and safety definitions from the OHSAS Regulations.

Johnson Matthey's GHG inventory and quantification of environmental performance indicators has been completed in accordance with the WRI / WBCSD GHG Corporate Accounting and Reporting Standard (revised) best practice reporting principles of relevance, completeness, consistency, transparency, accuracy and the subject matter adheres to the ISAE 3410 principles related to both the quantification of emissions and presentation of disclosures.

The objective of the engagement was to ensure that the assured Johnson Matthey values in scope were free of material misstatements to an acceptable, agreed materiality threshold and provide the relevant, material information required by stakeholders for the purpose of decision making.

Based on the assurance procedures followed by Carbon Smart on the described scope of Johnson Matthey's data across the 2017/18 reporting period, we have found no material evidence to suggest that the data is not:

- prepared in accordance with the WRI / WBCSD GHG Corporate Accounting and Reporting Standard (revised) and OHSAS Regulations as relevant;
- prepared in accordance with Johnson Matthey's relevant internal health and safety and environmental data collection guidelines;
- materially correct and a fair representation of the company's GHG emissions, specified environmental impacts and health and safety incident rates;
- worthy of the award of limited assurance.

Carbon Smart are independent of Johnson Matthey and have no business reason for bias in the preparation of this statement; we have complied with the ethical requirements relevant for the performance of the ISAE 3000 engagement.

This conclusion should be read with Carbon Smart's full assurance statement available at matthey.com/non-fin-assurance.

Other Information

GRI Standard Content Index

General disclosures in accordance with GR1 102

Disclosure	GRI code	Page
Organisational profile		
Name of the organisation	102-1	Front cover
Activities, brands, products and services	102-2	4-5; 15-19; 62-63
Location of headquarters	102-3	Inner back cover
Location of operations	102-4	4
Ownership and legal form	102-5	131-134
Markets served	102-6	5; 15; 33-35
Scale of the organisation	102-7	4-5
Information on employees and other workers	102-8	48-59
Supply chain	102-9	40-42
Significant changes to the organisation and its supply chain	102-10	40-42
Precautionary principle or approach	102-11	43; 47
External initiatives	102-12	20-21
Membership of associations	102-13	20; 55
Strategy		
Statement from senior decision maker	102-14	9-12
Key impacts, risks and opportunities	102-15	14-15; 76-81
Ethics and integrity		
Values, principles, standards and norms of behaviour	102-16	14-15; 16-17; 20-21; 50-53; 53-55; 58
Mechanisms for advice and concerns about ethics	102-17	54
Governance		
Governance structure	102-18	76; 88-89
Delegating authority	102-19	88-89
Executive level responsibility for economic, environmental and social topics	102-20	90-91
Consulting stakeholders on economic, environmental and social topics	102-21	20-21
Composition of the highest governance body and its committees	102-22	88-89
Chair of the highest governance body	102-23	86; 88
Nominating and selecting the highest governance body	102-24	92-94; 99-102
Conflicts of interest	102-25	94
Role of highest governance body in setting purpose, values and strategy	102-26	90-91; 95
Collective knowledge of highest governance body	102-27	84-85; 92
Evaluating the highest governance body's performance	102-28	94-96
Identifying and managing economic, environmental and social impacts	102-29	16-17; 90-91
Effectiveness of risk management processes	102-30	95-97
Review of economic, environmental and social topics	102-31	90-91
Highest governance body's role in sustainability reporting	102-32	96
Communicating critical concerns	102-33	88-89
Nature and total number of critical concerns	102-34	59
Remuneration policies	102-35	113-118
Process for determining remuneration	102-36	52; 111-112
Stakeholders' involvement in remuneration	102-37	111
Annual total compensation ratio	102-38	Information unavailable
Percentage increase in annual total compensation ratio	102-39	Information unavailable
Stakeholder engagement		
List of stakeholder groups	102-40	20-21
Collective bargaining agreements	102-41	59
Identifying and selecting stakeholders	102-42	20-21
Approach to stakeholder engagement	102-43	20-21; 55
Key topics and concerns raised	102-44	21
Reporting practice		
Entities included in the consolidated financial statements	102-45	187-190
Defining report content and topic boundaries	102-46	200-202
List of material topics	102-47	16-17; 21
Restatements of information	102-48	'Performance highlights'
Changes in reporting	102-49	22-24
Reporting period	102-50	1
Date of most recent report	102-51	200
Reporting cycle	102-52	200
Contact point for questions regarding the report	102-53	Inner back cover
Claims of reporting in accordance with the GRI Standards	102-54	200
GRI content index	102-55	204-205
External assurance	102-56	203



Specific GRI disclosures for Johnson Matthey's material topics

	GRI code	Page
Sustainability leadership		
GRI-103 Management approach 2016	103	7; 10
GRI-102 General disclosures 2016	102-14; 102-10	8; 11; 16-17; 78-81
Financial sustainability		
GRI-103 Management approach 2016	103	70-75
GRI-201 Economic performance 2016	201-3	17; 22; 60-63
Health and safety		
GRI-103 Management approach 2016	103	49
GRI-403 Occupational health and safety 2016	403-1; 403-2; 403-4	17; 50-51
Greenhouse gas emissions		
GRI-103 Management approach 2016	103	39-40
GRI-302 Energy 2016	302-1; 302-3; 302-4	44-45
GRI-305 Emissions 2016	305-1; 305-2; 305-3; 305-4	17; 23; 44-45
Air quality		
GRI-103 Management approach 2016	103	46
Climate change risk		
GRI-103 Management approach 2016	103	40
GRI-201 Economic performance 2016	201-2	44-45
Modern slavery and child labour		
GRI-408 Child labour 2016	408-1	40-42
GRI-409 Forced or compulsory labour 2016	409-1	40-42
Products lifecycle management		
GRI-103 Management approach 2016	103	42-43
GRI-416 Customer health and safety 2016	416-1; 416-2	43
GRI-417 Marketing and labeling 2016	417-1; 417-2	43
GRI-301 Materials 2016	301-3	43
GRI-306 Effluents and waste 2016	306-2; 306-3; 306-4	46
Water use		
GRI-103 Management approach 2016	103	47
GRI-303 Water 2016	303-1; 303-3	47
GRI-306 Effluents and waste 2016	306-1	47
Ethical business practices and compliance		
GRI-103 Management approach 2016	103	16-17; 39-43; 54
GRI-205 Anti-corruption 2016	205-1; 205-2; 205-3	90-91
GRI-206 Anti-competitive behaviour 2016	206-1	59
GRI-415 Public policy 2016	415-1	133
GRI-419 Socioeconomic compliance 2016	419-1	59
Resource scarcity		
GRI-103 Management approach 2016	103	21; 79
GRI-301 Materials 2016	301-2	46
Employee recruitment and retention		
GRI-103 Management approach 2016	103	52
GRI-102 General disclosures 2016	102-8	17; 58-59
GRI-401 Employment 2016	401-1	58
GRI-404 Training and education 2016	404-2; 404-3	59
Responsible sourcing		
GRI-103 Management approach 2016	103	40-41
GRI-308 Supplier environmental assessment 2016	308-1; 308-2	17; 41
GRI-414 Supplier social assessment 2016	414-1; 414-2	17; 41
GRI-407 Freedom of association and collective bargaining 2016	407-1	17; 41
Diversity and inclusion		
GRI-103 Management approach 2016	103	53-54
GRI-405 Diversity and equal opportunity 2016	405-1; 405-2	17; 53-54
GRI-406 Non-discrimination 2016	406-1	59
Community engagement		
GRI-103 Management approach 2016	103	54-55
GRI-413 Local communities 2016	413-1	17; 54-55

Other Information

Shareholder information

Johnson Matthey share price as at 31st March

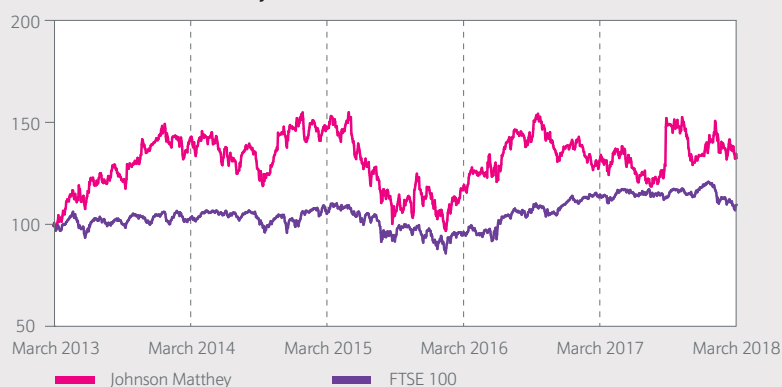
	2013	2014	2015	2016	2017	2018
	2,300p	3,271p	3,386p	2,744p	3,080p	3,042p

Analysis of ordinary shareholders as at 28th April 2018

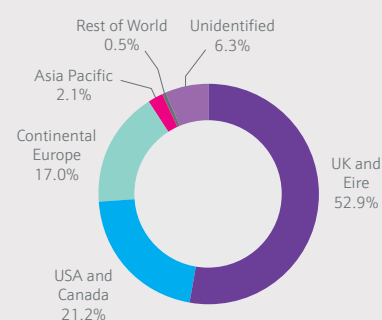
By location	Number of shares	Percentage
UK and Eire	105,265,610	52.9
USA and Canada	42,158,113	21.2
Continental Europe	33,911,797	17.0
Asia Pacific	4,232,847	2.1
Rest of World	899,111	0.5
Unidentified	12,473,128	6.3
Total	198,940,606	100.0

By category	Number of shares	Percentage
Investment and unit trusts	88,727,792	44.6
Pension funds	26,871,302	13.5
Individuals	12,162,271	6.1
Custodians	7,401,420	3.7
Insurance companies	6,487,180	3.3
Treasury shares and employee share schemes	7,489,328	3.7
Sovereign wealth funds	8,953,388	4.5
Charities	1,128,507	0.6
Other	39,719,418	20.0
Total	198,940,606	100.0

By size of holding	Number of holdings	Percentage	Number of shares	Percentage
1 – 1,000	5,337	73.5	1,620,211	0.8
1,001 – 10,000	1,316	18.1	3,642,360	1.8
10,001 – 100,000	388	5.4	13,362,352	6.7
100,001 – 1,000,000	184	2.5	54,257,942	27.3
1,000,001 – 5,000,000	28	0.4	55,994,152	28.2
5,000,001 and over	8	0.1	70,063,589	35.2
Total	7,261	100.0	198,940,606	100.0

Johnson Matthey share price five year performance versus FTSE 100
Rebased to 100 at 1st April 2013

By location



Share dealing services

A telephone and internet dealing service for UK shareholders is provided by the company's registrars, Equiniti. For further information, including Equiniti's terms and conditions and details of their fees, log on to www.shareview.co.uk/dealing or call 03456 037 037* (in the UK); +44 121 415 7560 (outside the UK).

Dividend – pence per share

	2014	2015	2016	2017	2018
Interim	17.0	18.5	19.5	20.5	21.75
Final	45.5	49.5	52.0	54.5	58.25
Total ordinary	62.5	68.0	71.5	75.0	80.0
Special	–	–	150.0	–	–

Johnson Matthey has a progressive dividend. The board is proposing a final dividend for 2017/18 of 58.25 pence to take the total for the year to 80.0 pence, which is 7% up reflecting continued confidence in Johnson Matthey's prospects.

Dividend payments and DRIP

Dividends can be paid directly into shareholders' bank or building society accounts. Shareholders wishing to take advantage of this facility should contact the company's registrars, Equiniti, or complete the dividend mandate form attached to their dividend cheque. A Dividend Reinvestment Plan (DRIP) is also available which allows shareholders to purchase additional shares in the company. Further information can be obtained from Equiniti, Aspect House, Spencer Road, Lancing, West Sussex BN99 6DA. Telephone 0371 384 2268* (in the UK); +44 121 415 7047 (outside the UK). They can also be contacted via their website at www.shareview.co.uk.

American Depositary Receipts

Johnson Matthey has a sponsored Level 1 American Depositary Receipt (ADR) programme which BNY Mellon administers and for which it acts as Depositary. Each ADR represents two Johnson Matthey ordinary shares. The ADRs trade on the US over-the-counter (OTC) market under the symbol JMPLY. When dividends are paid to shareholders, the Depositary converts such dividends into US dollars, net of fees and expenses, and distributes the net amount to ADR holders.

For enquiries, BNY Mellon can be contacted on 1-888-BNY-ADRS (1-888-269-2377) toll free if you are calling from within the US. Alternatively, they can be contacted by e-mail at shrrelations@cpushareownerservices.com or via their website at www.adrbnymellon.com.

Share price and group information

Information on the company's current share price together with copies of the group's annual and half-yearly reports and major presentations to analysts and institutional shareholders are available on the Johnson Matthey website: www.matthey.com.

The website's Investors section contains extensive information and a number of tools which will be of assistance to investors including historic share price information downloads and a share price charting facility.

For capital gains tax purposes the mid-market price of the company's ordinary shares on 31st March 1982 was 253 pence.

Enquiries

Shareholders who wish to contact Johnson Matthey Plc on any matter relating to their shareholding are invited to contact the company's registrars, Equiniti, Aspect House, Spencer Road, Lancing, West Sussex BN99 6DA. Telephone 0371 384 2344* (in the UK); +44 121 415 7047 (outside the UK) or via their website: www.shareview.co.uk.

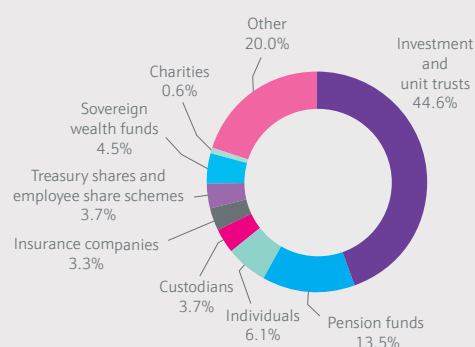
Shareholders may also telephone the company on +44 20 7269 8400 or write to:

The Company Secretary
Johnson Matthey Plc
5th Floor
25 Farringdon Street
London, UK
EC4A 4AB

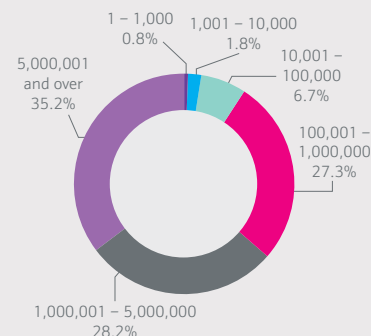
For other enquiries shareholders may contact the Investor Relations team at the above address and telephone number, by emailing jmpr@matthey.com, or via www.matthey.com

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

By category



By size of holding



Other Information

Glossary of terms

2006 Act	The Companies Act 2006	ISO 14000	Internationally recognised series of standards which specify the requirements for an environmental management system
ADHD	Attention Deficit Hyperactivity Disorder		
ADR	American Depositary Receipt	ISO 50001	International standard giving guidelines on an energy management system
AGM	Annual general meeting	JM	Johnson Matthey
APB	Auditing Practices Board	JMEPS	Johnson Matthey Employees Pension Scheme
API	Active pharmaceutical ingredient	KfW	KfW IPEX – Bank GmbH
CAGR	Compound annual growth rate	KPI	Key performance indicator
Capital expenditure to depreciation ratio	Capital expenditure divided by depreciation Depreciation is the depreciation charge of property, plant and equipment plus the amortisation charge of other intangible assets excluding amortisation of acquired intangibles	LDV	Light duty vehicle
CDP	Carbon Disclosure Project	LFP	Lithium iron phosphate, a cathode material
CEPIC	The Council of European Chemical Industry	LTIIR	Lost time injury and illness rate
CGU	Cash-generating unit	LTIP	Long term incentive plan
CHP	Combined heat and power	Margin	Underlying operating profit divided by sales excluding precious metals
CO	Carbon monoxide	NPI	New product introduction
CO ₂	Carbon dioxide	OHSAS 18001	Internationally recognised standard on occupational health and safety management
COD	Chemical oxygen demand	OSHA	Occupational Safety and Health Administration
CPI	Consumer price index	OTC	Over-the-counter
CSR	Corporate social responsibility	PARS	Prior Approval Required Substances
D&I	Diversity and inclusion	PBT	Profit before tax
DRIP	Dividend Reinvestment Plan	Pgm	Platinum group metal
EBITDA	Earnings before interest, tax, depreciation and amortisation	PILON	Payments in lieu of notice
EHS	Environment, health and safety	PSP	Performance share plan
EIB	European Investment Bank	PSRM	Process safety risk management
eLNO™	JM's next generation high energy density battery material	R&D	Research and development
EPS	Earnings per share	RC 14001	An internationally recognised standard, an expansion of ISO 14001
ESG	Environment, social and governance	RDE	Real world driving emissions standards
ESOT	Employee Share Ownership Trust	REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation
EU	European Union		EU chemical control legislation which came into force in June 2007
FCA	Financial Conduct Authority	ROIC	Return on invested capital
FRC	Financial Reporting Council	RPI	Retail price index
Free cash flow	Net cash flow from operating activities, after net interest paid, net purchases of non-current assets and investments and dividends received from joint venture	RSP	Restricted share plan
Fuel cell	Technology which converts hydrogen or other fuels (methanol, natural gas) into clean electricity	SAICM	Strategic Approach to International Chemicals Management
GAAP	Generally accepted accounting principles	Sales	Sales excluding the value of precious metals
GHG	Greenhouse gas	SIC	Standing Interpretations Committee
GMC	Group Management Committee	SIP	Share incentive plan
GRI	Global Reporting Initiative	SOx	Oxides of sulphur
GWP	Global warming potential	SPV	Special purpose vehicle
HDD	Heavy duty diesel	SVHC	Substance of very high concern
HR	Human resources	The Code	The UK Corporate Governance Code, issued by the FRC
HSRG	Health Science Research Group	TRIIR	Total recordable injury and illness rate
IAS	International Accounting Standards	TSCA	Toxic Substances Control Act
IASB	International Accounting Standards Board	UN	United Nations
IFRIC	International Financial Reporting Interpretations Committee	UN SDGs	United Nations Sustainable Development Goals
IFRS	International Financial Reporting Standards	VOC	Volatile organic compound
Incoterms®	The International Chamber of Commerce's International Commercial Terms	Working capital days	Non-precious metal related inventories, trade and other receivables and trade and other payables (including any classified as held for sale) divided by sales excluding precious metals for the last three months multiplied by 90 days
ISA	International Standards on Auditing		

Index

	Page		Page
Accounting Policies	143-149	Key performance indicators	22-24
Accounts	137-197	Long-term contracts (note 27)	173
Acquisitions (note 37)	186	Loss on disposal of businesses (note 5)	153
Amortisation of acquired intangibles (note 7)	154	Loss on significant legal proceedings (note 6)	153
Audit Committee Report	103-110	Major impairment and restructuring charges (note 8)	154
Audit fees (note 10)	154	Materiality assessment	21
Auditor's report	192-197	Modern slavery and child labour	41-42
Balance sheets	139	Movements in assets and liabilities arising from	
Basis of reporting – non-financial data	200-202	financing activities (note 29)	175
Board of Directors	84-85	Net debt (note 28)	174
Borrowings (note 28)	174	New Markets – performance review	68-69
Capital expenditure (and note 1)	73, 150-151	Nomination Committee Report	99-102
Capital structure and management (and note 31g)	73, 181	Non-controlling interests	141
Cash and cash equivalents (note 28)	174	Operating leases (notes 9, 38, 39)	154, 186
Cash flow hedges transferred to income statement (note 36)	185	Operating profit (note 9)	154
Cash flow statements	140	Operations	38-47
Chairman's letter	86	Other reserves (note 36)	185
Chairman's statement	6-7	Outlook	12
Changes in equity	141-142	Payables (note 26)	173
Chief Executive's statement	9-12	People	48-59
Clean Air – performance review	64-65	Performance highlights	Intro pages
Commitments (note 39)	186	Post-employment benefits (and note 17)	72-73, 160-167
Community investment and charitable programmes	54-55	Precious metal operating leases (note 38)	186
Company details	IBC	Product lifecycle performance	43
Comprehensive income (and note 35)	138, 184	Property, plant and equipment (note 18)	167-168
Contingent liabilities (note 32b)	182	Provisions (note 32)	181-182
Corporate Governance Code	87	Receivables (note 25)	173
Corporate Governance Report	87-98	Reconciliation of non-GAAP measures to GAAP measures	191
Customers	32-37	Related parties (note 40)	186-187
Deferred taxation (notes 12, 33)	155-156, 183	Related undertakings (note 41)	187-190
Depreciation and amortisation (note 9)	154	Remuneration Report	111-130
Directors' Report	131-134	Research and development (and note 9)	26-31, 154
Dividends (and note 14)	73, 156	Responsibility of directors	135
Earnings per ordinary share (note 13)	156	Responsible sourcing	40-41
Effect of exchange rate changes (note 3)	152-153	Return on invested capital (and note 31g)	61, 73, 181
Efficient Natural Resources – performance review	66-67	Revenue (note 2)	152
Employee numbers and costs (note 15)	157	Risks and uncertainties	76-81
Employee share ownership trust (ESOT) (note 34)	184	Sales excluding precious metals	191
Environmental performance	44-47	Science	25-31
Finance costs / income (note 11)	155	Sector performance review	62-69
Financial assets and liabilities (note 30)	175-176	Sector performance summary	62-63
Financial calendar	210	Clean Air	64-65
Financial review	70-73	Efficient Natural Resources	66-67
Financial risk management (and note 31)	74-75, 176-181	Health	67-68
Foreign exchange gains and losses (note 9)	154	New Markets	68-69
Free cash flow	73, 191	Segmental information (note 1)	150-152
Global Reporting Initiative (GRI)	204-205	Share-based payments (note 16)	158-160
Glossary of terms	208	Share capital (note 34)	184
Going concern	74	Shareholder information	206-207
Goodwill (note 19)	169-170	Sources of estimation uncertainty	148
Governance	82-135	Stakeholder communications	55
Grants (note 9)	154	Stakeholders	20-21
Group Management Committee	13	Standards adopted in year	148
Group performance review	60-61	Standards not yet applied	149
Guarantees (note 31a)	177	Strategic progress and priorities	8
Health – performance review	67-68	Strategic Report	2-81
Health and safety	49-51	Strategy	14-15
How we create value	18-19	Structure	4-5
Human resources policies	52-54	Subsidiaries (notes 21, 41)	171, 187-190
Human rights policies	41-42	Sustainable business framework	16-17
Income statement	138	Taxation (and notes 12, 33)	72, 155-156, 183
Intangible assets (note 20)	170-171	Treasury policies	74-75
Inventories (notes 9, 24)	154, 173	Underlying profit reconciliations (note 4)	153
Investments in joint venture and associate (note 22)	172	Values	Intro pages, 53
Investments in available-for-sale assets (note 23)	172	Verification of non-financial data	203
JM in profile	4-5	Viability	74-75
Key management personnel (note 40)	187	Working capital	191

Other Information

Financial calendar 2018/19

2018

7th June

Ex dividend date

8th June

Final dividend record date

26th July

127th Annual General Meeting (AGM)

7th August

Payment of final dividend subject to declaration at the AGM

21st November

Announcement of results for the six months ending 30th September 2018

29th November

Ex dividend date

30th November

Interim dividend record date

2019 (provisional)

5th February

Payment of interim dividend

30th May

Announcement of results for year ending 31st March 2019

6th June

Ex dividend date

7th June

Final dividend record date

17th July

128th AGM

6th August

Payment of final dividend subject to declaration at the AGM

Photography credits

During our 200th anniversary year, JM held a competition, inviting employees to take photographs that represented the JM brand identity – inspiring science, enhancing life.

Photographs from two of our finalists feature in this report:

Page 48 – photograph by Jasmin Brunner, Moosburg, Germany.

Pages 198-199 (bottom image) – photograph by Nathan Barrow, Sonning, UK.

Congratulations to Jasmin, Nathan and all of our other finalists.

eLNO is a trademark of the Johnson Matthey group of companies.

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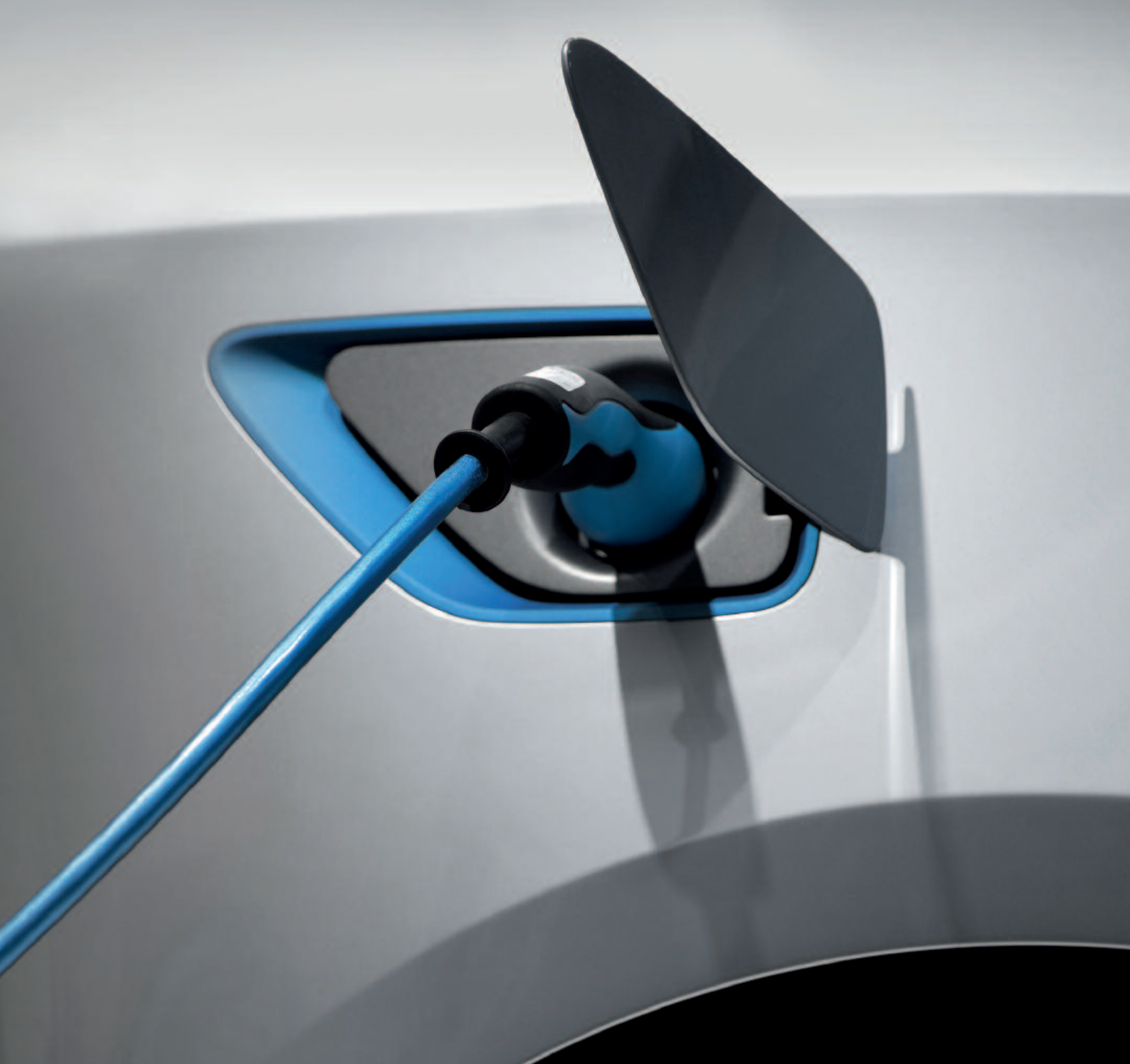
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