



Johnson Matthey

# 2016

ANNUAL REPORT & ACCOUNTS

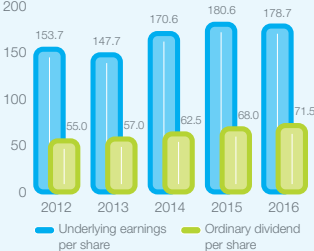
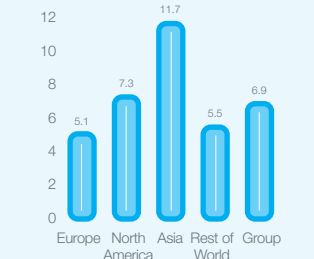
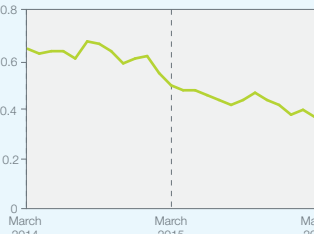
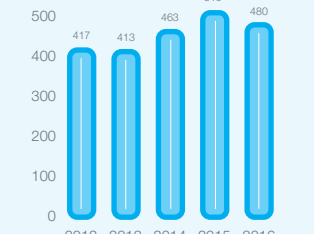


## **SUSTAINABLE TECHNOLOGIES**

FOR TODAY AND FOR THE FUTURE

# PERFORMANCE HIGHLIGHTS

Johnson Matthey delivered a robust performance in 2015/16, despite challenging markets, and continued to invest for future growth

		Year to 31st March		%
		2016	2015	change
<b>Financial</b>				
Revenue	£ million	10,714	10,060	+7
Sales excluding precious metals (sales) <sup>1, 2</sup>	£ million	3,177	3,164	—
Profit before tax	£ million	386.3	495.8	-22
Earnings per share	pence	166.2	211.2	-21
Underlying <sup>3</sup> :				
Profit before tax	£ million	418.2	440.1	-5
Earnings per share	pence	178.7	180.6	-1
Dividend per share				
Ordinary	pence	71.5	68.0	+5
Special	pence	150.0	—	
<b>Delivering Superior Value</b>				
pence				
				
<b>Social</b>				
Average number of employees		12,494	12,148	+3
Voluntary employee turnover	%	6.9	6.0	+2
Charitable donations	£ thousands	679	612	+11
<b>Voluntary Employee Turnover by Region %</b>				
				
<b>Health and Safety</b>				
Lost time injury and illness rate <sup>4</sup>		0.37	0.50 <sup>5</sup>	-26
Total recordable injury and illness rate <sup>4</sup>		0.85	1.13 <sup>6</sup>	-25
Occupational illness cases per 1,000 employees		0.90	1.03 <sup>7</sup>	-13
<b>Lost Time Injury and Illness Rate<sup>4</sup></b>				
				
<b>Environment</b>				
Energy consumption	thousands GJ	5,064	5,366 <sup>8</sup>	-6
Global warming potential	thousand tonnes CO <sub>2</sub> equivalent	480	510 <sup>9</sup>	-6
Waste to landfill	tonnes	1,953	3,482	-44
Water consumption	thousands cubic metres	2,605	2,529	+3
<b>Global Warming Potential</b>				
thousand tonnes CO <sub>2</sub> equivalent				
				

<sup>1</sup> We believe that sales excluding precious metals is a better measure of the growth 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.

<sup>2</sup> Sales excluding precious metals have been adjusted to include certain non pass through precious metal items.

<sup>3</sup> Before amortisation of acquired intangibles, major impairment and restructuring charges, profit or loss on disposal of businesses, significant tax rate changes and, where relevant, related tax effects.

<sup>4</sup> Per 200,000 working hours in a rolling year.

<sup>5</sup> Restated to include accidents that occurred during 2014/15 but that were not declared as having resulted in lost time.

<sup>6</sup> Restated for incidents reclassified after the year end.

<sup>7</sup> Restated due to initial diagnosis being changed. See page 72.

<sup>8</sup> Restated to account for a change in calorific value of gas purchased in South Africa.

<sup>9</sup> Restated using national carbon intensity figure for Macedonia. See page 76.

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**WE REMAIN COMMITTED TO OUR 3C STRATEGY AND ITS THREE CORE PILLARS; COLLABORATE, CUSTOMER FOCUS AND CREATE VALUE. OUR SHARED FOCUS ACROSS THE GROUP GIVES US CONFIDENCE IN BUILDING OUR 3RD CENTURY THROUGH VALUE ADDING SUSTAINABLE TECHNOLOGIES.**

**AT JOHNSON MATTHEY OUR PEOPLE ARE AT THE HEART OF OUR SUCCESS.**

On the following pages you can read more about some of their achievements during the year, how sustainability will contribute to our long term success and how we are creating value for our employees, customers, shareholders and the communities in which we work.

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**COLLABORATE / CUSTOMER FOCUS / CREATE VALUE**

# STRATEGY IN ACTION

**How our 3C Strategy is helping us build our 3rd century through value adding sustainable technologies.**



## POWERING UP OUR BATTERY TECHNOLOGIES BUSINESS

**The demand for electric vehicles, including hybrid, full battery and fuel cell powered cars, is growing. This trend means there is an increasing need for the batteries to power these vehicles and Johnson Matthey is working to meet this demand by investing in our Battery Technologies business.**

Innovations in this field could unlock opportunities for the broader commercialisation of fully electric, zero emission vehicles. There is great scope to create value by making the improvements in battery performance that are necessary for truly competitive battery electric cars.

Batteries are made up of various elements, including individual cells which create electrical energy through an electrochemical reaction. Within a cell there is a positive electrode, the cathode, and a negative electrode, the anode. The cathode typically limits overall battery performance, making this the area where there is the most potential for technological improvement. Johnson Matthey is focusing its effort on the development of higher performance cathode materials.

The challenges of this fit well with our core strengths, particularly our expertise in designing and manufacturing advanced functional materials and, through our two recent acquisitions, we are now a major supplier of cathode materials for automotive applications.

These acquisitions brought us expertise in the manufacture of high quality lithium iron phosphate (a material used in cathodes) and long term supply relationships with key cell developers using this chemistry.

We are also busy researching the next generation of battery materials, working closely with customers to gain a broad and deep understanding of their needs to develop bespoke solutions which can make a positive impact on the world, now and in the future.



**COLLABORATE / CUSTOMER FOCUS / CREATE VALUE**

## **GREENER SILVER: PRODUCT INNOVATION IMPROVES HEALTH AND SAFETY**

**A new product developed in our Advanced Glass Technologies (AGT) business is improving the health and safety of both our workers and customers.**

The AGT team has produced a new silver conductive paste that is more robust than its predecessor and safer as it doesn't include phthalate, a chemical compound that can be harmful to people and the environment.

Silver paste is used by our automotive glass customers as a high performance product for applications such as rear window defrosters. Experts from our technical sales, product development and quality assurance teams in the US and the Netherlands reformulated this popular group of products after exploring customers' needs.

The new paste is the result of work to redesign or retire products containing phthalates. Because these chemicals can be absorbed by the human body, they are suspected of harming people's health so steps are being taken to remove them from common sources of exposure.

Collaboration and customer focus were the key to this project. The customer was interested in a phthalate free alternative for this essential product if, and only if, it improved on the earlier version. The team met this requirement through a rigorous sampling and customer testing programme to create a robust new product that is safer and healthier for Johnson Matthey to produce and for our customers to use.

This work supports our drive to innovate and design more efficient, more durable products which create value for our customers and protect human health. Working closely with our customers throughout the development process and listening to their concerns led to the adoption of the improved version, which has now sparked interest in the wider marketplace.

## NEW DIESEL EMISSION CONTROL TECHNOLOGY CREATES OPPORTUNITIES

New regulations that come into effect next year in the US to reduce harmful vehicle emissions and lower the sulphur content of fuel will be challenging to meet. Johnson Matthey realised at an early stage that developing new technology capable of reducing emissions of oxides of nitrogen (NOx) at very low temperatures could be key to helping our customers meet the new regulations.

This is the kind of challenge our R&D teams thrive on. By collaborating on a project with our customers, Johnson Matthey has exceeded expectations with its new diesel Cold Start Concept (dCSC™) catalyst.

Catalytic emission control systems are highly efficient when they are running at their operating temperature (typically above 200°C) but problems can arise at lower temperatures or during the so-called 'cold start' phase, when the engine is first turned on. Johnson Matthey's new dCSC™ catalyst adsorbs NOx and hydrocarbons during the cold start period and releases them once the rest of the emission control system has warmed up.

During tests, vehicles using this technology comfortably achieved the required standard, demonstrating a fuel economy of 26 miles per gallon (mpg) in the city and 36 mpg on the highway, yielding a corporate average fuel economy (CAFE) improvement of 60% over the gasoline equivalent and well exceeding the 40% improvement target expected.

The dCSC™ catalyst will also help enable future diesel vehicles to achieve stringent emission standards around the world without compromising on fuel economy. For example, Johnson Matthey has also used this technology as a key component in an advanced emission control system to demonstrate the potential to meet the ultra low NOx regulations which California is considering introducing for on road heavy duty diesel vehicles by 2023.

Working closely with our customers helped make the project a success, opening up possibilities for the adoption of this technology in future commercial applications and reaffirming our reputation for emission control innovation.



## MAKING A POSITIVE IMPACT THROUGH PROCESS INNOVATION

**A new process technology developed by a team in our Process Technologies Division allows cost competitive renewable materials to be manufactured for a wide range of markets.**

Johnson Matthey's existing butanediol process allows customers to manufacture high quality products for the polymers and solvents industries. It has historically required a form of petrochemical as feed but this innovation, the creation of a new bio-butanediol process, means customers can now use a sugar based feed called bio-succinic acid.

Our customers use the new process to make chemical intermediates that are used in products for automotive, electrical and clothing applications.

By building on Johnson Matthey's core scientific strengths, the team was able to modify one of its existing technologies to use the new feed. They then approached several companies that were developing sugar to bio-succinic acid technology to highlight how this new process could benefit them.

The new process is particularly attractive to customers because the technology is commercially proven and offers a low risk, fast to market route for large scale commercialisation. This, together with our strong reputation, has resulted in a licence agreement with a customer for a new plant. Innovations during the development of the new process have also resulted in three new patent applications, with a further one pending.

Adapting the process has given us unique experience of working in biochemicals which will support future developments and partnerships in the renewables sector.



**COLLABORATE / CUSTOMER FOCUS / CREATE VALUE**



## MEETING CUSTOMERS' CHANGING NEEDS IN CHINA

**A project to improve a product line for our Emission Control Technologies (ECT) Division in China has resulted in a new catalyst which better meets our customers' requirements.**

China is one of the world's largest and fastest growing markets, so innovating quickly to meet the expectations of our local customers is critical to our continuing success there.

The development team was working to a deadline to ensure an improved product would meet China's upcoming, tighter emissions legislation before the new laws came into effect.

Building on our experience of developing similar products for European and US markets, we looked carefully at the catalyst's fundamental composition and made changes, including moving to a local supplier for some of the required raw materials. This resulted in the introduction of an improved product which also uses less raw material than the original.

This project builds on our long tradition of working with our customers, understanding their challenges and delivering products that meet their specific needs.

The ideas and resulting innovations behind this project, a deep understanding of our customers' requirements, using alternative suppliers, using fewer natural resources and reimagining existing formulations, can also be applied to other markets and product lines. This gives ECT the potential to create even more value for Johnson Matthey and our customers in the future.



COLLABORATE / CUSTOMER FOCUS / CREATE VALUE

## CREATING VALUE FOR NEW CUSTOMERS AT FINE CHEMICALS

**Our Fine Chemicals team in the US has applied its manufacturing process knowledge and complex chemistry expertise to develop a new active pharmaceutical ingredient (API) which is being used in treatments for depression.**

This process innovation has enabled the customer to develop medications which could be used to treat multiple illnesses and is an innovation that has the potential to benefit many people.

The customer is new to Johnson Matthey and the team in the US studied the customer's needs so that they could tailor their offering to win the business.

Most medicines are created using organic compound base materials, which we turn into APIs through several processes including chemical synthesis (the manipulation of the base materials through chemical reactions). The resulting APIs are small molecules that bind to specific biological targets within the body and can be used in our customers' products.

By building on one of the core molecules we already produce, the team was able to convert that molecule into the new product the customer required. The molecule Johnson Matthey is now producing for this customer is used in the APIs for several different medications, including the new product designed to combat depression.

The process for making this new product, which is also more cost effective and efficient, has demonstrated our complex chemistry skills and customer focused approach, giving us the potential to work with the customer on other products in the future.

## NOVEL MANUFACTURING TECHNOLOGY UNLOCKS PRODUCT INNOVATIONS

**Our Precious Metal Products Division has built on its core knowledge of material science to develop an advanced manufacturing technique that produces novel ceramic substrates.**

The technique is additive layer manufacturing (ALM, also known as 3D printing) which is used to form ceramics of new geometries. If a shape can be drawn, ALM can fabricate it. This is unachievable using conventional manufacturing techniques, so ALM creates a step change in production that offers freedom in the design of new products.

The ability to change the shape of ceramic substrates helps to control the flow over a catalytic system and reduce overall system pressure drop. This increases the yield and efficiency while reducing the operating costs of a reaction system.

The development of these new substrates draws on skills and know-how from different teams within Johnson Matthey to characterise the product and understand how the process compares with conventional techniques.

Our progression in ALM will help us continue to grow our business and move with our customers' changing needs across multiple markets, from automotive to chemical synthesis. We continue to collaborate across our divisions to unlock the technical potential of ALM substrates for Johnson Matthey across a range of applications.



## A DECADE OF SUPPORT FOR SCHOOLS IN SRI LANKA

Johnson Matthey has a long tradition of charitable giving; we can trace this back to 1838 when we began a partnership with the Royal London Society of the Blind, an organisation that we still support today. Since then we have worked with many charities that make a positive impact through education.

As part of our Sustainability 2017 strategy, we support work in this area by partnering with organisations around the world that foster educational opportunities for the next generation. This includes our longstanding support of three schools in the Galle region of Sri Lanka through the charity, United Kingdom Friends of Galle (UKFG).

Johnson Matthey began its support of the schools after the devastating tsunami in 2004 and has built on that relationship for more than 10 years, financing scholarships for 36 children. Two of the recipients are now at university, one of whom gained one of the highest O Level results in the country before passing her A Levels.

Our funding is having an incredibly positive impact, as the Chair of our Charity Investment Committee discovered when she took time out to visit the schools whilst on holiday last year. She had the opportunity to meet with students and hear first hand how they are benefiting from our support. She also made presentations to 14 students who had recently completed their 11+ exams, something that wouldn't have been possible without the work of UKFG.

Johnson Matthey's commitment to education has already created a lasting legacy for these communities and the partnership will continue to grow. Next year, to mark our 200th anniversary, we will provide funding to construct a library for Thumbe, the most deprived of the three schools, through which we can support students' learning in Sri Lanka for many years to come.

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You can find more  
examples of our strategy  
in action on our website

# WWW.MATTHEY.COM

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# SUSTAINABLE TECHNOLOGIES

FOR TODAY AND FOR THE FUTURE

**JOHNSON MATTHEY IS A SPECIALITY CHEMICALS COMPANY AND A LEADER  
IN SUSTAINABLE TECHNOLOGIES.**

We use our expertise in advanced materials and technology to innovate and improve solutions that are valued by our customers; optimise the use of natural resources; and enhance the quality of life for millions of people around the world.

We believe that our performance cannot be measured by profit alone. It's about running our business in the most sustainable way both today and for the future. We aim to create value for our investors and as we approach our 200th year of operation, we continue to strive to do the right thing for the planet and the people and communities with whom we share it.

- 
- **>90%**  
of our sales come from products that benefit the environment, conserve natural resources or improve quality of life
  - **~£190 million**  
invested in R&D in 2015/16 to support the creation of the next generation of sustainable technologies
  - **~13,000 people**  
in over 30 countries around the world

# ABOUT THIS REPORT

**OUR INTEGRATED REPORT FOR 2016 COMBINES ALL ASPECTS OF THE GROUP'S PERFORMANCE INTO ONE DOCUMENT AND REFLECTS HOW WE ARE ADDRESSING THOSE ISSUES WHICH WE BELIEVE HAVE THE POTENTIAL TO HAVE A MATERIAL IMPACT ON OUR BUSINESS. THE REPORT ALSO INCLUDES CASE STUDIES THAT ILLUSTRATE OUR STRATEGY IN ACTION ON A DAILY BASIS, CONTRIBUTING TO JOHNSON MATTHEY'S LONG TERM SUCCESS.**

Unless otherwise stated, performance data is for the year ended 31st March 2016.

## NAVIGATION

Throughout this report you will see a series of easy to identify icons to help you find information about our business performance, strategy, material issues and risks. We also highlight information relevant to the reporting of the Global Reporting Initiative (GRI) G4 indicators that we have identified as material to our business.



GRI G4 Indicator



Read more



Principal Risk



Go Online

## SUSTAINABILITY REPORTING

This report is written to the GRI G4 guidelines.

We report against GRI G4 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](http://www.matthey.com)

## KEY INFORMATION WITHIN THIS REPORT

### Overviews from the Chairman and Chief Executive

Reviews of the year, an outline progress against long term strategy and a summary of the outlook for the year ahead.



→ Read more on pages 6 to 11.

### Our Strategy and Our Approach to Building a Sustainable Business

Details of our 3C Strategy for growth, progress made during the year, including our response to any challenges, and key priorities for the year ahead.



→ Read more on pages 20, 21, 24 to 27, 36 and 37.

### Financial Review and Accounts

Report on the performance of the group and its five divisions over the last year.



→ Read more on pages 40 to 62 and 134 to 181.

### People and Planet

Highlights the group's broader performance and contribution. Here we outline activities involving our employees and other stakeholders and our commitments and progress in the areas of health, safety and the environment.



→ Read more on pages 66 to 79.

### Good Governance and Managing Risk

An introduction to our board and the structures and processes that are in place to effectively manage risk and ensure we operate our business in a responsible and transparent way.



→ Read more on pages 28 to 35 and 82 to 131.

## 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.

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# OVERVIEW

## **THIS SECTION INTRODUCES JOHNSON MATTHEY AND SUMMARISES OUR PERFORMANCE DURING THE YEAR.**

It also outlines the group's strategy to build our 3rd century through value adding sustainable technologies.

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AI performs a visual inspection at our Fine Chemicals manufacturing site in New Jersey, US. The division manufactures active pharmaceutical ingredients (APIs) and provides a range of commercial scale manufacturing services for APIs to pharmaceutical companies.

# CHAIRMAN'S STATEMENT

## SUMMARY

- Strategic focus and effective management enabled the group to deliver a robust performance despite the challenging macroeconomic environment.
- Continued investment to support future growth.
- Special dividend of 150 pence per share paid in February 2016, proposed ordinary dividend of 71.5 pence up 5% on last year.
- Board focused on the development and execution of strategy, board effectiveness and the company's people, culture and values.
- Ongoing emphasis on the development of value adding sustainable technologies. The group remains well placed for continued growth.

Tim Stevenson  
Chairman

## Overview

The macroeconomic environment this year has created difficult trading conditions for some of our businesses. In that context I am pleased to report that Johnson Matthey has maintained momentum overall, delivering a robust performance. At the same time, we have continued to invest in R&D, our facilities and our business systems to enable future growth. Underlying earnings per share of 178.7 pence were slightly down on last year.

We have further refined our strategy of focusing on value adding sustainable technologies and have responded to the difficult conditions in some markets by taking action to reduce our costs. Since early March 2015, two non-core businesses have been sold and the proceeds returned to shareholders through a special dividend. At the same time we have also made a number of bolt-on acquisitions that have strengthened our capabilities.

Health and safety is a priority across the group; it is the first item on every board and management committee agenda. Tragically, last summer an accident at our Fine Chemicals' Riverside facility in the US resulted in the death of one of our colleagues. This has reinforced our determination to ensure that at all times our people are aware of the importance of managing our business in a way that prevents accidents and injuries across the group. The 26% reduction in our lost time injury and illness rate illustrates that progress towards this goal is well underway.

## Performance

The solid performance for the group as a whole was underpinned by another strong year for Emission Control Technologies. With air quality remaining high on the global agenda, sales of our emission control catalysts continued to grow. Elsewhere, Fine Chemicals made progress and in New Businesses we have continued our investment to drive future growth, notably in the area of battery materials.

Challenging macroeconomic conditions in the markets for Process Technologies and Precious Metal Products, which are expected to remain for a number of years to come, demanded a high level of management responsiveness. In both divisions, costs have been reduced which will benefit the group over the coming year. However, we recognise and regret the difficulties this will have caused to those employees who, as a result, left the group during the year.



## Strategic Focus

Our strategy is clear and we will continue to review and refine it. Our overall ambition is to create value for our shareholders by investing in both our established areas of expertise and in developing the next generation of sustainable technologies.

We have continued to invest over 5% of sales on R&D which is directed towards those areas of the business which best align with our strategy and enable us to expand our portfolio of short, medium and long term technology options. Likewise, we have increased our investment in capital expenditure to support future anticipated growth.

## Talent, Culture and Values

Making sure we have the right people and a pipeline of talent for the future needs of the business is critical to the continuing success of the group and we have in place comprehensive plans to make this happen. Providing employees with the right opportunities for career development in a culture in which they are encouraged to succeed will help build a more sustainable and profitable company for our shareholders, a better place to work for our people and will create value adding sustainable technologies for our customers.

As a board we understand that setting the tone from the top starts with us. It is important that we ensure that there is the right emphasis on health and safety and on doing the right thing wherever we do business. Programmes are in place to help our employees understand what is expected of them.

## Board Matters

The board's role is to set the group's strategic direction, manage risk and have financial and operational oversight of the group. During the year, we have particularly focused on the three priorities which I have already mentioned: the development and execution of strategy; ensuring we have the right people; and encouraging and supporting the embedding of appropriate culture and values throughout the group.

To be effective in its role, the board requires a balance of skills, experience and appropriate diversity in our directors. The board's needs in this regard will change over time and we are alert to the necessity to keep the membership appropriately refreshed.

Reflecting on the changes to the board announced this year, I would like to thank Larry Pentz, who retired on 31st March 2016, for his tremendous contribution over 13 years as a member of our board and over 32 years as an employee of Johnson Matthey.

On behalf of the board, I also wish to thank Den Jones who, for personal reasons and following a mutual agreement with the company, will step down as Group Finance Director over the summer this year. We wish him well in his future endeavours.

Following nine years on the board, including the last two as Chair of our Remuneration Committee, Dorothy Thompson will step down as a Non-Executive Director in July this year. We have greatly valued her input to the work of the board and thank her for her contribution.

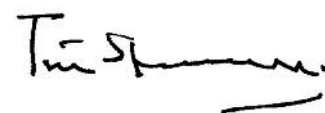
I am delighted that from 1st January 2017 we will welcome Jane Griffiths to the board as a Non-Executive Director. Jane, who is currently Company Group Chairman of Janssen EMEA, the research based pharmaceutical arm of Johnson & Johnson, will bring significant experience and understanding of the management of global businesses, particularly across the pharmaceutical sector, together with a strong interest in diversity and the encouragement of women's careers in business. I look forward to working with her and to her contribution to the board.

## In Conclusion

Although the macroeconomic conditions we encountered over the last year are likely to persist in 2016/17, we have taken the necessary short term actions where needed and at the same time continued to invest for the long term to drive future growth.

Key to the group's performance during the year has been our employees. It has been a difficult and demanding year and as usual they have risen to the challenge. On behalf of all our shareholders, I give our thanks and appreciation to them all. You can read more about their contributions over the past 12 months to the company's success in this report.

The long term drivers for the group, in particular the need for improved air quality, a growing and ageing population and the efficient use of natural resources, remain firm. We are well placed to benefit from them. I am confident that this, in combination with our unrivalled technical expertise, deep understanding of customers' applications and excellent people, will ensure the continued success of Johnson Matthey.



**Tim Stevenson**  
Chairman



→ Read more about our 3C Strategy on pages 20 and 21.



→ Read more about research and development on pages 22 and 23.



→ Read more about our people, culture and values on pages 66 to 71.



→ See our Board of Directors on pages 82 and 83.

**CREATING LONG TERM VALUE**  
**BY INVESTING IN THE DEVELOPMENT OF**  
**NEXT GENERATION SUSTAINABLE TECHNOLOGIES**

# CHIEF EXECUTIVE'S STATEMENT

## SUMMARY

- Robust performance overall in challenging markets, supported by strong growth in Emission Control Technologies.
- Ongoing investment in R&D and capex to position the group for future growth opportunities.
- Good progress in embedding our culture and values.
- Continued focus on making health and safety our priority.
- Overall, Johnson Matthey remains in great shape to deliver long term growth through the creation of value adding sustainable technologies.

**Robert MacLeod**  
Chief Executive



## CHIEF EXECUTIVE ROBERT MACLEOD GIVES AN OVERVIEW OF THE GROUP'S PERFORMANCE IN 2015/16 AND OUTLINES THE PROGRESS MADE IN DELIVERING THE 3C STRATEGY.

### How would you describe the group's progress in 2015/16?

I am pleased with the overall performance this year given the tough macroeconomic environment we have faced. On a continuing basis, our sales were up 3% before tax and our underlying profit before tax was flat, which is testament to the great effort by everyone in the company. We benefited from our continued focus on sustainable technologies, particularly in Emission Control Technologies, which had another strong year boosted by the introduction of tighter legislation in Europe. We also made good progress in New Businesses and recent investments in our Battery Technologies business have started to generate good early momentum.

On the other hand, trading conditions in some of our markets were particularly challenging this year due to external headwinds, most notably the low oil and platinum group metal (pgm) prices, plus the slowdown in China. These all had an adverse impact on the group's performance, especially in Process Technologies and Precious Metal Products. We have therefore had to make some difficult decisions which unfortunately resulted in a number of job losses. This was a particularly unsettling time for our staff and we made every effort to minimise the negative impact on them wherever possible. The positive way the business and our people responded is a reflection of what I think is a unique workplace culture. This right sizing of our business was necessary to ensure we remain in good shape and our results in 2016/17 will benefit from the actions we have taken.

We continued to focus on health and safety throughout the year and the figures are moving in the right direction as demonstrated by the 43% reduction in our lost time injury and illness rate over the last two years. But it is not just about the numbers; it's about changing people's day to day behaviours which, of course, is a more difficult challenge to address. Whilst we have made some positive steps, our progress this year was tragically overshadowed by the fatality at our Riverside site in the US, which shocked and saddened all of us.

### What progress has been made in delivering the strategy?

The focus of our 3C Strategy, which is to build our 3rd century through value adding sustainable technologies, remains strong and we have driven this forward in 2015/16. Despite the external headwinds I've mentioned, we have continued to invest across the business this year to position the group for medium term growth. We have increased our R&D spend again in 2015/16 to almost £190 million. This investment is key in ensuring we can deliver the sustainable technologies of the future. Our capital expenditure has also increased, by 21% to £257 million, as we have expanded our manufacturing facilities to meet future demand and continued our programme of investment to upgrade our core business systems.

Work in our New Businesses Division, where we are focusing on developing opportunities for medium to long term growth, is going well and we remain on track to break even in this division in 2017/18. We have continued to make a number of smaller scale acquisitions to provide us with the technology and / or market access we need to grow our positions, particularly in the areas of atmosphere control and water purification.

To ensure we continue to focus on our core strengths in chemistry and its applications, we have adjusted our portfolio through the divestment of our Research Chemicals (Alfa Aesar) business. This was sold in September 2015 for £255 million and its proceeds, together with those from the sale in March 2015 of our Gold and Silver Refining business, were returned to shareholders by way of a special dividend in February of 150 pence per share.

I am pleased to say that even with this, our balance sheet remains strong, giving us the capacity we need to invest in future growth.

All of these developments are underpinned by further achievements in operational excellence and sustainability which we estimate have delivered around an additional £27 million of savings this year, taking the total saved to around £117 million since the launch of Sustainability 2017 in 2007.

### How close is the group to meeting its Sustainability 2017 Vision and targets?

Our Sustainability 2017 programme will come to a close at the end of March 2017 and as you will see on page 25, we are getting very close to achieving our targets. However, more important is the way we've really embedded and embraced a culture of sustainability throughout the company over the past nine years. Internally we have made huge strides in improving the environmental footprint of our operations which has helped support our business during several market downturns experienced since 2007. Furthermore, I am proud to say that today, some 92% of our sales are generated by products that enhance people's quality of life, conserve the world's natural resources and protect the environment.

But Sustainability 2017 is just the beginning. We are now working on the next phase of our strategy which will extend our sustainable business activities more widely throughout our value chain to include strong collaborative partnerships with a broader range of stakeholders, including suppliers, employees and customers.

### You highlight customer focus as one area of your 3C Strategy. Can you update us on what you are doing in that area?

Johnson Matthey's future profit will come from our customers, not from our offices, labs or factories. So customer focus is all about driving profitable growth by looking at ways in which we can create more value for our customers.

There are many ways in which we do this; for example through reducing their capital and operating expenditure, helping them achieve a faster time to market or enabling them to comply with legislation. So the value is created in our customers' applications, not in Johnson Matthey itself, and doesn't come from the product itself, it comes when the product is actually used.

This year, we've continued to partner with our customers to understand their changing requirements and deliver new products which create value for them in their operations. This has supported top line growth and you can read more about some examples in the Strategy in Action section at the front of this report.

Johnson Matthey has a number of commercial assets – customer relationships, our market insight, our commercial skills and processes and our brand. Like other assets in our business, they are hard to acquire, valuable and, if used effectively, are a real source of competitive advantage. So there is an opportunity for us to optimise these assets and we have a number of projects we are starting over the coming year to target particular areas and leverage the strengths of the whole of Johnson Matthey to drive further commercial success and top line growth over the longer term.

### Last year you told us that the 'best of big and small' company transition was a key area for you. Is that still the case?

Absolutely. Our transition from a 'big small company' to a 'small big company' is an important step for Johnson Matthey as it approaches and moves into its 3rd century of operation. As with any transition, it will take time and involves a number of aspects but success will come from engaging with our people to embed different ways of working across the organisation.

## BUILDING OUR 3RD CENTURY THROUGH OUR PEOPLE, OUR CULTURE AND OUR TECHNOLOGIES

# CHIEF EXECUTIVE'S STATEMENT (CONTINUED)

The work we are doing on health and safety is one example of this. In addition, we have also made good progress this year in helping employees understand their responsibilities to conduct Johnson Matthey's business legally, ethically and responsibly. In September we launched our code of ethics, called 'Doing the right thing', which was accompanied by training for all employees, and work continues to embed this across the organisation. Doing the right thing is all about doing good business, not business at any cost. It is essential that everyone takes responsibility for upholding the highest ethical standards to ensure we protect Johnson Matthey's strong and hard earned reputation.

We have also continued to introduce and develop a global human resources strategy to provide us with the right talent management frameworks to support our growing organisation. These are vital in giving employees the skills and career development they demand and that we need to grow our business, and to make us an attractive proposition to high calibre recruits.

In addition, we are making good progress on several other projects that underpin efficiencies, such as the upgrades to our core business systems. The work on customer focus, which I described above, will complement these other projects well, by driving further top line growth.

Inevitably, the transition to a small big company is creating some different ways of working for us all. However, these are vital in ensuring that the organisation operates such that the performance of the group as a whole is greater than the sum of its parts. That's how we will unlock further opportunities for growth and create more value as a group in the future.

## What are your priorities in 2016/17?

My first priority is embedding the aspects of our small to big company transition that we have initiated over the past couple of years. This includes the work to date on health and safety, talent management and on building a culture of doing the right thing so that we make these an intrinsic part of the way we do business.

Second is to continue to drive growth across all areas of the business, supplemented with targeted acquisitions that will accelerate our progress. 2015/16 was a challenging year but we continued to invest across the group and took action where necessary to reduce our costs. So, as you will see from our 'Outlook' statement to the right, 2016/17 is very much about building on this and moving forward.

Thirdly, to continue to drive efforts in operational excellence, optimising our investments and increasing our focus on adding value for our customers to underpin future growth.

## And finally, what are your longer term expectations for Johnson Matthey?

Johnson Matthey is a great company with great people. It is important to me that our unique culture, with strong values at our core, continues to be our foundation. It is my ambition to make Johnson Matthey 'THE' place to work through being an inclusive and highly attractive company that encourages anyone from anywhere to excel.

All of this means that Johnson Matthey continues to be well placed for the future. We will continue to be a company that uses its strong expertise in chemistry and its applications with high efficiency to benefit our customers and the planet.

So overall, I am pleased to say that the group remains well positioned in markets with strong growth drivers. Our strong cash generation and balance sheet provide a platform for investment, and we continue to increase R&D and capital expenditure to support future growth. As you'll see in this report, we have a clear purpose and strategy, and I am confident that Johnson Matthey is in great shape to deliver long term growth for our shareholders through the creation of value adding sustainable technologies.

## Outlook

The structural drivers for the group's technologies remain robust despite the challenging macroeconomic conditions which are expected to continue in 2016/17.

Increased investment in R&D and capital expenditure, together with the restructuring actions taken in 2015/16, provide strong foundations for future growth. At current exchange rates, the outlook for our five divisions is as follows:

## Emission Control Technologies (ECT)

ECT's performance in 2016/17 is expected to be slightly ahead of 2015/16. The division should benefit from continued growth in vehicle production in Asia and Europe, and robust demand for trucks in Western Europe. However, this will be partially offset by significantly lower demand for heavy duty diesel catalysts for large (Class 8) trucks in North America which will result in a weaker first half performance for the division. ECT remains well positioned to benefit from the strong growth opportunities provided by continued tightening of legislation around the world, including the introduction of Euro 6c and real world driving standards in Europe, which should positively impact the business from 2018.

## Process Technologies

We expect challenging trading conditions to continue and that many of Process Technologies' markets will remain subdued. However, the division's performance is expected to be ahead in 2016/17 as a result of recent actions taken to reduce costs. The order book for catalysts indicates stable demand but income from licensing is likely to remain at current low levels and the low oil price will continue to negatively impact the Diagnostic Services business.

### Precious Metal Products

Although pgm prices have stabilised since our year end, they remain low, relative to the same time last year. Consequently, we expect the performance of our Pgm Refining and Recycling business in 2016/17 will be lower than in 2015/16, if prices remain at current levels. Our Manufacturing businesses, which represent around three quarters of the division's sales, should see good demand and we expect performance will be slightly ahead of last year. Taken together, at current pgm prices, we expect performance in Precious Metal Products will be slightly lower than in 2015/16.

### Fine Chemicals

Fine Chemicals is expected to make progress in 2016/17 on a continuing basis. We anticipate growth in the Active Pharmaceutical Ingredient (API) Manufacturing business in North America and our business in Europe will benefit from increased capacity once the refurbishment of the Annan facility in Scotland is completed in late 2016. Catalysis and Chiral Technologies is expected to maintain its good performance.

### New Businesses

In 2016/17 New Businesses will continue to reduce its underlying operating loss supported by a profitable contribution from our Battery Technologies and Atmosphere Control Technologies businesses and benefiting from lower costs in Fuel Cells following its restructure. The division remains on track to reach breakeven in 2017/18.

### Overall

In 2016/17 the group will benefit from good progress in Fine Chemicals and New Businesses. ECT's performance for the year as a whole is expected to be stable, albeit with a weaker performance in the first half, and whilst market conditions in Process Technologies remain challenging, its performance should improve as a result of the reduced cost base. At current pgm prices, performance in Precious Metal Products is expected to be slightly lower. Overall, at current exchange rates, we expect the group's performance in 2016/17 to be ahead of 2015/16, in line with current market expectations.



**Robert MacLeod**  
Chief Executive



Read more about Sustainability 2017 and our future plans on pages 24 to 27.



Read more about the performance of the group and its divisions on pages 40 to 62.



Read more about health and safety on pages 72 to 75.

# OUR BUSINESS

## WHAT WE DO AND HOW WE CREATE VALUE FOR OUR CUSTOMERS

### JOHNSON MATTHEY IS A GLOBAL LEADER IN SUSTAINABLE TECHNOLOGIES THAT:

- Improve air quality and reduce emissions.
- Conserve natural resources.
- Enhance quality of life.

- Annual sales of

**£3.2 billion**

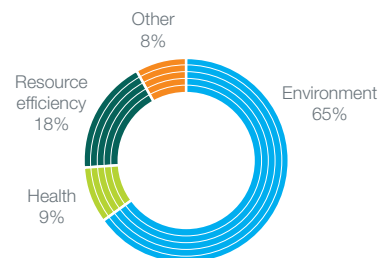
- Underlying profit before tax

**£418 million**

- **92% sales**

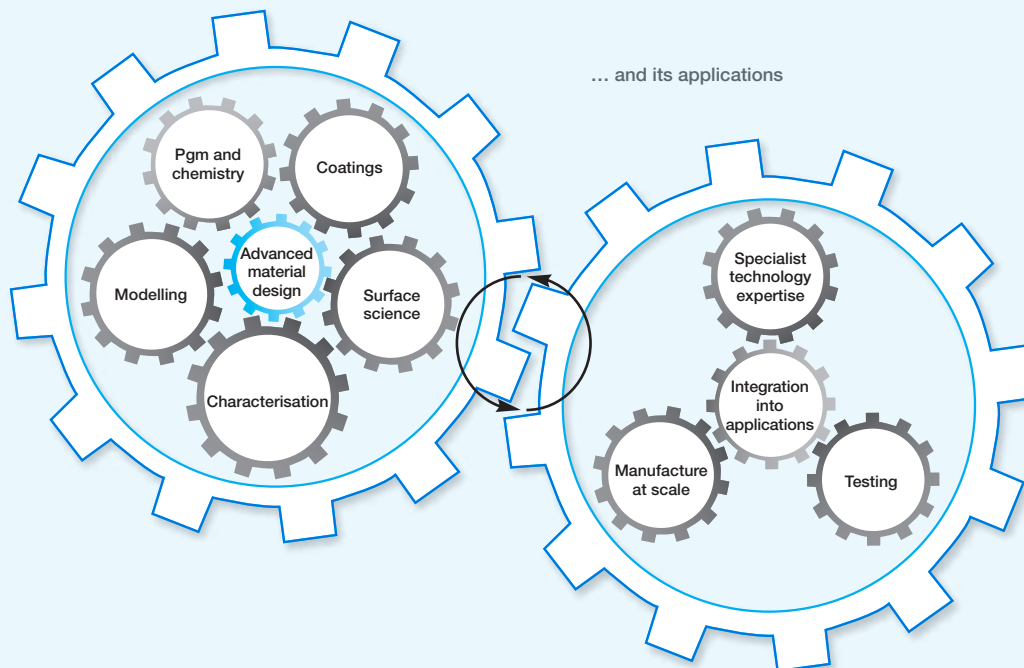
from products with sustainability benefit

### Sales by Area of Beneficial Impact



## OUR SKILL LIES IN UNDERSTANDING CHEMISTRY AND ITS APPLICATIONS

Chemistry...



### WE USE THIS TO CREATE VALUE FOR OUR CUSTOMERS BY:

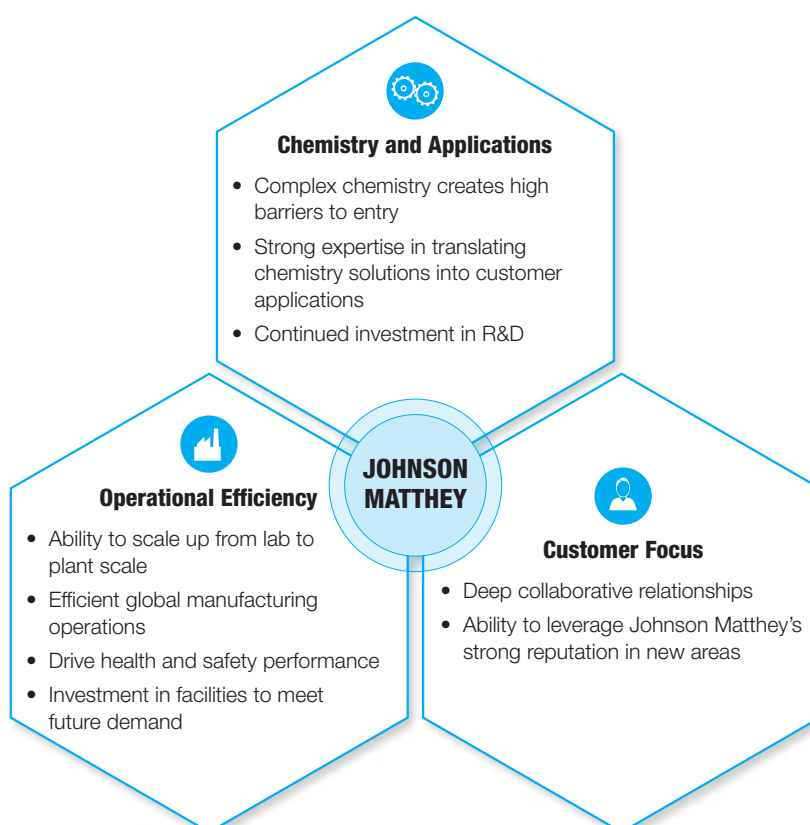
- Improving the performance of their products.
- Reducing their capital / operating costs.
- Enabling faster time to market.
- Reducing their environmental impact.
- Enabling them to comply with regulations or legislation.

# THE JOHNSON MATTHEY ADVANTAGE

## COMBINING CHEMISTRY, OPERATIONAL EFFICIENCY AND CUSTOMER KNOW-HOW

### JOHNSON MATTHEY EXCELS IN MARRYING COMPLEX, CUTTING EDGE CHEMISTRY WITH AN IN DEPTH UNDERSTANDING OF OUR CUSTOMERS' APPLICATIONS.

But clever chemistry in the lab is not enough. We are also experts in taking our lab based ideas to full commercial scale across our global network of world class manufacturing facilities. Our efforts in the lab and at our plants are directed by our strong customer relationships. It is this understanding of what our customers value that underpins our success and future growth.

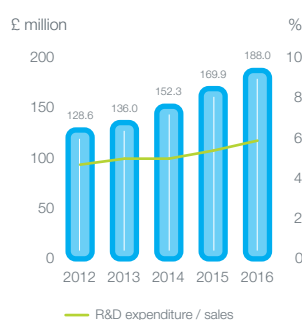


– R&D investment at  
**~6%** of sales

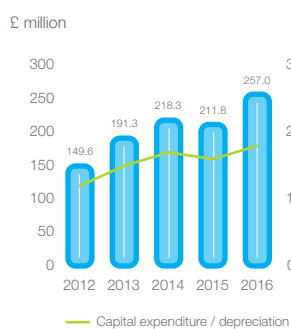
– Capex to depreciation  
of **1.8** times

– Focus on key markets with  
strong growth drivers

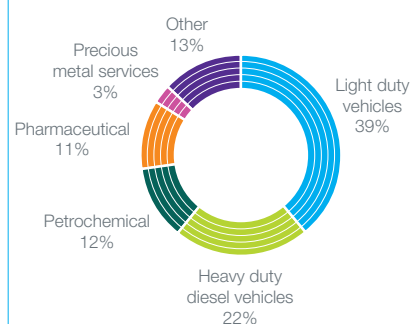
#### Gross Research and Development Expenditure



#### Capital Expenditure



#### Sales by Key Market



# OUR GLOBAL REACH

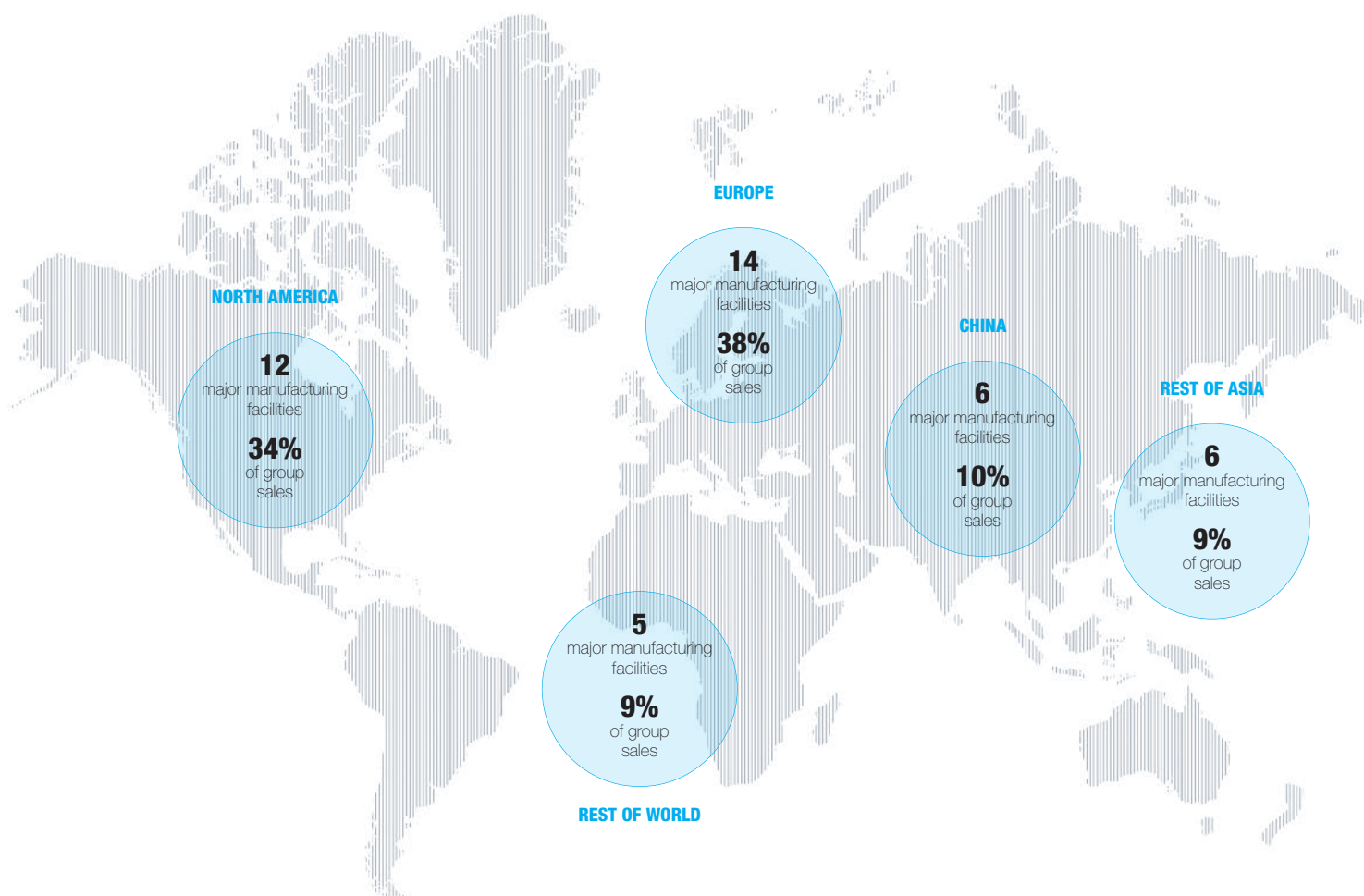
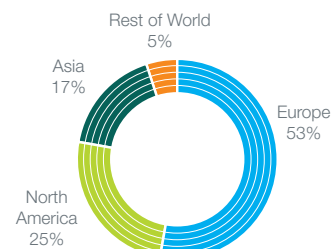
## WELL POSITIONED FOR FUTURE GROWTH

### WE HAVE A SIGNIFICANT GLOBAL PRESENCE IN OVER 30 COUNTRIES

This is supported by our network of 43 major manufacturing sites and R&D centres across all regions. We invest in our global footprint where we can most efficiently meet our customers' needs and to improve our access to high growth potential markets.

- Around **13,000** people worldwide
- Operations worldwide in over **30** countries
- **43** major manufacturing sites globally support the group

### Employees by Region



Go online: [www.matthey.com/locations](http://www.matthey.com/locations)



Read more about our R&D activities on pages 22 and 23.

# OUR STRUCTURE

## OUR OPERATIONS ARE ORGANISED INTO FIVE GLOBAL DIVISIONS:

### EMISSION CONTROL TECHNOLOGIES

Light Duty Vehicle Catalysts / Heavy Duty Diesel Catalysts

**Emission Control Technologies** is a leading global manufacturer of catalysts and catalyst systems for vehicles and industry. Its products reduce emissions and improve air quality.



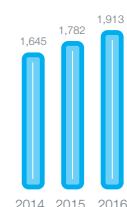
Read more on pages 44 to 47.

### Key Statistics

Sales <sup>1</sup>	£1,913m
Underlying operating profit	£272.2m
Return on sales	14.2%
Return on invested capital (ROIC)	28.3%

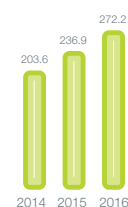
### Sales<sup>1</sup>

£ million



### Operating Profit

£ million



### PROCESS TECHNOLOGIES

Chemicals / Oil and Gas

**Process Technologies** is a global supplier of catalysts, licensing technologies and other services to the syngas, oleo/biochemical, petrochemical, oil refining and gas processing industries.



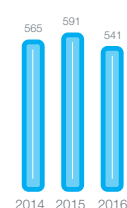
Read more on pages 48 to 50.

### Key Statistics

Sales <sup>1</sup>	£541m
Underlying operating profit	£73.6m
Return on sales	13.6%
Return on invested capital (ROIC)	9.6%

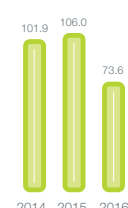
### Sales<sup>1</sup>

£ million



### Operating Profit

£ million



### PRECIOUS METAL PRODUCTS

Services / Manufacturing

**Precious Metal Products** is organised into our Services businesses which include management, distribution, refining and recycling of precious metals and our Manufacturing businesses, which fabricate products using precious metals or related materials, platinum group metal catalysts and platinum group metal chemicals.



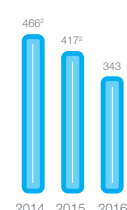
Read more on pages 51 to 53.

### Key Statistics

Sales <sup>1</sup>	£343m
Underlying operating profit	£66.3m
Return on sales	19.4%
Return on invested capital (ROIC)	16.5%

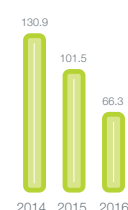
### Sales<sup>1</sup>

£ million



### Operating Profit

£ million



### FINE CHEMICALS

API Manufacturing / Catalysis and Chiral Technologies

**Fine Chemicals** is a global supplier of active pharmaceutical ingredients (APIs), custom services and catalyst technologies to a wide range of pharmaceutical, agrochemical, flavour and fragrance and other fine chemical industry customers.



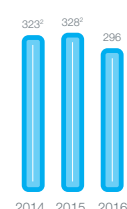
Read more on pages 54 and 55.

### Key Statistics

Sales <sup>1</sup>	£296m
Underlying operating profit	£82.3m
Return on sales	27.8%
Return on invested capital (ROIC)	16.9%

### Sales<sup>1</sup>

£ million



### Operating Profit

£ million



### NEW BUSINESSES

Battery Technologies / Atmosphere Control Technologies / Fuel Cells / New Business Development

**New Businesses** focuses on areas adjacent to our current interests that build on our core technology competences. It comprises our Battery Technologies, Atmosphere Control Technologies and Fuel Cells businesses, together with our new business development programmes.



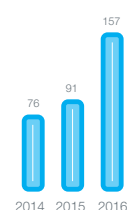
Read more on pages 56 and 57.

### Key Statistics

Sales <sup>1</sup>	£157m
Underlying operating profit / (loss)	(£17.9m)

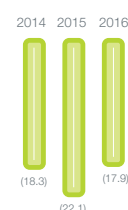
### Sales<sup>1</sup>

£ million



### Operating Loss

£ million



<sup>1</sup> Sales excluding precious metals.

<sup>2</sup> Adjusted to include certain non pass through precious metal items.

# OUR GLOBAL MARKETS

## DEMAND FOR CHEMISTRY-LED SUSTAINABLE TECHNOLOGIES REMAINS STRONG

### Overview

The global economy remained turbulent with overall growth of 3.1% in 2015<sup>1</sup>, down from 3.4% in the previous year. The baseline projection for global growth in 2016 is a modest 3.2%. However, the recovery is projected to strengthen in 2017 and beyond, driven primarily by emerging markets and developing economies.

The economic backdrop has had a mixed impact on Johnson Matthey in 2015/16 as a result of the diversity of our key markets. Our automotive facing businesses have benefited from the introduction of tighter legislation to control emissions from vehicles and from continued growth in production of both light duty vehicles (mainly cars) and heavy duty vehicles (mainly trucks and buses). This trend is set to continue over the next five years, with further tightening of legislation to control emissions and compound annual growth rates (CAGRs) of 3.3% and 9.2% for production of light duty vehicles and heavy duty vehicles requiring emission control, respectively.

The chemicals industry, on the other hand, has experienced a challenging period, adversely impacted by the low oil price and the economic slowdown in China. In addition, with capacity in place that meets or exceeds current demand for products in Johnson Matthey's value chain, investment in new chemical plants is currently at very low levels.

More generally, the muted economic outlook is weighing on other industrial markets and on prices of commodities such as the platinum group metals (pgms). This, in turn, has created challenging trading conditions in some of Johnson Matthey's markets.

In our pharmaceutical facing markets, demand for active pharmaceutical ingredients (APIs), the active components of drug products, has remained robust, with increased requirements driven by growing and ageing populations.

### Johnson Matthey's Key Markets

#### Automotive

Around 60% of our sales are to automotive markets and global light duty vehicle production increased by 1% in the year ended 31st March 2016<sup>2</sup>.


Production in Western Europe grew by 6%, supported by strong demand in the UK, France and Germany. The proportion of diesel cars produced in Western Europe remained steady, despite negative commentary in the media relating to emissions from these vehicles.

The market in Asia was mixed, as India showed strong growth of 8% and China was steady. However, in Japan, light duty vehicle production was weaker, down 4%, and the market in South East Asia was also slightly down.

In North America, light duty vehicle production was up 4% in the year. Although in South America production was significantly down.

In the heavy duty market, Western Europe experienced a recovery in truck production in 2015/16. However, in North America, the market was flat year on year. This followed a period of strong production for the large, intracontinental 'Class 8' trucks which peaked in the first half of our financial year and then reduced sharply during our second half. Production of Class 8 trucks has continued to soften at the start of 2016/17 but we currently expect production levels to stabilise later in the year.

Looking ahead, global growth is anticipated in both light duty and regulated heavy duty vehicle production volumes over the next five years. This, together with tightening emissions legislation, should support demand for Johnson Matthey's technologies.

 [Read more on pages 44 to 47 and 56 and 57.](#)

#### Chemicals

Trading conditions within the chemicals industry have been challenging in 2015/16, with the low oil price and the economic slowdown in China having a significant impact on a number of chemical industry segments. In those segments where prospects relied on feedstocks with more favourable economics than oil, advantage has been eroded, making significant commercialisation difficult. This has impacted the prospects of technologies to convert gas into fuels and for the production of chemical intermediates such as mono ethylene glycol (MEG).

In other segments, such as formaldehyde, butanediol and ammonia, there has been a slowdown in new plant builds (and in turn, less demand for catalysts) following capacity ramp ups in recent years. There has also been a reduction in the commercial prospects to convert coal into natural gas projects in China due to environmental concerns.

The short term outlook for the chemicals industry remains subdued. Recent industry growth has been driven by China, where the market grew by around 15% per annum from 1998 to 2014. However, the industry is now adapting to a lower rate of growth and to the fact that in China, there is generally sufficient capacity for the production of key chemical intermediates. Whilst we don't envisage market conditions deteriorating further in 2016/17, short term growth opportunities are expected to remain limited.

 [Read more on pages 48 to 50.](#)

#### Pharmaceuticals

Johnson Matthey supplies APIs which are used in the pharmaceutical industry. The global API market is expected to rise from \$150 billion in 2015 to reach over \$200 billion by 2020, a CAGR of 6.5% during the period<sup>3</sup>.

Market growth driven by factors such as the increasing incidence of lifestyle and age related diseases, increasing prevalence of cancer across the world, technological advancements in the manufacture of APIs and increasing scope for highly potent active ingredients are driving market growth. On the other hand, stringent regulatory requirements and global economic recession may restrict market growth.

North America remains the largest segment for APIs, supported by growth in the pharmaceutical industry in the region. This is driven by both increasing government focus on lower cost medicines and rising demand for biological and specialty drugs.

Our API facing businesses focus on complex, small molecule APIs. Regardless of where the API is made, we must adhere to strict safety and quality standards set by the country where the API will be used. There are opportunities in the marketplace through coinvesting in and codeveloping formulated drug products.

<sup>1</sup> International Monetary Fund, World Economic Outlook: Too Slow for Too Long, April 2016.

<sup>2</sup> Source: LMC Automotive.

<sup>3</sup> www.marketsandmarkets.com/Market-Reports/API-Market-263.

## GLOBAL SUSTAINABILITY DRIVERS



**Population Growth**  
Urbanisation  
Increasing Wealth



**Natural Resource**  
Constraints



**Environmental Factors**  
Climate Change  
Regulation



**Health and Nutrition**  
Ageing Population

### Opportunities and Challenges Potentially Addressed by Chemistry-Led Sustainable Technologies

- Growing demand in emerging markets
- Increasing drive for lower emissions and improved air quality
- Major focus on resource efficiency and energy security
- Ageing population driving increased demand for healthcare; pressure on healthcare costs
- Expectation on companies to act responsibly and sustainably

### Our Strategic Response

#### Investment in New Businesses

In response to global sustainability trends, we are investing in new areas where we believe our expertise can create solutions to major global challenges. Our investment in new business areas, such as technologies to enable electric vehicles, purify water or reduce food waste, will benefit the world we live in and support growth in the future for Johnson Matthey.



Read more on pages 23, 56 and 57.

#### Developing Innovative Products and Technologies

R&D lies at the heart of Johnson Matthey's success, underpinning all of our businesses. We have deep expertise in chemistry and its applications which we use to develop products that perform a vital function in our customers' applications. At the same time, our products enable broader sustainability benefits through their positive impact on the environment, on natural resource use or on people's health and wellbeing.



Read more on pages 22 and 23 and in the Strategy in Action section at the front of this report.

#### Customer Focus

We have five global divisions, each focused on key markets and with commercial and operational infrastructure aligned to our customers' needs. This enables us to access markets where customers require and value high technology solutions and creates opportunities for superior growth for Johnson Matthey.



Read more on pages 42 to 57.

#### Sustainability 2017

To us, good performance is not just about profit. It is about running our business in the most responsible and sustainable way. We made our commitment to this in 2007 with the launch of our Sustainability 2017 programme. Since then, we have made sustainability part of the way we do business, realising benefits for ourselves and our stakeholders. Sustainability 2017 will come to an end on 31st March 2017 and we will renew our commitment through a broader programme designed to ensure we continue to create value through the development of value adding sustainable technologies.



Read more on pages 24 to 27.

With growth supported by global drivers such as population growth and an ageing population, the market remains relatively well insulated from macroeconomic factors that have impacted several of Johnson Matthey's other markets.



Read more on pages 54 and 55.

### Commodity Prices

#### Platinum Group Metals

Pgm prices were significantly lower in 2015/16 with platinum averaging \$991/oz (down 26%) and palladium averaging \$631/oz (down 23%). The platinum market suffered from negative sentiment, but demand trends were broadly positive.

Expectations of weakness in the Chinese jewellery market proved overstated, and demand from investors increased. Use of platinum in vehicle emission control catalysts was strong, while industrial offtake was stable, leaving total demand for platinum up 4% in calendar year 2015<sup>4</sup>.

<sup>4</sup> Johnson Matthey Pgm Market Report, May 2016.

## OUR GLOBAL MARKETS (CONTINUED)

On the supply side, a recovery in sales by South African producers was partly offset by a reduction in recycled material, both from emission control catalysts from scrapped vehicles and from old jewellery, leaving the market in significant deficit.

The palladium market moved closer to balance in the 2015 calendar year due to a strong recovery in South African supplies, despite investment demand moving into negative territory. Global primary supplies of palladium rose by 6%<sup>4</sup>, while gross demand fell by 13%<sup>4</sup>, almost entirely due to a reversal in purchasing for investment purposes. This greatly offset overall increases in automotive and industrial demand.

The markets for both platinum and palladium are expected to remain in deficit in calendar year 2016<sup>4</sup>.

Weaker average prices had a significant impact on Johnson Matthey's Pgm Refining and Recycling business. Whilst intake volumes in the business were relatively stable, margins were adversely affected.



Read more on pages 51 to 53.

### Oil

The price of oil decreased by 28% in 2015/16 on account of strong supply from members of the Organisation of the Petroleum Exporting Countries and Russia and concerns about the resilience of global demand and medium term growth prospects. Oil prices recovered some ground in March 2016 and have subsequently improved further, on the back of improved sentiment in financial markets. Subdued oil prices have impacted investment sentiment in the chemicals market, as noted earlier. However, low prices have been broadly supportive of increased demand for light and heavy duty vehicles.



Read more on pages 48 to 50.

### Regulation

Regulation to control emissions from vehicles remains a key driver for growth in our Emission Control Technologies (ECT) Division and the regulatory outlook shows further tightening of emissions standards in the coming years.

In the light duty segment, the phased introduction of tighter standards (called Real World Driving Emissions or RDE) in the EU, starting from September 2017, will lead to a shift towards more complex and high value catalyst systems.

These catalysts will enable customers to meet emissions standards under a real world testing cycle. Additionally, the Euro 6c standard, also effective for new models from September 2017, will lead to some gasoline (petrol) cars in the EU requiring particulate filters.

In North America, the Environmental Protection Agency (EPA) has previously announced its plans for the next ten years, and its Tier 3 legislation will impose tighter restrictions on emissions of hydrocarbons and oxides of nitrogen, and impose a particle mass limit for vehicles.

We are expecting significant regulatory change in Asia, with both China and India advancing legislation towards vehicle emissions standards equivalent to Europe and North America around 2020.

For heavy duty vehicles, the main regulatory changes are also coming from Asia, where tightening legislation in China and India towards the end of the decade will enhance our opportunities in these markets. These regulatory changes offer good medium term growth opportunities for Johnson Matthey.

The regulatory landscape in the pharmaceuticals industry offers opportunities for the group. When a branded drug product comes off patent, the first manufacturer to file for approval with the US Food and Drug Administration (FDA) is entitled to 180 days exclusivity when the non-branded drug first enters the market. During that period, other drug makers are prohibited from entering the market. This presents opportunities for our API Manufacturing business which partners with pharmaceutical customers in the development and supply of APIs for non-branded drug products. In our major markets in the UK and North America, the production of controlled drug substances is tightly regulated and this acts as a significant barrier to entry for potential competitors.

### Pricing

Johnson Matthey operates in highly competitive markets in which innovative, competitively priced, fit for market products are essential. Johnson Matthey's competitive advantage is based on our expertise in complex chemistry and its applications, coupled with high operational efficiency and strong customer focus. Through positioning ourselves in markets where technology is valued and investing to continually improve our technology, we are able to maintain relatively stable pricing

across many of our product ranges, even when the market environment is particularly challenging.

In emissions control, we are subject to annual price reductions by our customers, the automotive original equipment manufacturers (OEMs). However, we continue to invest in operational improvements to offset the impact of this on our margins. In addition, to meet tightening legislation, we invest in new product developments to ensure that we have a technological advantage. This allows us, on average, to maintain stable pricing. In other areas of our business we enter into longer term contracts to assure pricing over a longer period.

We endeavour to pass on the costs of raw materials, such as pgms, to our customers to reduce our susceptibility to fluctuations in raw material prices.

### Intellectual Property

The generation and application of technology know-how and intellectual property, together with the monitoring of third party intellectual property, is vital to maintaining our competitive advantage. We dedicate resources to identify and protect our intellectual property and to identify and mitigate against third party intellectual property rights. This is important in ensuring we have freedom to operate and to protect our business advantage, our technologies and our reputation.

### Competition

Our products are advanced materials based on complex chemistry and its applications and we invest in them to differentiate ourselves from our competitors. The sectors in which we compete generally have a number of common features: they have a small number of significant players; their high technology nature creates significant barriers to entry; and we generally hold the number one or number two position. Customers in our sectors value technology and the competitive environment is fast paced and evolving. Consequently, we maintain high levels of ongoing investment in R&D to maintain our competitive advantage.



Read more on pages 22 and 23.

# BUILDING OUR 3RD CENTURY

## OUR BUSINESS MODEL

**WE CREATE VALUE FROM APPLYING OUR EXPERTISE IN CHEMISTRY AND ITS APPLICATIONS TO INNOVATE AND IMPROVE SOLUTIONS THAT ARE VALUED BY OUR CUSTOMERS, OPTIMISE THE USE OF NATURAL RESOURCES AND ENHANCE QUALITY OF LIFE.**

### There are three inputs to our business model:

- Our people;
- Our operations;
- Innovation.

These align with the nine building blocks of our strategy, shown on page 20, and support the long term creation of value adding sustainable technologies.

### Our People

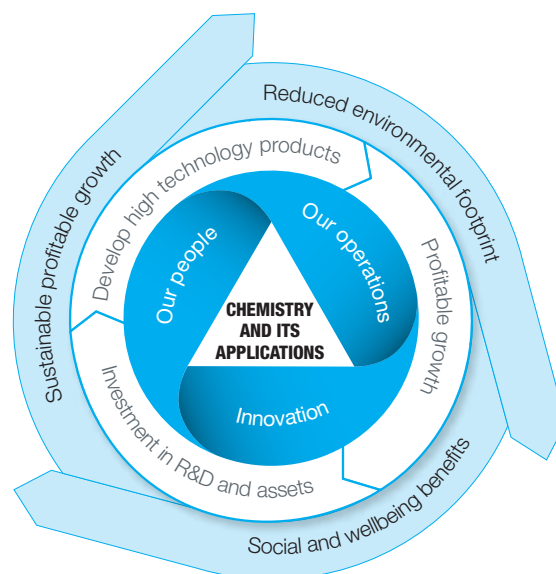
We rely on the ability of our people to innovate and to collaborate with each other and our customers to develop and bring value adding sustainable technologies to market. We hire the best people with the right skills and support them with a culture that engenders innovation and encourages them to develop and grow. Our people are motivated by working for a company that is doing the right thing. This is an important differentiator in attracting and retaining top talent in an increasingly diverse business.

### Our Operations

More than three quarters of the value we create comes from physical products, such as our emission control catalysts or active pharmaceutical ingredients, which we manufacture at our facilities around the world.

Efficient and responsible manufacturing is critical to our economic and environmental performance and we have programmes in place to optimise our operations. Our Manufacturing Excellence programme is driving efficiency improvements and innovation in manufacturing. This is complemented by Sustainability 2017 which is focused on reducing emissions and minimising resource use. We invest in our manufacturing capacity to ensure we can meet customer 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 20%, which drives continued improvement in operational efficiency.

The remainder of the value we create comes from the provision of specialist services such as the refining and recycling of platinum group metals, process technologies used to design chemical plants or diagnostics that improve efficiency in the oil and gas industry. Collaboration and strong relationships with our customers are crucial in providing a high quality tailored service. Know-how and a strong reputation underpin our success and we perpetually build on these through continued investment in R&D and our people.



### The three outputs of our model:

- Sustainable profitable growth;
- Reduced environmental footprint – of our customers' operations, as well as our own;
- Social and wellbeing benefits – from the action of our products;

**All directly align with our vision and support our strategy.**

### Innovation

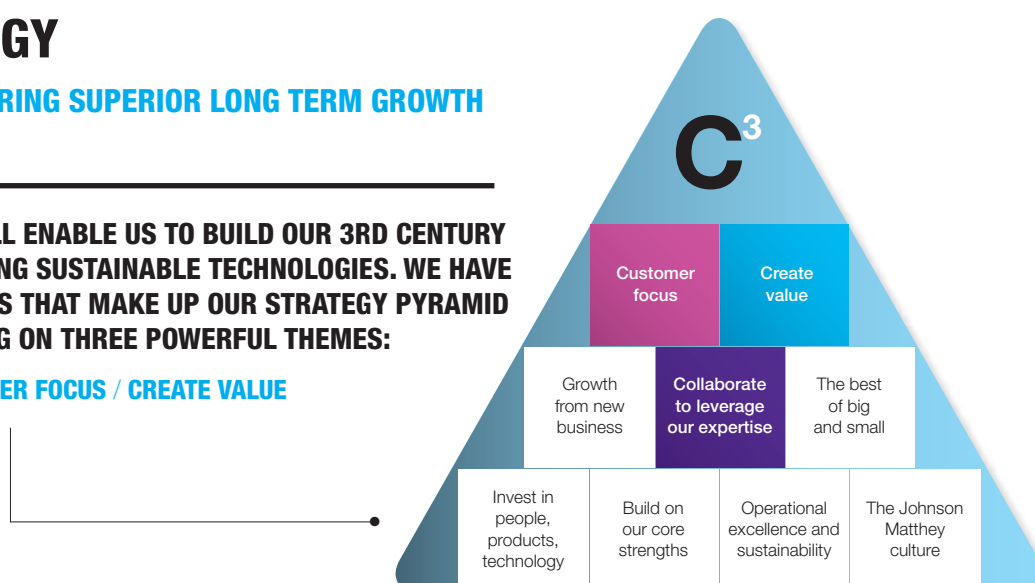
Innovation fuels the continuous development of new and higher performance products. This, together with expertise in advanced materials chemistry and, where appropriate, intellectual property protection, underpins our ability to maintain leading positions. We partner with our customers, industry experts and academics to spark further ideas. Innovation isn't just confined to new product development; it is harnessed throughout our business processes. Our values (shown on page 21) encourage collaboration and innovation amongst our people, whilst continued investment in R&D provides them with the infrastructure and resources to realise the potential of their innovative ideas.

# OUR STRATEGY

## FOCUSED ON DELIVERING SUPERIOR LONG TERM GROWTH

**OUR 3C STRATEGY WILL ENABLE US TO BUILD OUR 3RD CENTURY THROUGH VALUE ADDING SUSTAINABLE TECHNOLOGIES. WE HAVE NINE BUILDING BLOCKS THAT MAKE UP OUR STRATEGY PYRAMID AND WE ARE FOCUSING ON THREE POWERFUL THEMES:**

### COLLABORATE / CUSTOMER FOCUS / CREATE VALUE



Our strategic priorities	Progress in 2015/16	Key challenges in 2015/16
<b>COLLABORATE</b> We aim to collaborate more to better leverage our expertise across the group and with our external partners. This, supported by our culture and values, will help enable our transition to a 'small big company'.	Focus on our core value, 'health and safety is our priority', supported by global launch of safety principles and other efforts to enhance behavioural safety. Working together to deliver continual improvement.  Launch of global 3C Awards programme to engage employees in strategy and recognise their achievements.  Upgrade and relaunch of groupwide collaboration intranet.  Continuation of global programme to update core business systems.  Developed roadmap for 'small big company' transition.	Changing employees' attitudes and embedded behaviours so we can drive our health and safety culture.  Communicating learnings following fatal accident at Fine Chemicals' facility to prevent such an incident happening again.  Complexity of implementing business systems transformation programme.  Impact on employee morale during programme of planned redundancies in response to challenging conditions in some markets.
<b>CUSTOMER FOCUS</b> Our aim is to become truly customer centric. We are investing in our people, products and technology to differentiate ourselves from our competitors and are building on our core strengths to generate the next generation of sustainable products.	Customer focus model developed and initial programmes underway.  Reorganisation within divisions to better align with customers' needs.  Ongoing R&D investment combined with portfolio management to develop sustainable products for our customers.  Further implemented new people strategy and talent management approach.  Divested Research Chemicals business.	Managing the group's businesses during challenging trading environment resulting from adverse macroeconomic conditions.  Understanding the impact a lower oil price has on our customers' plans and projects.  Harmonising talent management processes into a single global framework.
<b>CREATE VALUE</b> Our aim is to grow our business and build our 3rd century through value adding sustainable technologies. We are focusing on operational excellence and sustainability to optimise our efficiencies in the most responsible way and are investing in new businesses to provide growth in new sustainable markets for the future.	Delivered robust overall performance, supported by strong year in Emission Control Technologies.  Ongoing investment to support future growth. Good cash generation and strong balance sheet maintained.  Continued focus on Manufacturing Excellence and Sustainability 2017 programmes.  Good progress in New Businesses supported by last year's two Battery Technologies acquisitions and this year's purchase of Stepac atmosphere control technologies business.  Global launch and roll out of 'Doing the right thing', our code of business integrity and ethics.	Adverse impact on business performance as a result of lower oil and platinum group metal prices and economic slowdown in China.  Negative media coverage on emissions from diesel vehicles adversely impacted investors' sentiment towards the group.  Decrease in return on invested capital as a result of lower underlying operating profit and higher levels of investment.

# OUR VALUES

## HOW WE DO THINGS WHEN WE ARE AT OUR BEST

**OUR VALUES HIGHLIGHT WHAT IS IMPORTANT TO US, WHAT MAKES US DISTINCTIVE AND WHAT IT'S LIKE TO WORK AT JOHNSON MATTHEY.**

### Health and Safety is Our Priority

We focus on protecting our people.

### Integrity

Doing the right thing is important to us.

### Recognition and Development

Anyone from anywhere can progress.

### Ability and Innovation

We seek and value talented people.

### Freedom to Act

Anyone with a good business case can realise their ideas.

### The Best of Big and Small

We have big company resources but apply small company methods.

#### 2015/16 key performance

**26%**

reduction in lost time injury and illness rate.

**216**

internal moves between businesses.

**>300**

entries worldwide for the 3C Awards.

#### Our priorities in 2016/17

Health and safety – continue to build culture and embed behaviours.

Continue global programme to update core business systems in preparation for initial roll out from 2016/17.

Launch new systems to drive further cross divisional collaboration.

Embedding of programmes to support transition to 'small big company'.

**#1 or #2**

positions maintained in key markets.

**£188.0 million**

gross spend on R&D, up 11% on 2014/15.

**150 pence**

per share special dividend paid in February 2016 from proceeds of recent divestments.

**92%**

sales from sustainable products, up on prior year.

Further implementation of customer focus programme.

Embedding of new divisional organisational structures.

Increased emphasis on innovation portfolio management to prioritise our R&D investment and align investment with market opportunities.

Introduction of R&D productivity based metrics to accelerate value capture and growth from innovation.

Continued focus on enhancing talent management framework across the group.

**£418.2 million**

underlying profit before tax flat on a continuing basis on last year.

**178.7 pence**

underlying earnings per share, 1% below 2014/15.

**~£27 million**

savings from Manufacturing Excellence and Sustainability 2017 programmes in 2015/16.

Develop new growth opportunities throughout the business from technology, organically and through acquisitions.

Continue to reduce operating loss in New Businesses in line with target of reaching breakeven in 2017/18.

Continue to enhance governance and compliance supported by embedding of code of ethics.

# RESEARCH AND DEVELOPMENT

## INNOVATING THE NEXT GENERATION OF SUSTAINABLE TECHNOLOGIES

**OUR CONTINUED INVESTMENT IN R&D LIES AT THE CORE OF JOHNSON MATTHEY AND AROUND 13% OF OUR PEOPLE ACROSS THE GROUP ARE INVOLVED IN THESE ACTIVITIES.**

Our scientists are of the highest calibre and in combination with our world class facilities enable us to support the longer term technology needs of our customers. The expertise and skills developed in our technology centres are applied across all stages of our R&D portfolio and enable us to deliver innovative technology products and solutions. In 2015/16 we increased our R&D spend to £188 million, up 11% on last year.

Innovation to us means more than just generating great ideas. In order to create value for our customers and support long term growth we must translate those great ideas into commercial successes.

Johnson Matthey's expertise is in chemistry and its applications; we use this to design and develop advanced materials that perform a vital function in our customers' products. This might be a platinum group metal containing catalyst that destroys harmful pollutant emissions from cars or a complex organic molecule which provides the beneficial effect when incorporated into a drug product.

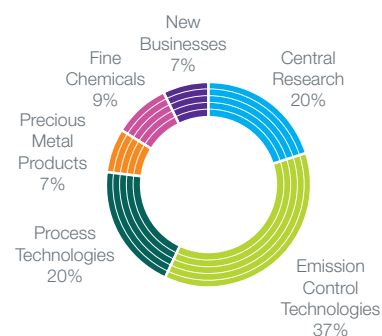
By using our deep understanding of chemistry and advanced materials and applying this know-how to product design, formulation and process development we are able to partner with customers and discover solutions to their challenges.

To help keep our science cutting edge, we partner with industry experts outside our business and have developed relationships with leading scientists from external organisations to drive research and develop new products and markets that complement our strategy.

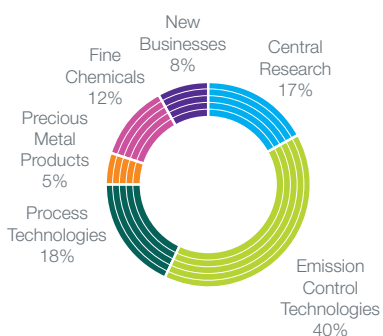
Building on this, during 2015/16 we launched eXovation, an external innovation challenge which invites people to submit new ideas that could potentially have a beneficial impact on the environment, natural resource use, human health and wellbeing. Our aim is to help develop these ideas by supporting those people with the best submissions with our resources and expertise to potentially commercialise their concepts.

Our R&D teams continue to collaborate and apply their expertise in chemistry and its applications for the design, synthesis and application of advanced materials to create value for our customers and improve the quality of life for many people around the world.

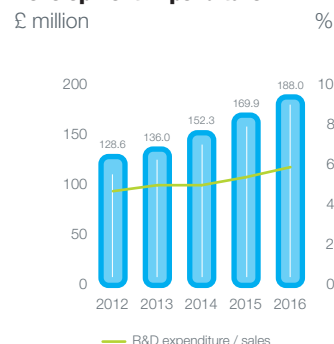
**Research and Development Employees**



**Distribution of Research and Development Expenditure**



**Gross Research and Development Expenditure**



## R&D to Tackle Global Challenges

Our R&D activities align with four fundamental global sustainability drivers which provide opportunities for growth.



**Population Growth**  
**Urbanisation**  
**Increasing Wealth**



**Natural Resource**  
**Constraints**



**Environmental Factors**  
**Climate Change**  
**Regulation**



**Health and Nutrition**  
**Ageing Population**

Highlighted below are some examples of our R&D programmes, all of which contain projects in the advanced stages of handover to our commercial teams.

### Water

Access to clean water is something most of us take for granted but, with the global growth in urbanisation, this resource is coming under increased pressure and smart ways to produce pure water will be vital in the coming years. We are working on water purification technologies to treat contaminated water, particularly from industrial processes. Our R&D labs have state of the art facilities for the analysis of complex samples from customers and our core chemistry skills allow us to synthesise, characterise and test advanced materials in both model and real world conditions. We have developed expertise in targeting contaminants in water and in the design and selection of the best advanced ion exchange materials to capture them. Using a combination of molecular modelling and experimentation, we are developing new materials and improved processes for our customers. We are also using our expertise in electrochemistry to develop cost effective and efficient disinfection processes that electrochemically destroy harmful contaminants in water.

### Food

Food waste is an increasing global problem. In the EU alone, around 100 million tonnes of food is wasted each year with levels predicted to increase by 20% in the next five years<sup>1</sup>. Our Atmosphere Control Technologies business is using science to address this issue head on, developing a range of technologies to preserve fresh food. We are developing advanced materials which can be used to control the gases that impact the length of time that food remains fresh, such as ethylene which affects ripening, and the respiratory gases oxygen and carbon dioxide which affect food storage and shelf life. Food packaging can be designed to incorporate our advanced materials which results in reduced waste, lower logistical costs from land and sea freight and increased freshness and produce quality.

### GLOBAL SUSTAINABILITY DRIVERS



### Air

Air quality is an important consideration, not only in terms of reducing damaging emissions to the environment, but also for improving air quality in confined spaces. We have a long history of innovation in the area of air quality and are using this knowledge to develop life enhancing technologies for the future that will protect the air we breathe and reduce exposure to harmful toxins such as formaldehyde and carbon monoxide (CO).

CO is a colourless, tasteless and odourless gas which is produced by the incomplete burning of carbon based fuels such as gas, coal, oil and wood. It is toxic even at very low concentrations and, if inhaled, it can be lethal. We have developed a catalyst that will destroy CO at low temperatures and are collaborating with customers to incorporate the catalyst into personal protective equipment (PPE) used by emergency response teams, for example in situations when they are called to deal with fires. The catalyst was carefully designed to be stable and active alongside other components in the PPE, so that the wearer is protected from toxic fumes containing CO over a timescale sufficient to allow them to escape to a safe place.

### Powertrain

As the automotive industry looks to the future and the possibility of zero emission vehicles, we are working with that industry every step of the way. Development of new technologies to power vehicles form a central part of Johnson Matthey's aspirations for future growth and we are investing in next generation powertrain technologies covering conventional emissions control, fuel cells and battery technologies. Our Battery Technologies business is committed to the improvement of existing battery materials and is concentrating its R&D efforts in this area. Our longer term approach in this area includes our work on the EU co-funded LISSEN project<sup>2</sup> which is targeting the development of materials for use in very high energy lithium sulphur batteries. These batteries are expected to have energy densities at least three times higher than those of present lithium battery technology, comparatively longer cycle life, much lower costs and improved safety credentials.

<sup>1</sup> [ec.europa.eu/food/safety/food\\_waste/index\\_en.htm](http://ec.europa.eu/food/safety/food_waste/index_en.htm)

<sup>2</sup> [www.lissen.eu](http://www.lissen.eu)

## 1. Overview

# BUILDING A SUSTAINABLE BUSINESS

## GROWING OUR BUSINESS IN A RESPONSIBLE, ETHICAL AND SUSTAINABLE WAY

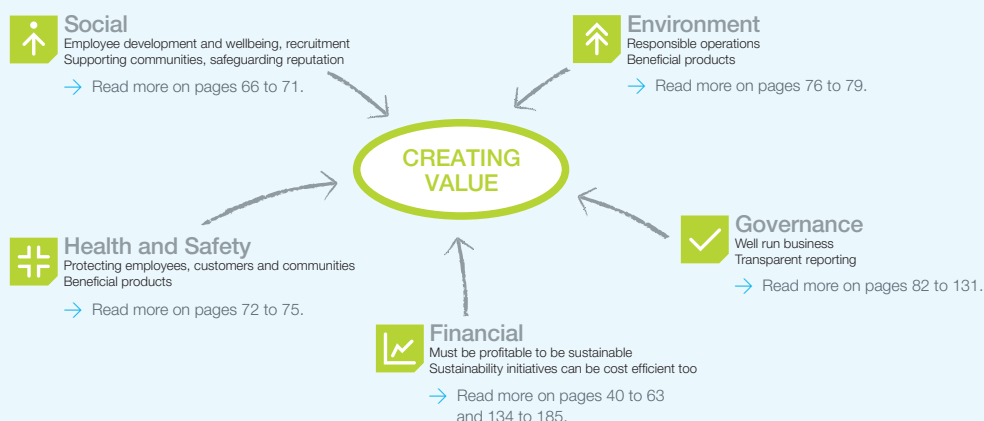
### AT JOHNSON MATTHEY WE MEASURE GOOD PERFORMANCE NOT ONLY BY FINANCIAL SUCCESS, BUT BY STRIVING TO BE THE MOST SUSTAINABLE BUSINESS THAT WE CAN BE.

Our vision is to build our 3rd century through value adding sustainable technologies and sustainability is a key element of the strategy we have in place to achieve this. We believe that operating our business in this way is critical to our success.

In 2007 we launched our Sustainability 2017 Vision which set our direction and focused on operational, environmental and health and safety performance with specific targets. We aim to double our underlying earnings per share while cutting carbon intensity by half, achieving zero waste to landfill and halving the key resources that we consume per unit of output by 2017. We also aim to eliminate accidents and occupational illness cases.

We defined five elements that underpin our business:

#### FIVE ELEMENTS OF OUR SUSTAINABLE BUSINESS



#### Sustainability and Governance Framework

We have established policies, processes and management systems to support our governance and sustainability efforts which apply to all our operations around the world. They cover:

- Business integrity and ethics;
- Supply chain management;
- Environment, health and safety (EHS); and
- Human resources.

Together, these provide the framework for managing social, environmental and ethical matters.















The Group Sustainability team works closely with divisional sustainability representatives, and other key corporate functions across a range of issues. Our Group Sustainability Director reports directly into the Group Management Committee (GMC).

The Governance section on pages 86 to 97 describes the role of the board, the GMC, the Audit Committee and other committees in managing our business in the most sustainable way.

## Our Progress Towards Sustainability 2017

We have made significant progress against the challenging targets that we set back in 2007. They have been a real catalyst for change, focusing our attention on the issues that matter to our stakeholders and challenging our thinking about the way that we run our business. We are proud of the improved health and safety performance, significant cumulative financial savings and reduced environmental footprint that we have achieved. We will continue to focus on these targets up to the end of the Sustainability 2017 programme on 31st March 2017 when we will embark on our new programme, Sustainable Business 2025, which is outlined on page 27.

With one year remaining of our Sustainability 2017 programme, our progress to date against its targets is set out in the table below.

Sustainability 2017 Target	Sustainability 2017 Key Performance Indicators	Baseline 2007	2016 <sup>1</sup>	Target	% achieved
 At least double earnings per share	Underlying earnings per share (pence)	82.2 <sup>2</sup>	<b>178.7</b>	164.4	 117
 Halve carbon intensity	Global warming potential (tonnes CO <sub>2</sub> eq / £ million sales)	294 <sup>3</sup>	<b>151</b>	147	 97
 Achieve zero waste to landfill	Waste to landfill (tonnes)	16,555 <sup>3</sup>	<b>1,953</b>	0	 88
 Halve key resources per unit of output	Electricity consumption (GJ / £ million sales)	1,098 <sup>3</sup>	<b>567</b>	549	 97
	Natural gas consumption (GJ / £ million sales)	1,604 <sup>3</sup>	<b>928</b>	802	 84
	Water consumption (m <sup>3</sup> '000 / £ million sales)	1.426 <sup>3</sup>	<b>0.820</b>	0.713	 85
 Continual improvement in lost time injury and illness rate (LTIR)	Number of lost workday cases per 200,000 hours worked in a rolling year	0.65 <sup>4</sup>	<b>0.37</b>	0.2	 62
 Achieve zero occupational illness cases	Annual incidence of occupational illness cases per 1,000 employees	4.2 <sup>5</sup>	<b>0.90</b>	0	 78

<sup>1</sup> Data presented is for the period 1st April 2015 to 31st March 2016.

<sup>2</sup> Data presented is for the period 1st April 2006 to 31st March 2007.

<sup>3</sup> Data presented is for the period 1st January 2006 to 31st December 2006.

<sup>4</sup> Baseline is LTIR for the period 1st April 2013 to 31st March 2014. We have a target of 0.2 for our LTIR and our aspiration is one of continual improvement towards zero LTIR.

<sup>5</sup> Baseline is incidence of occupational illness cases per 1,000 employees in calendar year 2008, restated.

- Continued good progress towards our targets.
- Underlying earnings per share (EPS) target was exceeded in 2013/14 and maintained in 2015/16.



Read more on pages 40 to 62.

- Remain on track to achieve carbon intensity and key resource reduction targets as a result of continued focus on efficiency programmes across the group. Divestment and acquisitions also contributed to progress.



Read more on pages 76 to 78.

- Lost time injury and illness rate reduced by continued groupwide focus on health and safety culture.



Read more on pages 72 and 73.

- Further progress made in reducing occupational illness cases.



Read more on page 74.

### Supporting Sustainability Through Manufacturing Excellence and Continuous Improvement

Our Manufacturing Excellence programme is designed to enhance the efficiency and long term profitability of our manufacturing operations, lower operating costs by reducing waste, drive investment in new technology and share the skills of our key manufacturing staff.

In 2015/16, approximately £27 million of savings were achieved as a result of our Sustainability 2017, Manufacturing Excellence and continuous improvement programmes, bringing the total saved to around £117 million since the launch of Sustainability 2017.



Go online: [www.matthey.com/sustainability/manufacturing-excellence](http://www.matthey.com/sustainability/manufacturing-excellence)

## 1. Overview

# BUILDING A SUSTAINABLE BUSINESS (CONTINUED)

## Understanding Material Issues

In this report, Johnson Matthey is presenting its non-financial disclosures in accordance with the internationally recognised Global Reporting Initiative (GRI) G4 Sustainability Reporting Guidelines for the first time (see page 190). Fundamental to this is an assessment of the issues which are most important or material to the group.

Following the guidance set out under GRI G4, in 2015/16, a group of subject matter experts from different functions within Johnson Matthey individually ranked 50 specific indicators according to importance to the group and importance to stakeholders, based on their own knowledge and interactions with key stakeholder groups.



Go online at [www.matthey.com/sustainability/governance/stakeholders](http://www.matthey.com/sustainability/governance/stakeholders)

The materiality assessment was informed by external engagement with our stakeholders, including stakeholder surveys, investor meetings and customer discussions. We participate in a number of investor surveys such as FTSE4Good, EIRIS, Vigeo, Carbon Disclosure Project (CDP), ETHIBEL and MSCI. In addition, during the year we completed sustainability questionnaires through CDP supply chain and from EcoVadis and Ecodesk. We used the information collected through these to help us evaluate those issues that are most important to our stakeholders.



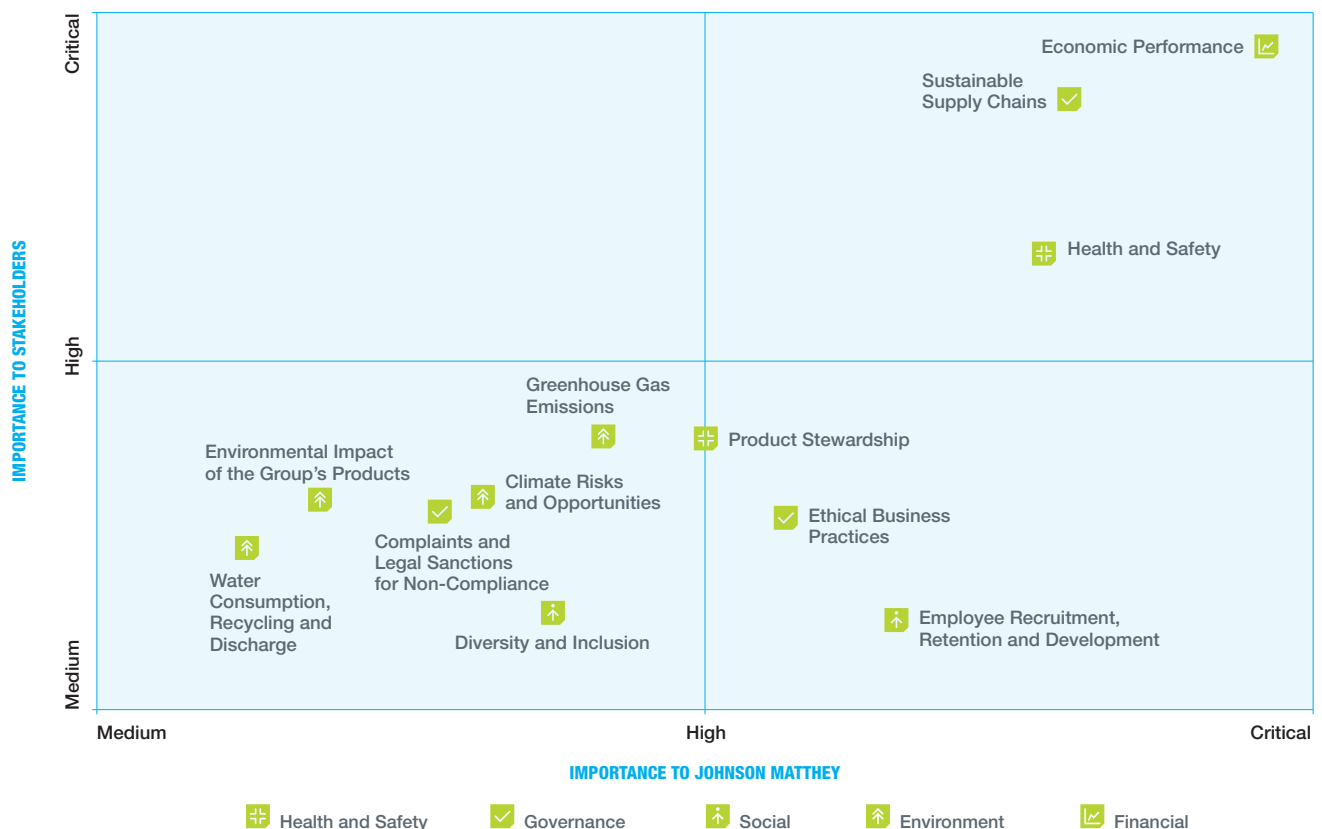
Read more on page 71.

These were reviewed collectively, under the guidance of an external consultant, to verify the average rankings and group all indicators that ranked above medium importance on either scale, into themes. The matrix below sets out those current issues believed to be most material. We have grouped these according to the five elements of our sustainable business: Health and Safety; Governance; Social; Environment and Financial.

Further explanation can be found throughout this report, wherever there is the corresponding symbol from the chart below. There is also a full index of these issues in the GRI G4 summary table on pages 194 and 195.

We plan to expand our engagement process further in 2016/17, for example, by drawing on information from a groupwide staff engagement survey which will help us to understand better the issues that matter most to our employees.

## MATERIALITY ASSESSMENT 2015/16



## Monitoring External Developments

In 2015/16 we continued to monitor specific external developments in the global sustainable development agenda. We consider the four most relevant to Johnson Matthey to be:

- 1 The UN COP-21 Climate Change Conference during which we supported the aim to implement a global binding agreement on limiting climate change. As part of this, we made a commitment to the Paris pledge for action.



[www.parispledgeforaction.org](http://www.parispledgeforaction.org)

- 2 The launch of the UN Sustainable Development Goals (SDGs). We are assessing our role in contributing to the UN SDGs using the World Business Council for Sustainable Development SDG Compass tool. These provide a framework which will help us to understand how we can make a positive contribution through our operations, through the application of science and by employing sustainable technologies to solve global challenges.



[sustainabledevelopment.un.org](http://sustainabledevelopment.un.org)

- 3 The launch of the UK Modern Slavery Act which requires Johnson Matthey to make an annual public statement describing the steps that it is taking to ensure that there is no enslaved labour in its supply chains.



[www.gov.uk/government/collections/modern-slavery-bill](http://www.gov.uk/government/collections/modern-slavery-bill)

- 4 In February 2016 Johnson Matthey signed up to the International Council of Chemical Associations' 'Responsible Care Charter'. As a signatory to the six principles contained within it, we aspire to be a leader in our sector and show that we take these matters seriously as a responsible business. Additionally, communicating these principles internally will help drive improved performance in our business.



[www.icca-chem.org/en/Home/Responsible-care/](http://www.icca-chem.org/en/Home/Responsible-care/)

We also participate in key benchmarking studies so that we can deepen our knowledge further in the area of sustainable business and compare our progress with leaders in the field. During the year we gained valuable insights from the CDP, FTSE4Good, London Benchmarking Group and Business in the Community.

## Sustainable Business 2025

As we approach the end of our Sustainability 2017 programme we are proud of our progress and recognise the tremendous contribution that our employees have made.

Maintaining this momentum and further embedding sustainable business thinking across Johnson Matthey will be central to our future success. We are now developing the next phase of our sustainable business strategy, Sustainable Business 2025, and mapping our goals beyond 2017. We are expanding our focus to incorporate more outward reaching targets with a basis in science and technology. This new phase will be integrated with our 3C Strategy and will align with our culture and values.

In order to achieve our goals and understand our impact on and benefits for our stakeholders, we aim to extend our sustainable business activities and our contribution to sustainable development throughout the value chains in which we operate to include strong collaborative partnerships with our suppliers, employees, customers and other stakeholders.



Read more about human rights on page 69.



Read more about supply chains on page 69.

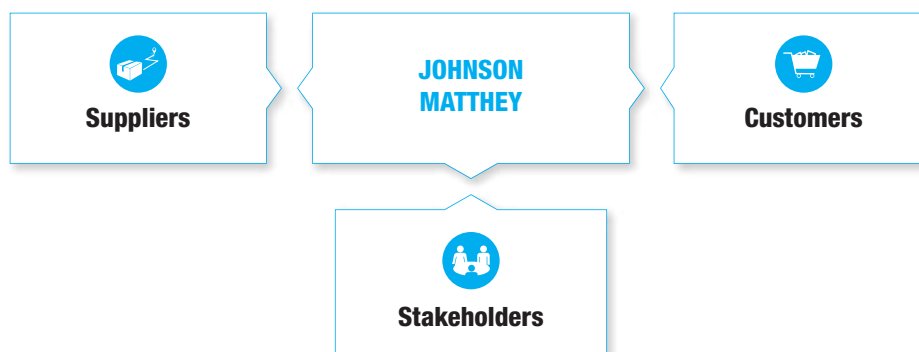


Read more about stakeholder engagement on pages 70 and 71.



Go online: [www.matthey.com/sustainability](http://www.matthey.com/sustainability)

## THE JOHNSON MATTHEY VALUE CHAIN



# RISKS AND UNCERTAINTIES

## IDENTIFYING AND MANAGING RISKS TO DELIVER OUR 3C STRATEGY

**THE EFFECTIVE IDENTIFICATION AND MANAGEMENT OF RISK ACROSS THE GROUP IS INTEGRAL TO THE DELIVERY OF THE GROUP'S STRATEGIC OBJECTIVES.**

### A Holistic Approach to Managing Risk

Our approach to risk management is aimed at the early identification of key risks and taking action to reduce the likelihood of these having a detrimental effect on the business. In 2015/16, and in light of the UK Corporate Governance Code (the Code) which sets out the principles of good corporate governance for FTSE listed companies, we refined our risk management process. In addition, we improved our reporting and risk management discussions and completed an in depth reassessment of our operational and strategic risks as well as our controls and assurance activities. We developed our reporting processes further to ensure management has a holistic view of the group's risks and opportunities. We will continue to assess our approach to ensure that it meets business needs and supports the effective management of risks whilst meeting the requirements of the Code.

The effective management of risk enables Johnson Matthey to:

- Deliver our strategic objectives.
- 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.

### 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 process.

We have built on our existing process by:

- Updating and revitalising the process, including our guidance for the group's businesses.
- Ensuring that risk specialists throughout the businesses work together to standardise scoring systems.
- Carrying out a comprehensive roll out of the updated guidance.
- Developing in house, online and face to face training courses on risk, control and assurance.
- Working with the GMC, divisions and businesses to strengthen risk definition, ownership, assessment and reporting.

### 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).



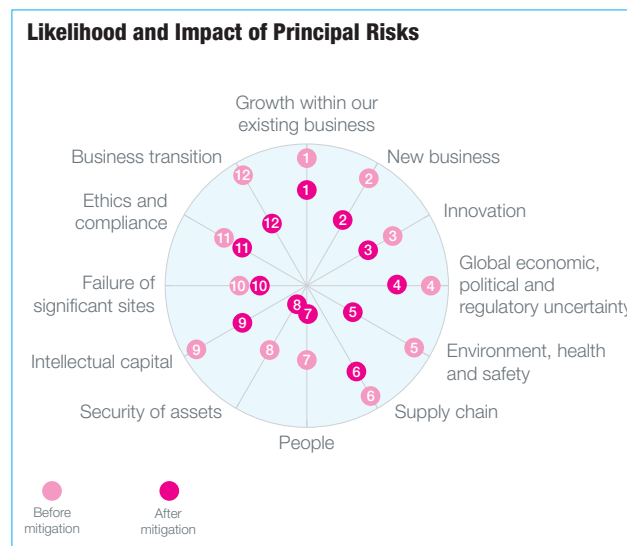
## RISKS AND UNCERTAINTIES (CONTINUED)

## OUR PRINCIPAL RISKS AND UNCERTAINTIES

Our 2015/16 risk management assessment has resulted in several changes to our principal risks and uncertainties, including:

- ‘Technological change’ has been reclassified as ‘Innovation’ and reflects the expanded strategic direction provided by the appointment of our Chief Technology Officer.
- ‘Supply chain’ has been expanded to include the optimisation of efficiencies and opportunities from our production facilities as well as the sourcing and supply of goods.
- ‘Intellectual property (IP) and know-how’ has been refocused and it now covers the end to end management of all intellectual capital. Cybercrime is now being considered separately as part of our information security risk processes. Whilst cybercrime is not a separate principal risk and uncertainty, we will continue to closely monitor and assess its level of threat to our business.
- We considered whether product quality should be one of our principal risks and uncertainties. Our assessment of this risk against impact and likelihood varied greatly by division according to the product produced, customer and contractual risk. We concluded that whilst important, it was not significant enough to be managed as a principal risk across the group.
- We also looked at the impact of the UK potentially leaving the EU and concluded that due to the global nature of our business and location of our customers it was not a principal risk and uncertainty. However, we continue to monitor the situation closely.







The following chart illustrates the relative positioning of our principal risks in terms of impact and likelihood before and after mitigating controls. Those risks appearing closer to the centre of the chart are rated as having lower overall scores measured in terms of likelihood and impact.



In delivering our strategy, it is important that we understand and manage the risks and opportunities that we face. The table below outlines our principal risks and identifies which strategic objectives they could impact.

		Strategic Objectives								
		Invest in people, products and technology	Build on our core strengths	Operational excellence and sustainability	The Johnson Matthey Culture	Best of big and small	Collaborate to leverage our expertise	Growth from new businesses	Customer focus	Create value
Strategic	1	Growth within our existing business								
	2	New business								
	3	Innovation								
Market	4	Global economic, political and regulatory uncertainty								
Operational	5	Environment, health and safety								
	6	Supply chain								
	7	People								
	8	Security of assets								
	9	Intellectual capital								
	10	Failure of significant sites								
	11	Ethics and compliance								
	12	Business transition								

The following table sets out the 2015/16 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. The net risk rating (after mitigating controls) is also shown.

<b>STRATEGIC</b>		
<b>Growth within our existing business</b>  <b>1</b> Understanding and responding to the needs of customers, capitalising on appropriate growth opportunities within our existing business.		
<b>Risk and impact</b> Our aim is to become truly customer centric. To ensure continued growth in our business, we continue to invest in our people, products and technology to differentiate ourselves from our competitors and to develop innovative, sustainable products. A failure to understand and respond to customer requirements or competitor activity could result in missed opportunities for growth with existing and new customers and loss of significant customer / market share.	<b>Mitigation</b> <ul style="list-style-type: none"> <li>• Customer focus, collaboration with customers to produce good value, innovative, quality products.</li> <li>• Understanding of market dynamics and value proposition.</li> <li>• Diversification of business activities, continuous assessment of technologies and products.</li> <li>• Research and development to bring new products into our portfolio.</li> </ul>	<b>Changes since 2015 annual report</b> No change. Our ambition is to be a preferred supplier and have significant customer / market share results in a high risk and opportunity rating. → <b>Risk rating</b>  High
<b>New business</b>  <b>2</b> Responding to, identifying or capitalising on appropriate new growth opportunities.		
<b>Risk and impact</b> We have identified and continue to identify a number of opportunities to complement and diversify our business portfolio. Failure to identify new opportunities and capitalise on acquisitions could result in an inability to meet our strategic objectives and maintain / grow our market share.	<b>Mitigation</b> <ul style="list-style-type: none"> <li>• New business development activities.</li> <li>• Research and development to diversify our product portfolio.</li> <li>• Marketing and customer focus activities.</li> <li>• Portfolio management.</li> <li>• Post investment reviews.</li> </ul>	<b>Changes since 2015 annual report</b> Increased appetite and activity to identify and capitalise on new opportunities is driving an increase to the risk rating. ↑ <b>Risk rating</b>  High
<b>Innovation</b>  <b>3</b> Constant innovation is essential to maintain our competitive advantage.		
<b>Risk and impact</b> We operate in highly competitive markets in which innovative, competitively priced, fit for market products are essential in maintaining our competitive advantage. An inability to align and prioritise our investments with corporate strategy may result in us missing our group growth targets, reduced margins and higher costs.	<b>Mitigation</b> <ul style="list-style-type: none"> <li>• Portfolio management of innovation activities and key performance indicators.</li> <li>• Organisation structure and governance to define groupwide innovation strategy and prioritisation across the divisions.</li> <li>• R&amp;D is part of a defined global network of strategic external partners to leverage open innovation and corporate venturing.</li> </ul>	<b>Changes since 2015 annual report</b> We recently expanded our innovation portfolio management metrics to include productivity based metrics. This refined approach will enable us to drive efficiency from R&D, understand the potential return on our investment and capture higher value. The refinement in our approach required a reassessment of this risk and opportunity, which we now consider to be medium rather than low. We invested £188.0 million in R&D in the year, up 11% from £169.9 million in 2014/15. ↑ <b>Risk rating</b>  Medium

## RISKS AND UNCERTAINTIES (CONTINUED)

### MARKET

#### Global economic, political and regulatory uncertainty

Failure to adequately respond to changes in the macroeconomic, regulatory or political environment in one or more of our key markets or countries.



##### Risk and impact

The global nature of the group's businesses exposes it to risk arising from economic, political and legislative changes in the countries in which it operates. Aspects of this risk include:

- Sudden short term changes in one of our markets due to oil or platinum group metal (pgm) price volatility, foreign exchange rate movements, the imposition or lifting of sanctions or trade controls / barriers or similar activity.
- Sustained periods of economic weakness in our markets.
- Changes to the regulatory environment, for example emissions legislation.

Impacts associated with this risk are wide ranging and could include reduced customer / market demand and / or customer defaults, cost escalation and price / market erosion, foreign exchange losses and a reduced ability to import / export raw materials and products.

##### Mitigation

- Maintenance of a balanced portfolio of products and market services, with a variety of long term strategic drivers.
- Ongoing long term strategic reviews with assessment of market and country concentration.
- Detailed budgeting and planning process.
- Interaction with trade bodies to ensure that we are aware of upcoming changes to legislation and regulations.
- Regular broker and shareholder interaction.
- Treasury policies to manage currency volatility.

##### Changes since 2015 annual report

No change.



##### Risk rating

■ High

### OPERATIONAL

#### Environment, health and safety

Operating safely in line with changes to environmental, health and safety legislation and standards.



##### Risk and impact

In common with 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 and respond to changes made to applicable laws, regulations or standards we could adversely impact our employees, we may lose production time and we may attract negative media and regulator interest.

##### Mitigation

- Documentation and adherence to safety principles.
- Training and awareness activities.
- Risk, audit activities and safety checks.
- Safety culture programme and behavioural standards.
- Investigations to determine the cause of incidents and accidents and the development of remediation plans.
- Speak up and independent hotline for employees to report concerns.






##### Changes since 2015 annual report

Our risk has been assessed using a revised and enhanced framework covering a broad range of dimensions across health, safety and environmental risks. Health and safety continues to be our priority. Although we tragically suffered a fatality during the year, the medium assessment comes from applying impact and likelihood criteria across this broad range of risk scenarios.















##### Risk rating

■ Medium

OPERATIONAL (continued)		
<b>Supply chain</b> Understanding customer requirements for our production facilities, warehousing and freight of inbound and outbound goods. Sourcing materials, leveraging our scale and scope to procure products and services cost efficiently and ethically.  <b>6</b>		
<b>Risk and impact</b> The group operates in many locations across the world and is therefore exposed to a number of risks associated with a complex supply chain. It is fundamental that we understand customer requirements and exploit our production capabilities, warehousing and freight of goods. It is also important to us that our supplies are sourced efficiently and ethically. A number of strategic materials, notably pgms, rare earth materials and narcotic raw materials, are available from a limited number of countries and suppliers, so ensuring the availability of these products is essential.  The impact of this risk could affect our ability to carry out manufacturing and satisfy customer requirements leading to reputational damage and loss of potential future business.	<b>Mitigation</b> <ul style="list-style-type: none"> <li>• Supplier key performance indicators, audits and quality management.</li> <li>• Sourcing from multiple suppliers.</li> <li>• Research and development alternatives to consider use of non-strategic materials.</li> <li>• Expertise in supply chain, logistics, procurement and trade export controls.</li> <li>• Business continuity management, identification of critical failure risks and plans in place to manage these.</li> </ul>	<b>Changes since 2015 annual report</b> The scope of this risk and opportunity has materially changed and is therefore not comparable with the prior year's assessment.  <b>Risk rating</b>  High
<b>People</b> Effective recruitment and retention.  <b>7</b>		
<b>Risk and impact</b> The group relies on its ability to recruit, retain and develop employees around the world with the necessary range of skills and experience. An inability to recruit and retain talent may result in a loss of critical knowledge in the business, delays in achieving targets and suboptimal innovation. This could lead to negative impacts on business performance.	<b>Mitigation</b> <ul style="list-style-type: none"> <li>• Employer brand and coordinated graduate recruitment.</li> <li>• Remuneration strategy with clarity around market best practice and Johnson Matthey's position on base pay, annual and long term incentives, pensions and regional benefits.</li> <li>• Talent management process.</li> <li>• Transparency of policies.</li> </ul>	<b>Changes since 2015 annual report</b> A number of groupwide initiatives are underway to attract and retain talent, thus reducing the impact of this risk.   <b>Risk rating</b>  Low

# RISKS AND UNCERTAINTIES (CONTINUED)

OPERATIONAL (continued)		
<b>Security of assets</b>  8		
<b>Risk and impact</b> On any given day, the group has significant quantities of high value precious metals or highly regulated substances on site and in transit, the security of which is critical. A material loss due to a breach, failure in security management systems, security controls or a loss during processing could lead to a number of impacts including loss / restriction of licence to operate, loss of goods and an inability to supply customers, increased security costs and an impact on the group's reputation.	<b>Mitigation</b> <ul style="list-style-type: none"> <li>• Security management systems and site security systems.</li> <li>• Assay and other process controls.</li> <li>• Security awareness campaigns and training.</li> <li>• Audits of site security systems.</li> <li>• Stock takes to check inventories.</li> <li>• Use of approved carriers for transit.</li> <li>• Insurance coverage for losses from theft or fraud.</li> <li>• Liaison with local law enforcement for high risk sites.</li> </ul>	<b>Changes since 2015 annual report</b> No change.  <b>Risk rating</b>  Low
<b>Intellectual capital</b>  9		
<b>Risk and impact</b> We operate in highly competitive markets in which innovative, competitively priced, fit for market products are essential. The generation and application of technology know-how and IP, together with the monitoring of third party IP, is essential in maintaining our competitive advantage. Failure to identify and protect the group's IP or failure to identify and mitigate against third party IP rights could lead to a loss in business advantage, loss of freedom to operate and reputational damage associated with litigation.	<b>Mitigation</b> <ul style="list-style-type: none"> <li>• Management of IP portfolio.</li> <li>• Non-disclosure activities.</li> <li>• Use of IP lawyers to provide specialist guidance.</li> <li>• Training and awareness.</li> <li>• Monitoring of third party IP.</li> <li>• Ensuring that employee behaviours associated with intellectual capital are effective.</li> </ul>	<b>Changes since 2015 annual report</b> Increased due to advances in technology and our competitor landscape.  <b>Risk rating</b>  High
<b>Failure of significant sites</b>  10		
<b>Risk and impact</b> While the group operates in a variety of locations, certain sites are critical to the group due to their scale or the specific nature of their production activities. 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 demands, potential loss of market confidence and impact on the overall performance of the group.	<b>Mitigation</b> <ul style="list-style-type: none"> <li>• Assessment of critical sites.</li> <li>• Business continuity plans in place.</li> <li>• Inventory management to provide critical spares and inventories.</li> <li>• Use of external suppliers for key activities and services including generators and utilities.</li> <li>• IT disaster recovery capabilities.</li> <li>• Insurance of sites.</li> </ul>	<b>Changes since 2015 annual report</b> No change.  <b>Risk rating</b>  Medium

OPERATIONAL (continued)		
<b>Ethics and compliance</b> Doing the right thing <span style="float: right;"> 11</span>		
<b>Risk and impact</b> Due to the markets in which we operate and the complexity of our supply chain, the group is exposed to a changing and increasingly stringent regulatory environment. Ethical misconduct by our employees inadvertently, knowingly or negligently or a legal non-compliance through a lack of knowledge and awareness or through a deliberate breach could lead to reputational damage, removal of licence to operate, legal action, impacts on staff morale and loss of business.	<b>Mitigation</b> <ul style="list-style-type: none"> <li>• Code of ethics in place which has been rolled out to all employees with face to face training.</li> <li>• Use of subject matter experts, internal and external, on legal compliance and risk mitigation matters.</li> <li>• Group and local policies and procedures in place including full integration with business processes.</li> <li>• Group control requirements such as supplier on-boarding, counterparty due diligence and payments approval.</li> <li>• Independent confidential speak up hotline for employees, contractors and third parties.</li> <li>• Oversight on contractual provisions and commercial arrangements by legal teams.</li> <li>• Global network of ethics ambassadors.</li> <li>• Emergency response procedures for events such as dawn raids.</li> <li>• Investigation of incidents and allegations of misconduct.</li> </ul>	<b>Changes since 2015 annual report</b> Code of ethics and training for all employees rolled out this year. A speak up policy has been launched and enhanced reporting tools have improved oversight and management of concerns being raised. Rating has increased as a result of better visibility of reporting. ↑ <b>Risk rating</b> <span style="color: red;">■</span> High
<b>Business transition</b> Failure to manage major programmes and transition from a big small company to a small big company. <span style="float: right;">  12</span>		
<b>Risk and impact</b> Failure to manage major programmes to upgrade our business systems and successfully transition from a big small company to a small big company through appropriate standardisation and sharing of resources / activities. Potential impacts associated with this risk include the organisation failing to adapt to new ways of working and ineffective change management could lead to anticipated efficiencies and cost savings not being realised. Further to this, the group's culture could be adversely affected.	<b>Mitigation</b> <ul style="list-style-type: none"> <li>• Communication and employee engagement plans are in place for all programmes with support from the GMC as appropriate.</li> <li>• 'Get fit' process adopted across the business ahead of planned roll out of new business systems to ensure that sites are prepared for necessary change.</li> <li>• Clear business impact assessments prepared ahead of going live with clear business targets.</li> <li>• Programme management and governance activities with key performance indicators (KPIs) and red, amber, green (RAG) review reports.</li> </ul>	<b>Changes since 2015 annual report</b> No change. → <b>Risk rating</b> <span style="color: orange;">■</span> Medium

## 1. Overview

# GROUP KEY PERFORMANCE INDICATORS

## MONITORING PROGRESS AGAINST OUR 3C STRATEGY

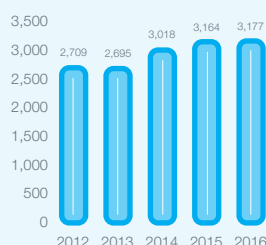
### JOHNSON MATTHEY USES A RANGE OF KEY PERFORMANCE INDICATORS (KPIs) TO MONITOR THE GROUP'S PERFORMANCE OVER TIME IN LINE WITH ITS STRATEGY.

These include key measures of our financial performance as well as indicators to monitor ongoing investment in facilities and in R&D. In addition, we also use KPIs to track the carbon footprint of our operations and to measure and drive continuous improvement in the safety, wellbeing and development of our people.

These principal KPIs, together with the group's performance against them in 2015/16, are described below:

#### Sales Excluding Precious Metals<sup>1</sup>

£ million



Monitoring sales provides a measure of the growth of the business. In measuring the growth of the group, we focus on sales excluding the value of precious metals because total revenue can be heavily distorted by year on year fluctuations in precious metal prices. In addition, in many cases, variations in the value of the precious metals contained within our products are passed directly on to our customers.

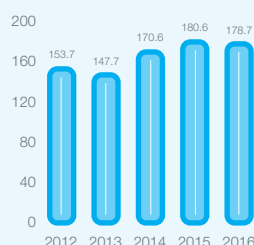
#### Performance in 2015/16

In 2015/16 sales excluding precious metals were stable at £3.2 billion with particularly good growth in Emission Control Technologies and New Businesses offset by declines in the other divisions as described in the Financial section on pages 40 to 62.

<sup>1</sup> Adjusted to include certain non pass through precious metal items.

#### Underlying Earnings per Share

pence



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 because they can distort the trend in results:

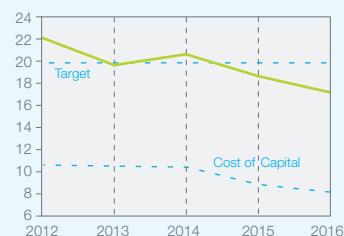
- Amortisation and impairment of intangible assets arising on acquisition of businesses (acquired intangibles).
- Major impairment or restructuring charges.
- Profit or loss on disposal of businesses.
- Tax on the above and major tax items arising from changes in legislation.

#### Performance in 2015/16

This year underlying earnings per share decreased slightly to 178.7 pence as the group faced challenging macroeconomic conditions in some of its markets. Further details are provided on pages 40 to 62 and a reconciliation from earnings per share is given in note 11 on page 148.

#### Return on Invested Capital

%



In a business as capital intensive as Johnson Matthey's, profitability alone is a poor measure of performance; it is possible to generate good operating margins but poor value for shareholders if assets are not used efficiently. Return on invested capital (ROIC) is therefore used alongside profit measures to ensure focus upon the efficient use of the group's assets. ROIC is defined for the group as underlying operating profit divided by average capital employed (monthly average of equity plus net debt). ROIC for individual divisions is calculated using average monthly segmental net assets as the denominator.

#### Performance in 2015/16

The group's ROIC decreased from 18.8% to 17.3%, as a result of lower underlying operating profit and higher average invested capital due to increased investment in capital expenditure and lower post-employment benefit obligations. Further details are provided on page 60.

## Capital Expenditure

£ million

times



To enable the group to continue to grow, Johnson Matthey invests significant amounts in maintaining and improving our existing plants and in adding new facilities to provide additional capacity where necessary. All new capital expenditure is subject to detailed review to ensure that its investment case passes internal hurdles. Annual capital expenditure is measured as the cost of property, plant and equipment and intangible assets purchased during the year. The ratio of capital expenditure to depreciation gives an indication of the relative level of investment.

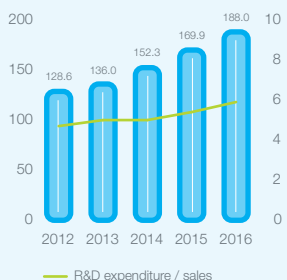
### Performance in 2015/16

In 2015/16 the group's capital expenditure was £257.0 million which represented 1.8 times depreciation (2014/15 1.6). Further details are provided on page 61.

## Gross Research and Development Expenditure

£ million

%



Johnson Matthey's strategy is focused on delivering superior long term growth from value adding sustainable technologies. To maintain our competitive position, we need to keep investing in research and development. Whilst absolute levels of research and development expenditure do not necessarily indicate how successful we are, that success rapidly feeds through to higher sales as lead times in our business can be quite short.

### Performance in 2015/16

The group increased its research and development expenditure this year by 11% to £188.0 million. Further details of the group's research and development activities are described on pages 22 and 23, throughout the Strategic Report and on our website.

## Sustainability – Global Warming Potential

thousand tonnes CO<sub>2</sub> equivalent



We measure our progress towards reducing the carbon footprint of our operations and improving our energy efficiency by looking at the group's total global warming potential (GWP). Total GWP is based on our direct and indirect energy usage and CO<sub>2</sub> equivalence which provide a strong platform for monitoring the impacts associated with energy use in our operations. In the future we will broaden the scope of our GWP measurement to include all aspects of our business and to consider the beneficial impacts of our products and services.

### Performance in 2015/16

This year the group's GWP reduced from 510,000 tonnes<sup>1</sup> to 480,000 tonnes CO<sub>2</sub> equivalent. Further information on the group's GWP is given in the People and Planet section on pages 76 to 79.

<sup>1</sup> Restated, see pages 76 and 77.

## Safety – Lost Time Injury and Illness Rate (LTIR)

per 200,000 working hours in a rolling year



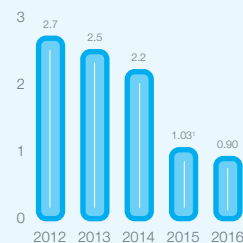
Johnson Matthey is a manufacturing business and a significant proportion of our employees work in production environments with chemicals and process machinery. Rigorous safety systems apply across all facilities and are essential if the group is to avoid accidents which could cause injury to people or damage to our property, both of which can impact the group's performance. We actively manage our safety performance through monitoring the incidence and causes of accidents that result in lost time.

### Performance in 2015/16

The group's LTIR decreased this year to 0.37. Further details of our safety improvement programmes are provided in the People and Planet section on pages 72 to 75.

## Health Management – Annual Incidence of Occupational Illness

cases per 1,000 employees



The health and wellbeing of our employees is a priority for Johnson Matthey and we are working hard to minimise workplace related negative health effects. We manage our performance in this area by measuring the number of occupational illness cases arising as a result of exposure to workplace health hazards.

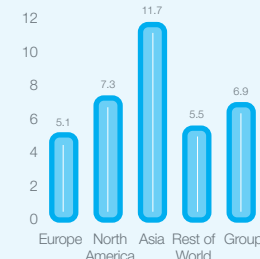
### Performance in 2015/16

The annual incidence of occupational illness cases reduced this year to 0.90 per 1,000 employees as a result of our initiatives to promote employee wellbeing across the group. Further details are provided in the People and Planet section on pages 72 to 75.

<sup>1</sup> Restated, see page 72.

## Voluntary Employee Turnover

%



The success of Johnson Matthey is partly dependent upon our ability to attract and retain talented employees. This means that being an attractive employer is a prerequisite in a competitive environment. We monitor our success in retaining our staff using voluntary employee turnover statistics.

### Performance in 2015/16

In 2015/16 the group's voluntary employee turnover increased to 6.9% from 6.0% in 2014/15, but remains low relative to industry baselines. Further details of our programmes to attract, retain and develop our people are provided in the People and Planet section on pages 66 to 71.

# FINANCIAL

**ON THE FOLLOWING PAGES YOU WILL FIND DETAILS OF THE FINANCIAL PERFORMANCE OF THE GROUP AND ITS FIVE DIVISIONS DURING THE YEAR.**

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Sonia conducts an experiment at the Johnson Matthey Technology Centre in Sonning, UK. More than 1,600 of our employees work in R&D across the group.

## 2



## 2. Financial

GROUP PERFORMANCE REVIEW 

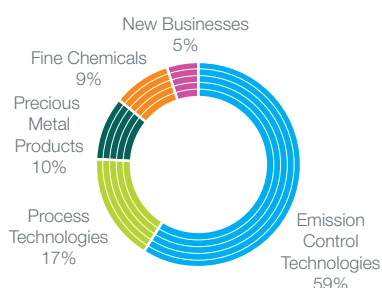
		Year to 31st March		% change	% change at constant rates <sup>1</sup>
		2016	2015		
Revenue	£ million	10,714	10,060	+7	+6
Sales excluding precious metals (sales)	£ million	3,177	3,164 <sup>2</sup>	–	–
Operating profit	£ million	418.9	532.8	-21	
Profit before tax	£ million	386.3	495.8	-22	
Earnings per share	pence	166.2	211.2	-21	
Underlying <sup>3</sup> :					
Operating profit	£ million	450.8	477.1	-6	-6
Profit before tax	£ million	418.2	440.1	-5	-5
Earnings per share	pence	178.7	180.6	-1	

<sup>1</sup> % change if 2014/15 results are converted at average exchange rates for 2015/16.

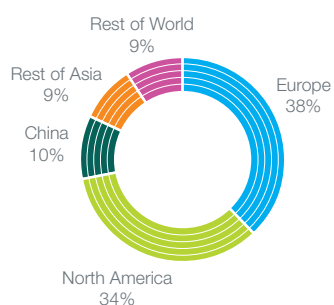
<sup>2</sup> Sales excluding precious metals have been adjusted to include certain non pass through precious metal items.

<sup>3</sup> Before amortisation of acquired intangibles, major impairment and restructuring charges, profit or loss on disposal of businesses, significant tax rate changes and, where relevant, related tax effects.

## Sales by Division

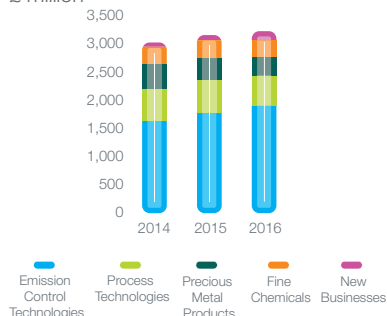


## Sales by Destination



## Divisional Sales

£ million



## JOHNSON MATTHEY DELIVERED A ROBUST PERFORMANCE IN 2015/16:

- Sales up 3% and underlying profit before tax flat on a continuing basis<sup>4</sup>.
- Actions taken to reduce costs by around £34 million per annum (£8 million benefited 2015/16).
  - Impairment and restructuring charges of £141 million, of which £38 million cash.
  - Charges mainly relate to previously announced restructuring in Process Technologies and review of the Fuel Cells business.
- Ongoing investment to support medium term growth.
  - R&D spend of £188 million (6% of sales) and capital expenditure of £257 million (1.8x depreciation).
- Strong cash generation and balance sheet provide the resources for investment.
  - Working capital days (excluding precious metals) reduced to 56 (2014/15 66) and strong free cash flow of £589 million with cash flow conversion of 82%.
  - Net debt (including post tax pension deficits) / EBITDA of 1.1 times.
- Disposal of Research Chemicals completed with profit on disposal of £130 million.
- ROIC at 17.3% remains well ahead of cost of capital.
- Special dividend of 150.0 pence paid in February 2016.
- Final dividend of 52.0 pence recommended, resulting in full year dividend up 5% at 71.5 pence, covered 2.5 times by underlying EPS, reflecting continued confidence in long term growth.

<sup>4</sup> 2014/15 and 2015/16 adjusted to exclude contribution of Gold and Silver Refining and Research Chemicals businesses. See table on page 60.

## Underlying Operating Profit

	2016 £ million	2015 £ million	2014 £ million
Emission Control Technologies	272.2	236.9	203.6
Process Technologies	73.6	106.0	101.9
Precious Metal Products	66.3	101.5	130.9
Fine Chemicals	82.3	88.8	84.1
New Businesses	(17.9)	(22.1)	(18.3)
Corporate	(25.7)	(34.0)	(33.3)
<b>Total</b>	<b>450.8</b>	<b>477.1</b>	<b>468.9</b>

## Performance in 2015/16

Johnson Matthey made solid progress in 2015/16 despite a difficult macroeconomic environment and has continued to invest in R&D and our operations. Emission Control Technologies (ECT) continued to grow strongly and we have made good progress in New Businesses. Whilst the group's performance was adversely impacted by the challenging conditions in several of our business areas, we have restructured our business to better position the group for future growth.

ECT had another strong year, benefiting from the full implementation of Euro 6b legislation in Europe and light duty vehicle market growth in Asia and North America, although the reduction in demand for Class 8 trucks in our second half impacted our heavy duty diesel (HDD) catalyst sales in North America. Process Technologies (PT) had a challenging year with the slowdown in activity in the chemicals sector and the sustained low oil price impacting the division's performance. In Precious Metal Products, conditions have also been difficult due to the lower average platinum group metal (pgm) prices which were around 25% down on last year.

In Fine Chemicals, there was steady demand in Active Pharmaceutical Ingredient (API) Manufacturing and good progress in Catalysis and Chiral Technologies (CCT). However, the division's performance was held back as a result of a safety shutdown in the US following a fatal accident in the first half. New Businesses made good progress with strong sales growth in battery materials and a positive contribution from Atmosphere Control Technologies.

Overall, sales were flat at £3.2 billion, underlying operating profit was 6% down at £450.8 million and underlying profit before tax was 5% lower at £418.2 million. Consequently, underlying return on sales was slightly lower than last year at 14.2%. On a continuing basis, adjusting for the disposals of Gold and Silver Refining and Research Chemicals, sales grew by 3% and underlying profit before tax was flat.

Working capital improved significantly by £442 million, with working capital days excluding the element that relates to precious metals reducing to 56, and the group delivered strong free cash flow of £589 million, with a cash flow conversion of 82%.

For the 12 months to 31st March 2016, ROIC reduced to 17.3% and remains well ahead of our pre-tax cost of capital. Underlying earnings per share reduced by 1% to 178.7 pence.

Profit before tax was £386.3 million which includes both the benefit of the £130 million profit on the sale of Research Chemicals and the negative impact of a £141 million impairment and restructuring charge. Basic earnings per share were 166.2 pence.

The £141 million impairment and restructuring charge includes a one-off cash cost of £38 million and mainly relates to the previously announced PT restructuring and a restructuring of Fuel Cells following a review of the business. It is anticipated that the completed restructuring programme will generate around £34 million per annum of cost savings from 2016/17. The 2015/16 profit before tax benefited from around £8 million of cost savings.

The performance of our five divisions is explained in more detail in the Financial Review of Operations section on pages 44 to 57.

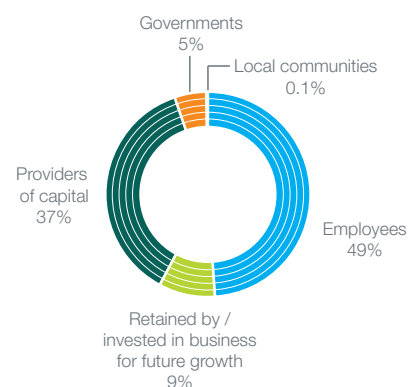
## Economic Impact and Distribution of Value to Stakeholders

In 2015/16 the group generated an underlying operating profit of £450.8 million and revenue of £10.7 billion. Of this revenue, £7.5 billion represents the value of precious metals in our products which in many cases is passed directly on to our customers. As a result, we may see quite large year on year swings in the revenue line depending on the movements in the market prices of precious metals during the year. Sales excluding the value of precious metals is therefore a better measure of the sales growth in our business.

Of the £10.7 billion revenue, the costs of goods and services were £9.4 billion (including £7.5 billion for precious metals) while our own operations created an estimated £1.3 billion in underlying added value.

Employees received the largest share of this underlying added value (49% of the total), reflecting the fact that Johnson Matthey is a high technology company employing many highly skilled employees across the globe. Amounts payable to providers of capital, i.e. our shareholders and financiers, were 37% of the total, and corporate income taxes of 5% were payable to governments. In 2015/16 we retained / invested 9% in the business for future growth and £0.7 million was invested in our local communities. This community investment represents cash donations made by Johnson Matthey and does not include the value of employee time donated during working hours. This is outlined further in the People and Planet section on page 71.

## Johnson Matthey – Distribution of Underlying Added Value 2015/16

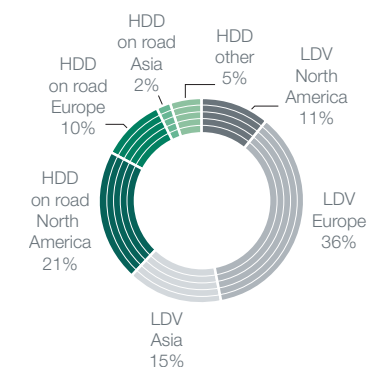


## 2. Financial

## FINANCIAL REVIEW OF OPERATIONS

## DIVISIONAL PERFORMANCE SUMMARY

## EMISSION CONTROL TECHNOLOGIES

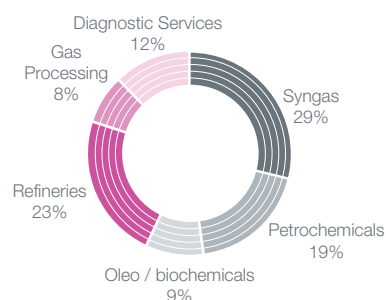


**Heavy Duty Diesel (HDD)**  
**38%**

**Light Duty Vehicles (LDV)**  
**62%**

- **Light Duty Vehicles** – a world leading manufacturer of catalysts for cars and other light duty vehicles powered by all types of fuel
- **Heavy Duty Diesel (on road)** – catalyst systems for diesel powered trucks and buses
- **Heavy Duty Diesel (other)** – catalyst systems for stationary equipment and non-road machinery

## PROCESS TECHNOLOGIES

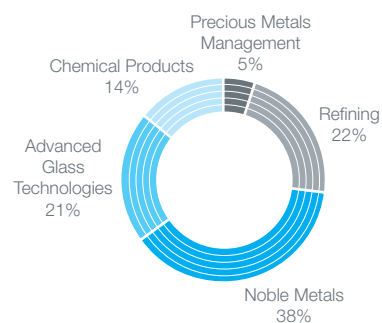


**Oil and Gas**  
**43%**

**Chemicals**  
**57%**

- **Chemicals** – manufactures speciality catalysts, licenses process technology and delivers services to the chemical industry
- **Oil and Gas** – manufactures catalysts, additives and absorbents and delivers services to the oil and gas industry

## PRECIOUS METAL PRODUCTS



**Manufacturing**  
**73%**

**Services**  
**27%**

- **Services** – marketing, distribution, refining and recycling of pgms
- **Manufacturing** – fabricates products using precious metals and related materials and manufactures pgm chemicals

– Return on sales **14.2%**

– Return on invested capital **28.3%**

– Employees **4,963**

– Return on sales **13.6%**

– Return on invested capital **9.6%**

– Employees **2,226**

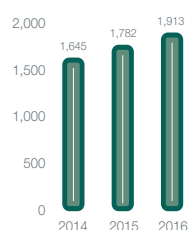
– Return on sales **19.4%**

– Return on invested capital **16.5%**

– Employees **2,180**

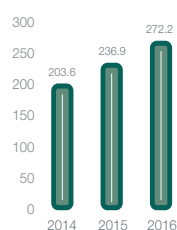
## Sales

£ million



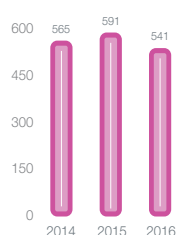
## Operating Profit

£ million



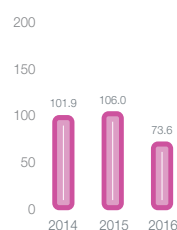
## Sales

£ million



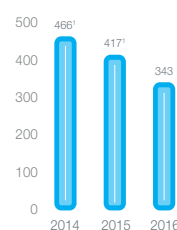
## Operating Profit

£ million



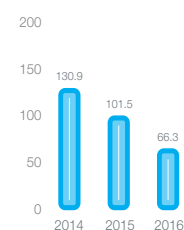
## Sales

£ million



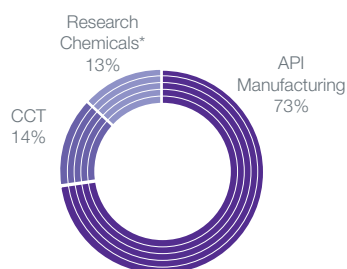
## Operating Profit

£ million



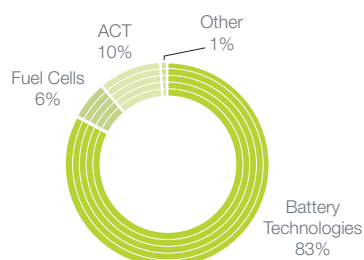
<sup>1</sup> Adjusted to include certain non pass through precious metal items.

## FINE CHEMICALS



\* Includes sales to 30th September 2015 at which point Research Chemicals was sold.

## NEW BUSINESSES



- **API Manufacturing** – a global supplier of active pharmaceutical ingredients and intermediate products
- **CCT** – supplies a range of speciality chemical, chiral and biocatalytic technologies
- **Research Chemicals** (sold on 30th September 2015) – supplied speciality chemicals to industrial and academic research organisations

- **Battery Technologies** – focused on the research, development, design and manufacture of battery materials and integrated battery systems
- **Fuel Cells** – develops and manufactures catalysed components for fuel cells
- **Atmosphere Control Technologies (ACT)** – creates advanced technologies to extend the post harvest life of fresh produce
- Investment in other new opportunities including water purification

- **Emission Control Technologies**

**£272.2 million**

Operating profit

- **Process Technologies**

**£73.6 million**

Operating profit

- **Precious Metal Products**

**£66.3 million**

Operating profit

- **Fine Chemicals**

**£82.3 million**

Operating profit

- **New Businesses**

**£17.9 million**

Operating loss

- **Return on sales 27.8%**

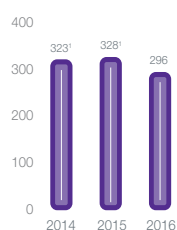
- **Return on invested capital 16.9%**

- **Employees 1,238**

- **Employees 1,047**

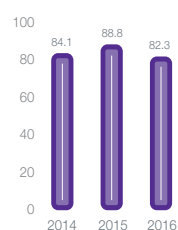
## Sales

£ million



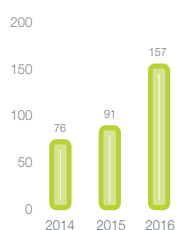
## Operating Profit

£ million



## Sales

£ million



## Operating Loss




£ million



# FINANCIAL REVIEW OF OPERATIONS (CONTINUED)

## EMISSION CONTROL TECHNOLOGIES

### DIVISIONAL SUMMARY

Business	Light Duty Vehicle Catalysts	Heavy Duty Diesel Catalysts
What We Do	Manufacture catalysts which control harmful emissions from cars and other light duty vehicles powered by all types of fuel	Manufacture catalysts which control harmful emissions from diesel powered trucks, buses and non-road machinery
How We Add Value	Develop high technology catalyst formulations and systems to meet legislated limits for emissions around the world	
Societal Benefits	<ul style="list-style-type: none"> <li>Improved air quality and fuel efficiency</li> <li>Respiratory health benefits</li> </ul>	
Global Drivers	<div>  <p><b>Environmental Factors</b> Climate Change Regulation</p> </div> <div>  <p><b>Population Growth</b> Urbanisation Increasing Wealth</p> </div> <div>  <p><b>Health and Nutrition</b> Ageing Population</p> </div>	
Customer Profile	<ul style="list-style-type: none"> <li>Car companies</li> <li>Global customer base</li> </ul>	<ul style="list-style-type: none"> <li>Heavy duty truck and engine manufacturers</li> <li>Local Chinese producers</li> <li>Global customer base</li> </ul>
Major Competitors	<ul style="list-style-type: none"> <li>BASF</li> <li>Umicore</li> <li>Cataler</li> </ul>	<ul style="list-style-type: none"> <li>BASF</li> <li>Umicore</li> <li>Haldor Topsøe</li> </ul>
Employees	4,963	
Locations	<ul style="list-style-type: none"> <li>15 manufacturing facilities in 13 countries</li> <li>Nine technical centres in seven countries</li> </ul>	
2015/16 Sales	£1,182 million	£731 million

#### STRATEGY

- Maintain differentiation through technology by investing in R&D
- A deep understanding of markets and customers
- Operational excellence and sustainability
- Deliver superior growth

The division is focused on **maintaining differentiation through technology by investing in R&D**. This investment is vital to ensure Emission Control Technologies can continue to develop high performance leading edge catalysts for its customers.

**A deep understanding of markets and customers** enables the division to provide the right solutions for its customers in evolving markets driven by tightening legislation. Strong relationships and a good understanding of customers' needs are crucial to the division's success.

The division is focused on **operational excellence and sustainability** to optimise raw materials and plant efficiency. This enables it to produce the best quality products at minimum operating cost whilst ensuring the highest standards of environmental, health and safety performance.

The division aims to **deliver superior growth**. It targets markets that are driven by global trends, such as environmental regulation and increasing wealth, applying its expertise in leading edge catalysis to generate growth at rates ahead of industry baselines.

## PERFORMANCE IN 2015/16

	Year to 31st March		%	% at
	2016	2015	change	constant
	£ million	£ million		rates
Revenue	3,484	3,578	-3	-
Sales excluding precious metals (sales)	1,913	1,782	+7	+7
Underlying operating profit	272.2	236.9	+15	+16
Return on sales	14.2%	13.3%		
Return on invested capital (ROIC)	28.3%	24.1%		

Emission Control Technologies (ECT) had another strong year with sales up 7% to £1,913 million and underlying operating profit 15% higher at £272.2 million. Our light duty vehicle (LDV) catalyst business performed well, significantly outpacing the 1% growth in global vehicle production, benefiting from the full implementation of Euro 6b legislation in Europe and strong demand for our products in both Asia and North America. In our on road heavy duty diesel (HDD) catalyst business, sales were up 5% supported by recovery in Western European truck production and strong demand for Class 8 trucks in North America in the first half of the year. On the other hand, demand for catalysts for non-road and stationary applications was down.

ECT's return on sales for the year increased by 0.9% to 14.2%. The improvement was mainly due to certain one-off benefits in the first half, and, as expected, margins in the second half were lower. ROIC improved from 24.1% to 28.3% as a result of higher underlying operating profit and a continued focus on capital efficiency.

### Light Duty Vehicle Catalysts

In Europe, our LDV catalyst business performed strongly, growing its sales by 12% to £698 million (18% up at constant rates), compared to the 2% growth in vehicle production. The main driver of growth was sales of higher value catalysts to meet Euro 6b legislation. This imposes tighter oxides of nitrogen (NOx) emission standards for diesel vehicles, bringing them much closer to those already in place for gasoline cars. It requires additional catalyst technology and increases sales value per vehicle for Johnson Matthey by around 20%. Euro 6b was in place for new models of diesel car from 1st September 2014 and since 1st September 2015 the new legislation has applied to all diesel cars produced in the EU.

There has been continued commentary around NOx emissions from diesel vehicles and speculation as to whether the share of vehicles produced in Europe with diesel engines may decline. The proportion of diesel vehicles produced in Western Europe declined slightly in 2015/16 to 51% (2014/15 52%). We continue to expect diesel's share of production in Western Europe to trend down due to the continuing fuel efficiency improvements in gasoline engines. That said, diesel engines currently offer fuel efficiency and carbon dioxide (CO<sub>2</sub>) emission advantages over gasoline engines and with the introduction of real world driving emission standards (RDE), diesel vehicles are becoming cleaner. Furthermore, with the reduction in fleet average CO<sub>2</sub> limits from 130g/km to 95g/km in 2020, we still believe diesel will remain an important powertrain technology to enable our customers to meet these limits.

As a result of RDE we expect a continued shift towards advanced selective catalytic reduction (SCR) NOx control systems for which Johnson Matthey already offers successful technologies.

Euro 6c legislation, to combat the emissions of harmful particles from gasoline engines, will start to take effect from September 2017 for new models, of which we expect only a limited number, and September 2018 for all new vehicles. We anticipate that certain gasoline cars, such as those with direct injection, will require new, advanced coated particulate filter technologies to meet the new standard. As a result, we expect our average sales value per vehicle to approximately double for those engines requiring additional particulate control. Initially we anticipate this to be required by up to one quarter of gasoline vehicles in the EU, and we are working with customers on catalyst solutions ahead of the start of Euro 6c.

### Estimated Light Duty Vehicle Sales and Production

		Year to 31st March		
		2016	2015	%
		millions	millions	change
North America	Sales	21.0	19.7	+6
	Production	17.8	17.0	+4
Total Europe	Sales	18.8	18.1	+4
	Production	20.7	20.3	+2
Asia	Sales	39.7	38.6	+3
	Production	44.1	43.9	-
Global	Sales	90.0	88.0	+2
	Production	88.5	88.0	+1

Source: LMC Automotive

### Johnson Matthey's Light Duty Vehicle Catalyst Sales by Region

	2016	2015	%	% change
	£ million	£ million	change	at constant rates
Europe	698	622	+12	+18
Asia	282	257	+10	+10
North America	202	179	+13	+6
<b>Total</b>	<b>1,182</b>	<b>1,058</b>	<b>+12</b>	<b>+14</b>

## 2. Financial

## FINANCIAL REVIEW OF OPERATIONS (CONTINUED)

## EMISSION CONTROL TECHNOLOGIES (CONTINUED)

In Asia, our LDV catalyst business also had a good year with sales up 10% to £282 million despite flat vehicle production. During the year, our catalyst sales grew in all our major markets. Our business in China continued to grow its sales in line with the market. Despite the economic slowdown in the country, demand for vehicles increased in the second half, helped by tax incentives for smaller vehicles and good sales of sports utility vehicles (SUVs) which supported growth in catalyst sales. In Japan, vehicle production continued to weaken, but our sales grew strongly, supported by a positive product mix. Sales in India continued to grow in line with the increase in vehicle production. There are continuing discussions around the implementation dates for further legislation in order to bring legislation in China and India in line with Europe and North America. We currently don't expect a significant impact from new legislation in China and India until the end of the decade.

In North America our catalyst sales increased by 13% to £202 million (up 6% at constant rates), ahead of the 4% market growth, as our business benefited from a positive product and customer mix. Whilst interest in technologies for diesel passenger cars has declined, we are working increasingly with customers on catalyst solutions for larger diesel vehicles, such as pick-up trucks, to support achievement of tightening fleet average CO<sub>2</sub> targets in the region.

## Heavy Duty Diesel Catalysts – On Road

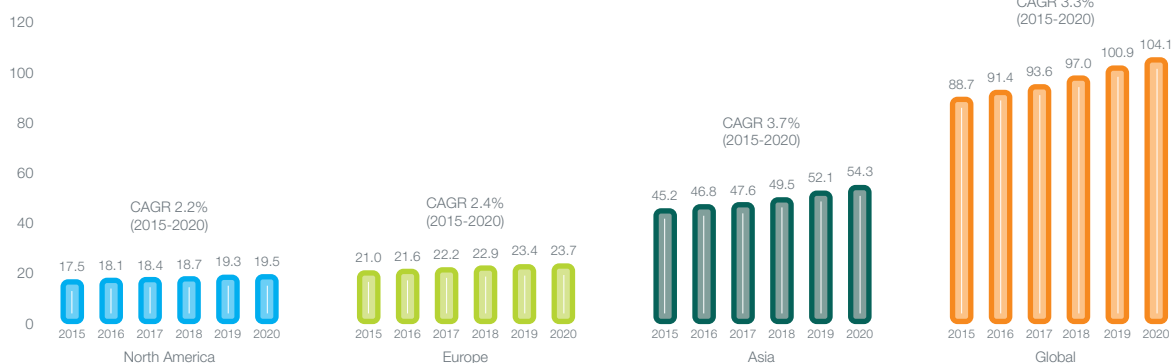
In North America, our on road HDD catalyst business' sales were up 5% to £405 million (down 2% at constant rates), in a market which was flat year on year. The business maintained its strong position and volumes increased, although sales were adversely impacted in the second half by a sharp reduction in demand for large trucks (Class 8), which represent higher catalyst value per vehicle to Johnson Matthey. Sales of catalysts for Class 4-7 trucks were strong in the year, and production volumes of these trucks have continued to remain stable into 2016/17. Production of Class 8 trucks has continued to soften at the start of 2016/17 as truck manufacturers adjust their build rates to align with the lower sales order levels and high dealer inventories. Following this, we expect production levels to stabilise later in the year.

In our European business, sales grew well, up 8% to £196 million (14% at constant rates). In the EU, demand for our catalysts was strong, supported by the 14% growth in the truck market. On the other hand, our sales outside of the EU, which represent around 10% of our on road European HDD sales and include sales to South America, were lower due to the significant decline in truck production in those regions.

Sales in our Asian HDD business reduced by 8% (10% at constant rates) to £44 million. Our business in China saw strong growth in the number of catalyst units sold, despite an 18% fall in truck production, as with the extension of Euro IV equivalent legislation around 85% of trucks are now fitted with a catalyst. However, our sales were lower due to a reduction in average catalyst content per truck as legislation has now extended beyond cities into areas where trucks are typically smaller and have simpler engines. We expect that fitment of catalysts to trucks to meet Euro IV standards will reach 100% in 2016/17. Catalyst sales in Japan were robust, supported by the good growth in truck production in the country.

## Light Duty Vehicle Production Outlook – 2015-2020 (calendar years)

million



Source: LMC Automotive (April 2016)

### Heavy Duty Diesel Catalysts – Other

Sales of catalyst systems for non-road and stationary applications were down 20% at £86 million, with sales down in Europe, North America and Asia. This was mainly due to a fall in demand from both the agricultural sector and from US customers in the oil exploration industry.

### Key Investments and Developments

During the year we completed the expansion of light duty diesel manufacturing capacity in the UK and commenced a programme to extend our HDD manufacturing capacity in Germany. Work is also underway to expand our R&D facilities and manufacturing capacity in China for both light and heavy duty technologies ahead of the introduction of tighter legislation towards the end of the decade.

### Estimated HDD Truck Sales and Production

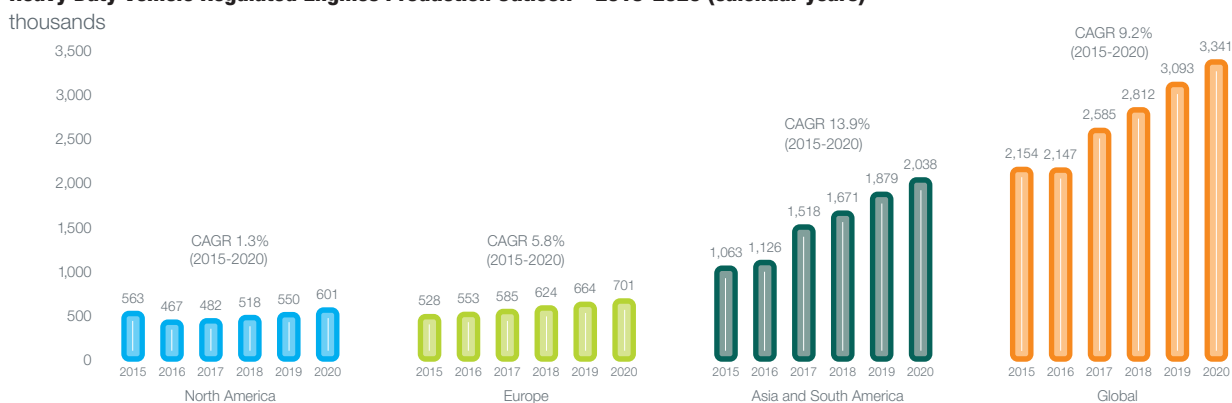
		Year to 31st March		% change
		2016 thousands	2015 thousands	
North America	Sales	546.1	512.8	+6
	Production	545.7	543.7	–
EU	Sales	321.2	276.6	+16
	Production	442.8	386.8	+14

Source: LMC Automotive

### Johnson Matthey's Heavy Duty Diesel Catalyst Sales by Region

	2016 £ million	2015 £ million	% change	% change at constant rates
North America (on road)	405	387	+5	-2
Europe (on road)	196	182	+8	+14
Asia (on road)	44	47	-8	-10
Other	86	108	-20	-21
<b>Total</b>	<b>731</b>	<b>724</b>	<b>+1</b>	<b>-1</b>

### Heavy Duty Vehicle Regulated Engines Production Outlook – 2015-2020 (calendar years)







Source: LMC Automotive (April 2016); Johnson Matthey estimates for proportion regulated.

## 2. Financial

## FINANCIAL REVIEW OF OPERATIONS (CONTINUED)

## PROCESS TECHNOLOGIES

## DIVISIONAL SUMMARY

CHEMICALS MARKETS				OIL AND GAS MARKETS		
Business	Syngas	Oleo / biochemicals	Petrochemicals	Refineries	Gas Processing	Diagnostic Services
What We Do	Manufacture catalysts, license process technology and deliver services to the chemical industry			Manufacture catalysts, additives and absorbents and deliver services to the oil and gas industry		
How We Add Value	Innovate and develop products, process technologies and services to enable customers to operate their processes at optimum efficiency and with reduced environmental impact					
Societal Benefits	<ul style="list-style-type: none"><li>• More efficient use of natural resources</li><li>• Lower energy use</li><li>• Biorenewables / low carbon technology</li></ul>			<ul style="list-style-type: none"><li>• Improved fuel quality</li><li>• More efficient use of natural resources</li><li>• Lower energy use</li><li>• Improved environmental performance of refineries</li></ul>	<ul style="list-style-type: none"><li>• Removal of harmful impurities from gas</li><li>• Improved environmental performance for our customers</li></ul>	<ul style="list-style-type: none"><li>• Improved asset performance and integrity</li></ul>
Global Drivers	<div><div><p><b>Natural Resource Constraints</b></p></div><div><p><b>Environmental Factors Climate Change Regulation</b></p></div><div><p><b>Population Growth Urbanisation Increasing Wealth</b></p></div><div><p><b>Health and Nutrition Ageing Population</b></p></div></div>					
Customer Profile	<ul style="list-style-type: none"><li>• Chemical companies</li><li>• Engineering contractors</li></ul>			<ul style="list-style-type: none"><li>• Refineries</li><li>• Industrial gas companies</li></ul>	<ul style="list-style-type: none"><li>• Gas producers</li></ul>	<ul style="list-style-type: none"><li>• Oil and gas companies</li></ul>
Major Competitors	<ul style="list-style-type: none"><li>• Haldor Topsøe</li><li>• Clariant</li></ul>			<ul style="list-style-type: none"><li>• BASF</li><li>• Lurgi</li></ul>	<ul style="list-style-type: none"><li>• Clariant</li><li>• Albemarle</li></ul>	<ul style="list-style-type: none"><li>• Grace</li><li>• UOP</li></ul>
Employees	2,226					
Locations	<ul style="list-style-type: none"><li>• Nine manufacturing facilities in six countries</li><li>• Ten technical centres in four countries</li><li>• Sales offices in key markets</li></ul>					
2015/16 Sales	£158 million	£48 million	£103 million	£127 million	£42 million	£63 million

## STRATEGY

- Maintain leading positions in catalysts and process technologies for chemicals and oil and gas markets
- Deliver growth in current sectors and through entry into new markets
- Expand capabilities
- Achieve margin improvement by operational excellence

The division is focused on maintaining leading positions in catalysts and process technologies for chemicals and oil and gas markets and on continued development of high performance products and services for its customers.

Through combining its expertise in catalysts and process technology to create value and new opportunities, the division aims to deliver superior growth in current and new markets. Exploiting existing technology advantages and developing process technology to complement our catalysts will enable the division to access larger markets within the target sectors of oil and gas and chemicals. The division also aims to enter new sectors, both by leveraging existing capabilities and by targeted acquisition. It will also invest in its people, manufacturing and technology to capitalise on opportunities in its markets.

The division aims to expand capabilities through focused research and development, external partnerships and targeted acquisitions in order to provide value adding solutions for its customers.

Process Technologies has a broad asset base, closely aligned to market needs. The division will deliver improved margins by rigorous application of manufacturing excellence and lean tools.

## PERFORMANCE IN 2015/16

	Year to 31st March			
	2016	2015	%	% at
	£ million	£ million	change	constant rates
Revenue	551	600	-8	-9
Sales excluding precious metals (sales)	541	591	-8	-9
Underlying operating profit	73.6	106.0	-31	-31
Return on sales	13.6%	17.9%		
Return on invested capital (ROIC)	9.6%	14.6%		

In Process Technologies, challenging trading conditions have persisted across many areas, with sales down 8% to £541 million and underlying operating profit down 31% to £73.6 million. The Chemicals businesses suffered from slightly weaker catalyst sales and continued low levels of licensing activity. In the Oil and Gas businesses, catalyst sales remained steady but the slowdown in upstream oil and gas markets significantly impacted our Diagnostic Services business, which in turn had an adverse effect on the division's performance. Overall, catalyst sales in the division were weaker, primarily due to lower demand for 'first fill' catalysts for new plants. As a result of the reduction in underlying operating profit, return on sales and ROIC declined to 13.6% and 9.6% respectively.

With licensing activity and the oil price expected to remain subdued, we have taken action during the second half of the year to reduce costs in the division as detailed on page 59. This will generate annual cost reductions of approximately £23 million, and £5 million was realised in the final quarter of 2015/16.

### Chemicals

Sales in our Chemicals businesses were down 10% at £309 million and underlying operating profit was significantly lower due to a more negative product mix for catalysts and continued low levels of licensing activity. During the year, sales of £56 million (2014/15 £76 million) were derived from licensing, engineering and related activities and five new licences (2014/15 six new licences) were secured.

Across our Chemicals businesses, the slowdown in licensing activity in China continued as the country has sufficient capacity in place for many of our existing technologies. More broadly, ongoing projects globally have experienced delays and opportunities for new projects have reduced as a result of several factors. These include the impact of the lower oil price on investment sentiment and hence the technology decisions of our customers, lower demand for substitute natural gas (SNG) technology in China and the overall slower pace of economic growth in the country.

### Syngas

Sales of catalysts and licences in our Syngas business were down 14% at £158 million. As expected, sales of ammonia catalysts were lower this year, down 23% at £43 million, following strong demand in 2014/15. In methanol, catalyst sales were stable at £46 million and licensing income remained steady, supported by two new licences for methanol plants in China and Europe. Demand for formaldehyde catalysts was in line, although licensed technology sales were slightly down due to a slowdown in new plant builds following 18 months of buoyant activity. As a result, total sales to formaldehyde customers were 5% lower at £47 million.

Prospects for SNG catalysts and technology continued to deteriorate in 2015/16 as the Chinese authorities slowed approval of new projects due to environmental concerns. SNG continues to feature in the Chinese five year plan but at much reduced levels than before.

Whilst no new SNG licences were signed in 2015/16, a licence for related technologies to convert coal into liquefied natural gas in China was agreed.

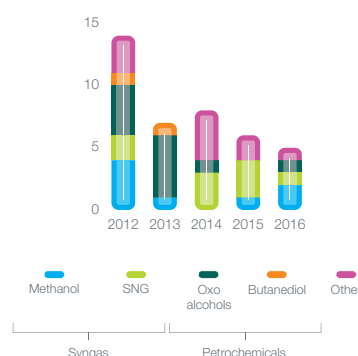
### Oleo/biochemicals

Sales in our Oleo/biochemicals business were down 31% at £48 million, mainly as a result of lower licensing income. Demand for nickel based catalysts was slightly down, especially in China, and sales were also impacted by the lower average price for nickel, which is a pass through cost to our customers.

### Petrochemicals

In our Petrochemicals business, sales increased by 17% to £103 million benefiting from increased sales of catalysts for the production of speciality products. However, this was partially offset by lower demand in other areas due to timing of customer orders. Income from licensing was stable, supported by the close out of an oxo alcohols project in China in the first half. In addition, two new licences were secured in the year, including one for an oxo alcohols plant in India.

**Technology Licensing – Projects Awarded 2012 – 2016**



### Process Technologies – Chemicals Businesses' Sales

	2016	2015	%	% change
	£ million	£ million	change	at constant rates
Syngas	158	184	-14	-14
Oleo/biochemicals	48	70	-31	-31
Petrochemicals	103	88	+17	+16
<b>Total</b>	<b>309</b>	<b>342</b>	<b>-10</b>	<b>-10</b>

## 2. Financial

## FINANCIAL REVIEW OF OPERATIONS (CONTINUED)

## PROCESS TECHNOLOGIES (CONTINUED)

## Process Technologies – Oil and Gas Businesses' Sales

	2016 £ million	2015 £ million	% change	% change at constant rates
Refineries	127	133	-4	-8
Gas Processing	42	38	+11	+11
Diagnostic Services	63	78	-19	-18
<b>Total</b>	<b>232</b>	<b>249</b>	<b>-7</b>	<b>-8</b>

## Oil and Gas

Our Oil and Gas businesses had a mixed year overall with sales 7% down at £232 million. Underlying operating profit was significantly down, impacted by the Diagnostic Services business which only broke even in the year.

## Refineries

In our Refineries business, sales fell by 4% to £127 million (down 8% at constant rates). There was a reduction in demand for hydrogen catalysts following a strong year in 2014/15 which saw a greater number of new plant projects. During the year oil refineries in some regions have been running past their scheduled shutdowns to take advantage of increased margins resulting from the availability of inexpensive feedstocks. Consequently, our customers, the refinery hydrogen suppliers, are running catalysts for longer which has adversely impacted demand for our refill hydrogen catalysts. Sales of our refinery additives, which are used to reduce emissions and improve performance in the fluid catalytic cracking (FCC) unit of the refinery, were ahead, benefiting from increased sales of catalyst enhancement additives.

## Gas Processing

Our Gas Processing business, which supplies purification products used to remove mercury and sulphur impurities from natural gas, made good progress with sales up 11% to £42 million. The business benefited from the introduction of new products and increased demand in North America.

## Diagnostic Services

Our Diagnostic Services business was significantly impacted by the low oil price which has caused a slowdown in the upstream oil and gas market. The business saw lower demand for services across all regions as customers reduced their operating expenditure and our sales decreased by 19% to £63 million. Operating profit was adversely impacted due to the business' relatively high fixed cost base. However, actions have been taken during the second half to reduce costs and, as a result, after making an operating loss in the first half, Diagnostic Services broke even for the full year.





## Key Investments and Developments

During the year we completed the refurbishment of a new research and development facility at our site in Savannah, USA to support the development of advanced materials. Towards the end of the year we also commenced construction of a new pgm catalyst plant in Germany to meet future demand for a range of products in the Chemicals businesses.

We have also invested in Shanghai Bi Ke Clean Energy Technology Co., Ltd (CECC), a Chinese chemical process technology and licensing start-up company which focuses on technologies for the gas and syngas to chemicals and fuels markets. This strengthens our existing relationship with CECC and we are working together to expand the use of methanol as a feedstock for petrochemical processes and in applying our methanol technologies.

## PRECIOUS METAL PRODUCTS

### DIVISIONAL SUMMARY

Business	SERVICES		MANUFACTURING		
	Precious Metals Management	Refining	Noble Metals	Advanced Glass Technologies	Chemical Products
What We Do	Global management and distribution of platinum group metals (pgms)	Refining and recycling of pgms from a wide range of inputs	Develop and fabricate a wide range of products from precious metals and other speciality materials	Develop and manufacture functional coatings and conductive inks	Manufacture pgm chemicals for a broad range of markets including automotive and chemical
How We Add Value	Ensure Johnson Matthey's operations have metal to meet their customers' orders	Ensure optimal recovery of pgms for external customers and Johnson Matthey's businesses	R&D to find new applications which use the unique properties of pgms and other materials	R&D in material technologies to provide high performance solutions	R&D to develop products that provide unique solutions for our customers
Societal Benefits	<ul style="list-style-type: none"> <li>Enable the production of pgm containing products that deliver environmental, health and social benefits</li> </ul>	<ul style="list-style-type: none"> <li>More efficient use of natural resources</li> </ul>	<ul style="list-style-type: none"> <li>Enhanced health and wellbeing</li> <li>Greenhouse gas abatement</li> </ul>	<ul style="list-style-type: none"> <li>Enhance lifestyle</li> <li>Some environmental benefits</li> </ul>	<ul style="list-style-type: none"> <li>Our customers' work underpins a broad range of environmental and other societal benefits</li> </ul>
Global Drivers	<div> <div>  <p><b>Natural Resource Constraints</b></p> </div> <div>  <p><b>Environmental Factors</b> Climate Change Regulation</p> </div> <div>  <p><b>Population Growth</b> Urbanisation Increasing Wealth</p> </div> <div>  <p><b>Health and Nutrition</b> Ageing Population</p> </div> </div>				
Customer Profile	<ul style="list-style-type: none"> <li>Johnson Matthey's businesses and their customers</li> <li>Other industrial pgm users</li> </ul>	<ul style="list-style-type: none"> <li>End of life autocatalyst collectors</li> <li>Industrial pgm users</li> <li>Johnson Matthey's businesses and their customers</li> <li>Miners</li> </ul>	<ul style="list-style-type: none"> <li>Customers from a wide range of industries including medical, chemical and automotive</li> </ul>	<ul style="list-style-type: none"> <li>Automotive glass manufacturers</li> <li>Electronic component manufacturers</li> </ul>	<ul style="list-style-type: none"> <li>Chemical / pharmaceutical manufacturers</li> <li>Emission control catalyst manufacturers</li> </ul>
Major Competitors	<ul style="list-style-type: none"> <li>BASF</li> <li>Heraeus</li> <li>Umicore</li> <li>Bullion banks</li> </ul>	<ul style="list-style-type: none"> <li>Heraeus</li> <li>Umicore</li> <li>BASF</li> </ul>	<ul style="list-style-type: none"> <li>Heraeus</li> <li>Umicore</li> </ul>	<ul style="list-style-type: none"> <li>Ferro</li> <li>DuPont</li> <li>Heraeus</li> </ul>	<ul style="list-style-type: none"> <li>Heraeus</li> <li>Umicore</li> </ul>
Employees	2,180				
Locations	<ul style="list-style-type: none"> <li>UK, US and Hong Kong</li> </ul>	<ul style="list-style-type: none"> <li>UK, China and US</li> </ul>	<ul style="list-style-type: none"> <li>Manufacturing sites in Europe, US and Australia; support centres in Asia</li> </ul>	<ul style="list-style-type: none"> <li>Six manufacturing sites and three support centres in Europe, US and Asia</li> </ul>	<ul style="list-style-type: none"> <li>Manufacturing sites and technical centres in Europe, US and Asia</li> </ul>
2015/16 Sales	£17 million	£77 million	£130 million	£71 million	£48 million

# FINANCIAL REVIEW OF OPERATIONS (CONTINUED)

## PRECIOUS METAL PRODUCTS (CONTINUED)

### STRATEGY

- Leverage our deep understanding of pgm chemistry, materials science and manufacturing
- Provide customer solutions through investment in R&D
- Offer first class services to our external and internal customers
- Deliver superior growth

Through leveraging its deep understanding of pgm chemistry, materials science and manufacturing, Precious Metal Products can apply expertise to ensure it continues to develop leading edge products and manufacturing routes.

The division is focused on providing customer solutions through investment in R&D. Although it comprises a mix of newer and more mature businesses, constant innovation is key to enable the division to respond to customers' continued demand for new products.

Offering first class services to external and internal customers is an important element of the strategy. The division serves external customers and also provides vital services to other Johnson Matthey businesses, either through the provision of precious metals or through refining and recycling spent process or customer material. Investing in the business and focusing on the quality and scope of the services it offers is key to maintaining a competitive position.

The division aims to deliver superior growth by targeting higher technology areas where its expertise in adding value to precious metals and related materials can generate growth at rates ahead of industry baselines.

## PERFORMANCE IN 2015/16

	Year to 31st March 2016 £ million	2015 £ million	% change	% at constant rates
Revenue	7,667	7,178	+7	+5
Sales excluding precious metals (sales)	343	417 <sup>1</sup>	-18	-19
Underlying operating profit	66.3	101.5	-35	-35
Return on sales	19.4%	24.3%		
Return on invested capital (ROIC)	16.5%	21.6%		

<sup>1</sup> Adjusted to include certain non pass through precious metal items.

The performance of Precious Metal Products (PMP) was impacted by the significantly lower average pgm prices and by the absence of income from Gold and Silver Refining which was sold in March 2015. Sales were £343 million, down 18% and underlying operating profit was 35% lower at £66.3 million. Sales in the continuing businesses were down 8% and operating profit was 25% lower. As a result of the lower pgm prices, return on sales decreased to 19.4% and ROIC also reduced to 16.5%.

### Services

On a continuing basis, sales in PMP's Services businesses reduced by 17% to £94 million and operating profit was also significantly down. Precious Metals Management saw steady trading activity and sales in the period were stable.

### Refining

Platinum and palladium prices averaged \$991/oz (down 26%) and \$631/oz (down 23%) respectively in 2015/16, and ended the year at \$968/oz and \$570/oz respectively. This impacted sales in our Pgm Refining and Recycling businesses which were 20% down at £77 million (22% down at constant rates). Following a sharp reduction in intake volumes during the final quarter of 2014/15 which corresponded to the fall in pgm prices, our intake volumes in 2015/16 have remained subdued but relatively stable. Margins have also been adversely impacted by a less favourable intake mix. Volumes of end of life autocatalysts were lower as the reduction in both pgm and scrap steel prices resulted in a slowdown in the supply chain. On the other hand, intakes from mines and refiners were up, boosted by the first full year of our long term supply contract with Stillwater.

### Precious Metal Products – Services Businesses' Sales

	2016 £ million	2015 £ million	% change	% change at constant rates
Precious Metals Management	17	17	–	-2
Refining	77	141 <sup>1, 2</sup>	-46	-47
<b>Total</b>	<b>94</b>	<b>158<sup>1, 2</sup></b>	<b>-41</b>	<b>-42</b>

<sup>1</sup> Adjusted to include certain non pass through precious metal items.

<sup>2</sup> Includes sales of £45 million from Gold and Silver Refining which was sold on 5th March 2015.

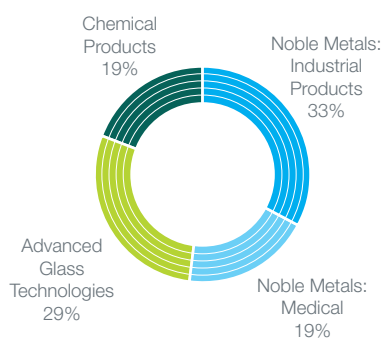
The processing issues encountered last year with certain intakes have been resolved.

Despite the slight recovery in pgm prices since the year end, prices are still below average levels for the first half of 2015/16 and trading conditions remain subdued.

## Manufacturing

Performance within our Manufacturing businesses was mixed with sales down 4% at £249 million. Underlying operating profit was flat.

### Manufacturing Businesses' Sales



## Noble Metals

Our Noble Metals business had a mixed year with sales down 2% to £130 million (down 4% at constant rates). Sales of industrial products decreased 7% to £83 million. The business saw weaker demand for pgm alloy catalysts used in the production of fertilisers following strong demand in Europe last year. Sales of other industrial products were also down. Our sales of medical components were up 9% at £47 million, benefiting from steady volume growth and favourable foreign exchange.

## Advanced Glass Technologies

Sales in our Advanced Glass Technologies business were 13% lower this year at £71 million (10% lower at constant rates), primarily as a result of lower sales of decorative ceramic colour products following our exit from that market. Demand for our black obscuration enamels and silver pastes for automotive glass applications was slightly weaker in China, although sales in Europe and North America remained stable.

## Chemical Products

Chemical Products' sales of £48 million were 7% ahead (4% at constant rates) supported by good demand for pgm salts for the pharmaceutical industry.

## Key Investments and Developments

We have continued to invest in a number of projects which are targeting an improvement in our pgm refining process and in our new pgm refinery in China which is expected to become operational during the second half of 2016/17.

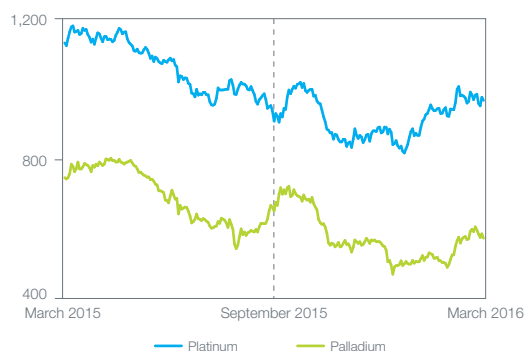
We have continued our investment in PMP's Manufacturing businesses, utilising their strong expertise in pgm chemistry and materials science to develop new products in higher growth markets. Work is underway on a number of new developments and while it will take some time for this growth to be realised, these projects have made good progress to date.

## Precious Metal Products – Manufacturing Businesses' Sales

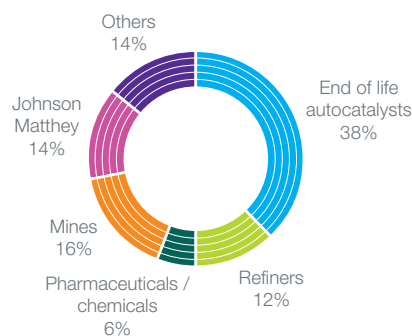
	2016 £ million	2015 £ million	% change	% change at constant rates
Noble Metals	130	133	-2	-4
Advanced Glass Technologies	71	82	-13	-10
Chemical Products	48	44	+7	+4
<b>Total</b>	<b>249</b>	<b>259</b>	<b>-4</b>	<b>-4</b>

## Platinum and Palladium Prices

US\$/oz





## Pgm Refining and Recycling Throughput by Sector



# FINANCIAL REVIEW OF OPERATIONS (CONTINUED)

## FINE CHEMICALS

### DIVISIONAL SUMMARY

Business	Active Pharmaceutical Ingredient (API) Manufacturing		Catalysis and Chiral Technologies
	<div>API and lifecycle management</div> <div>Custom pharma solutions</div>		
What We Do	Develop and manufacture complex APIs for a variety of treatments, including for pain management and Attention Deficit Hyperactivity Disorders (ADHD)	Provide custom pharmaceutical research, development and manufacturing services	Supply a leading range of speciality chemical, chiral and biocatalytic technologies and products
How We Add Value	Use our unique technology position and expertise to develop and manufacture APIs, enabling first to market commercialisation opportunities for our branded and generic customers	Leading complex chemistry capabilities and technology, coupled with outstanding services, enabling customers to increase R&D productivity and speed to market	Use our unique catalysis technology position to develop highly efficient and sustainable catalytic processes and manufacture products for customers in the pharmaceutical and agrochemical sectors
Societal Benefits	<ul style="list-style-type: none"> <li>Improved quality of life for an ageing global population</li> <li>Treats critical conditions e.g. cancer, chronic pain, neurodegenerative diseases</li> </ul>	<ul style="list-style-type: none"> <li>Facilitating the development and commercialisation of pharmaceuticals for unmet medical needs</li> </ul>	<ul style="list-style-type: none"> <li>Sustainable processes that enable cost effective pharmaceutical manufacture</li> </ul>
Global Drivers	<div>  <p><b>Health and Nutrition</b> Ageing Population</p> </div> <div>  <p><b>Population Growth</b> Urbanisation Increasing Wealth</p> </div>		
Customer Profile	<ul style="list-style-type: none"> <li>Multiple small and large branded and generic pharmaceutical companies</li> </ul>	<ul style="list-style-type: none"> <li>Innovative pharmaceutical companies developing novel products</li> </ul>	<ul style="list-style-type: none"> <li>Pharmaceutical, fine chemical and agrochemical companies</li> </ul>
Major Competitors	<ul style="list-style-type: none"> <li>Medtronic</li> <li>Noramco</li> <li>Francopia</li> <li>Siegfried</li> <li>Cambrex</li> <li>AMRI</li> </ul>	<ul style="list-style-type: none"> <li>AMRI</li> <li>Alcami</li> <li>Hovione</li> <li>Almac</li> </ul>	<ul style="list-style-type: none"> <li>Evonik</li> <li>BASF</li> </ul>
Employees	1,238		
Locations	<ul style="list-style-type: none"> <li>Global network of 11 sites located in US, Europe, India and China</li> </ul>		
2015/16 Sales <sup>1</sup>	£217 million		£41 million

<sup>1</sup> Excludes sales of £38 million from Research Chemicals which was sold on 30th September 2015.

#### STRATEGY

- Deliver niche products and services to pharmaceutical markets
- Leverage synergies between market presence, technology and global manufacturing network
- Move further up the pharmaceutical value chain
- Deliver superior growth

Fine Chemicals is focused on **delivering niche products and services to pharmaceutical markets** where it can apply its capabilities in complex chemistry, research, development and manufacturing to deliver existing and new products. Differentiation through technology while delivering on speed to market and quality is a key value proposition we offer to both innovative and generic pharmaceutical customers.

By **leveraging synergies between market presence, technology and our global manufacturing network** across the division, we maintain a robust portfolio of new products and customers. Vertical integration and close collaboration between its businesses are key advantages the division offers to customers through providing a unique and differentiated offering.

Building upon its reputation as a premier technology led API development business, Fine Chemicals aims to extend its position in generic pharmaceuticals by **moving further up the pharmaceutical value chain**, through coinvesting and codeveloping new formulated drug products to increase access and value share of this high growth market segment.

The division aims to **deliver superior growth** in markets that are driven by global trends towards the increased use of pharmaceutical products. Its strong position in niche areas and its technology, process development and manufacturing infrastructure position it well for growth at rates ahead of industry baselines.

## PERFORMANCE IN 2015/16

	Year to 31st March			
	2016	2015	%	% at
	£ million	£ million	change	constant rates
Revenue	325	370	-12	-15
Sales excluding precious metals (sales)	296	328 <sup>1</sup>	-10	-13
Underlying operating profit	82.3	88.8	-7	-11
Return on sales	27.8%	27.1%		
Return on invested capital (ROIC)	16.9%	18.4%		

<sup>1</sup> Adjusted to include certain non pass through precious metal items.

Fine Chemicals made steady progress. Adjusting for the disposal of our Research Chemicals business, which was sold on 30th September 2015, sales were up 3% (1% down at constant rates), and underlying operating profit was 1% higher. Whilst sales in our API Manufacturing business were stable, the division saw strong demand for catalysts and chiral technologies. Performance was adversely impacted by the safety shutdown following a fatal accident in July 2015 at our API Manufacturing facility in Riverside, USA. Return on sales improved by 0.7% to 27.8% as a result of the sale of Research Chemicals. However, there was a reduction in ROIC of 1.5% to 16.9% due to increased investment over the year to support future growth.

### API Manufacturing

Our API Manufacturing business' sales were up 1% at £217 million (down 3% at constant rates) and operating profit was down slightly due to the safety shutdown in the first half of the year. Demand for bulk opiates was lower primarily as a result of increased imports of finished drug products from outside the UK. However, sales of speciality opiates grew strongly, with increased demand for speciality APIs used in pain relief and drug addiction therapies. There was a reduction in sales of APIs for ADHD treatments due to lower volumes and the timing of some orders.

On the other hand, continued good demand for the provision of custom services for API development and manufacturing supported the business' sales.

During the year, we have made progress in the development of APIs to ensure a steady pipeline of new products. This has continued to support our portfolio of abbreviated new drug applications (ANDAs) that have received, or are awaiting, Food and Drug Administration (FDA) approval.

### Catalysis and Chiral Technologies (CCT)

CCT has had a good year, growing its position as a developer and supplier of speciality technologies and products which are used by customers in complex multi step reactions for the production of APIs or agrochemicals. The business saw strong demand for catalyst products and sales grew by 16% to £41 million. Underlying operating profit was also well ahead.

### Research Chemicals

On 30th September 2015 we completed the sale of this business to Thermo Fisher Scientific Inc. for £255 million. Prior to disposal, it contributed sales of £38 million and underlying operating profit of £7.5 million for the six months to 30th September 2015.

### Key Investments and Developments

We have continued to invest in the future growth of Fine Chemicals. Pharmorphix, a small acquisition which was completed in October 2015, has now been integrated into our European API manufacturing operations.

During the year we have continued our investment in the refurbishment of our manufacturing site in Annan, Scotland and the facility has received Home Office approval for the production of controlled substances. We expect the plant to commence operation by the end of 2016. In North America, we have expanded our custom development and manufacturing capabilities and continued to invest in developing our API product portfolio.

### Fine Chemicals – Sales by Business

	2016	2015	%	% change
	£ million	£ million	change	at constant rates
API Manufacturing	217	216	+1	-3
Catalysis and Chiral Technologies	41	35 <sup>1</sup>	+16	+15
Research Chemicals <sup>2</sup>	38	77		
<b>Total</b>	<b>296</b>	<b>328<sup>1</sup></b>	<b>-10</b>	<b>-13</b>




<sup>1</sup> Adjusted to include certain non pass through precious metal items.

<sup>2</sup> Research Chemicals was sold on 30th September 2015.

# FINANCIAL REVIEW OF OPERATIONS (CONTINUED)

## NEW BUSINESSES

### DIVISIONAL SUMMARY

Business	Battery Technologies	Fuel Cells	Atmosphere Control Technologies
What We Do	Research, development and manufacture of battery materials, design and supply of high performance battery systems	Develop and manufacture catalysts and components for emerging fuel cell markets	Create advanced technologies to extend the post harvest life of fresh produce
How We Add Value	Development of improved and next generation battery materials, design and integration of high performance battery systems	Leverage expertise in advanced materials to develop more economically viable fuel cell components	Technical challenges associated with atmosphere control fit strongly with Johnson Matthey's expertise in advanced materials, in particular our skills in coatings, surface chemistry and gas manipulation
Societal Benefits	<ul style="list-style-type: none"> <li>• Alternative energy</li> <li>• Low carbon, zero emission transport / power</li> </ul>		<ul style="list-style-type: none"> <li>• Reduced food waste</li> </ul>
Global Drivers	<div>  <p><b>Environmental Factors</b> Climate Change Regulation</p> </div> <div>  <p><b>Natural Resource Constraints</b></p> </div> <div>  <p><b>Health and Nutrition</b> Ageing Population</p> </div>		
Customer Profile	<ul style="list-style-type: none"> <li>• Automotive and heavy duty vehicle customers</li> <li>• Lithium-ion cell manufacturers</li> <li>• High performance cordless tool and niche transport manufacturers</li> </ul>	<ul style="list-style-type: none"> <li>• Manufacturers of fuel cells for portable, automotive and stationary applications</li> </ul>	<ul style="list-style-type: none"> <li>• Fresh produce growers</li> <li>• Distributors and importers</li> </ul>
Major Competitors	<div>Systems:</div> <ul style="list-style-type: none"> <li>• LG</li> <li>• BMZ</li> </ul> <div>Materials:</div> <ul style="list-style-type: none"> <li>• BASF</li> <li>• Umicore</li> </ul>	<ul style="list-style-type: none"> <li>• W L Gore</li> <li>• 3M</li> </ul>	<ul style="list-style-type: none"> <li>• Amcor</li> <li>• Peakfresh</li> </ul>
Employees	1,047		
Locations	<ul style="list-style-type: none"> <li>• Materials manufacturing in China and Canada</li> <li>• Materials R&amp;D in UK and Germany</li> <li>• Systems design, development and manufacture in UK and Poland</li> </ul>	<ul style="list-style-type: none"> <li>• Headquartered in UK</li> <li>• R&amp;D capability in UK</li> </ul>	<ul style="list-style-type: none"> <li>• Manufacturing in Israel and US</li> <li>• R&amp;D capability in Israel and UK</li> </ul>
2015/16 Sales	£130 million	£10 million	£16 million

### STRATEGY

- Targeting opportunities with sales potential of around £200 million per annum by 2020
- Develop new business areas
- Invest in R&D to drive growth
- Make targeted acquisitions to accelerate progress

We are targeting opportunities with sales potential of at least £200 million per annum within ten years. We will focus on areas adjacent to our current businesses and that build on our core technology competences.

The division is focused on developing new business areas. Potential areas must show a good fit with our key global drivers, offer strong market growth, attractive margin potential and present the opportunity for new market entry positions through application of Johnson Matthey's technology.

We will invest in R&D to drive growth through developing technology for new markets. Through an ongoing process, we will identify and evaluate new opportunities whilst developing and filtering out those already in our pipeline.

Alongside organic development and the evolution of our business plans, we anticipate the need to fill gaps in our experience and make targeted acquisitions to accelerate progress. These are likely to be relatively small scale, up to the value of around £100 million.

## PERFORMANCE IN 2015/16

	Year to 31st March			
	2016	2015	%	% at
	£ million	£ million	change	constant rates
Revenue	161	93	+72	+82
Sales excluding precious metals (sales)	157	91	+73	+83
Underlying operating profit / (loss)	(17.9)	(22.1)	+19	+20

New Businesses continued to make good progress with sales up 73% to £157 million, boosted by recent acquisitions in Battery Technologies and Atmosphere Control Technologies (ACT). Excluding these acquisitions, sales were 20% higher. As expected, the underlying operating loss reduced modestly in the year to £17.9 million.

### Battery Technologies

Our Battery Technologies business made good progress with sales up 56% to £130 million (up 66% at constant rates) supported by the contribution from the two battery materials acquisitions completed during 2014/15. Excluding these acquisitions, sales were 17% higher. Overall, excluding acquisition-related costs, Battery Technologies broke even in the year.

In battery materials, where our focus is on materials for highly demanding applications such as for the automotive sector, we have continued to grow sales to around £40 million in 2015/16. We have fully integrated the businesses acquired in 2014/15, establishing Johnson Matthey as a major supplier of lithium iron phosphate (LFP) cathode material to 15 platforms across the light and heavy duty sectors. Sales of LFP have been strong, especially in China. We continue to develop our leading position in LFP by further enhancing our products in a market which is expected to grow strongly. We also plan to expand into a wider range of materials, including nickel rich cathode materials which offer improved range compared to LFP.

To support this, since the year end we have licensed the CAM-7™ platform of nickel rich cathode material technologies for lithium-ion batteries from CAMX Power LLC.

The CAM-7 platform of patented materials is particularly suited to demanding, high energy density applications such as battery electric vehicles and plug-in hybrid electric vehicles. This licence will accelerate our move into nickel rich products for the automotive market and support the longer term growth in our Battery Technologies business.

Our battery systems business for non-automotive applications, such as power tools and e-bikes, made further progress, although sales of battery systems to automotive customers were slower. We commenced the relocation of our battery systems automotive business from Dundee to Milton Keynes, UK, in order to better serve our customers.

### Fuel Cells

Sales in our Fuel Cells business were £10 million, well ahead of last year, benefiting from good demand from non-automotive customers for applications including combined heat and power (CHP), backup power and materials handling.

For transport applications, the phased emissions regulation in California, USA and the impact of Japan's Basic Energy Plan continue to incentivise the introduction of small numbers of fuel cell powered cars and we have continued to work with a number of original equipment manufacturers on their development programmes. However, we do not anticipate any significant penetration of fuel cell electric vehicles until at least 2025. As a result, we have completed a review of the business and we have impaired it.

The net expense of our Fuel Cells business reduced to £8.5 million in the year (2014/15 £9.9 million).

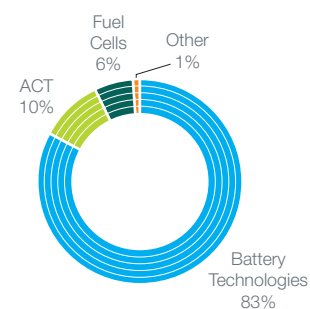
### Atmosphere Control Technologies

Our ACT business, now fully integrated following the acquisition of StePac Modified Atmosphere Packaging in May 2015, made good progress and delivered sales of £16 million and a small operating profit in the year.

### New Business Development

We invested just under £10 million in other new opportunities, the most advanced being our Water Technologies business. As part of our strategy in this area, in April 2016 we completed the purchase of MIOX Corporation and in May 2016 we acquired Finex, both of which enable us to broaden our technology and commercial capabilities in this market. Water purification is one of our new business areas where we believe there is an attractive and growing market for high value technologies, developed using our chemistry and applications expertise. We anticipate that in 2016/17 the Water Technologies business will deliver sales of around £15 million and, excluding integration costs, make a small operating loss.

#### New Businesses' Sales



# FINANCIAL REVIEW

## SUMMARY

- Robust performance in challenging markets with sales up 3% and underlying profit before tax flat on a continuing basis<sup>1</sup>.
- Actions taken to reduce costs by around £34 million per annum (£8 million benefited 2015/16).
- Balance sheet remains strong; net debt (including post tax pension deficits) / EBITDA of 1.1 times.
- Working capital days (excluding precious metals) reduced from 66 to 56 days; strong free cash flow with cash flow conversion of 82%.
- Disposal of Research Chemicals completed with profit on disposal of £130 million.
- ROIC at 17.3% remains well ahead of cost of capital.
- Special dividend of 150.0 pence paid in February 2016.
- Final dividend of 52.0 pence recommended, resulting in full year dividend up 5% at 71.5 pence.

Den Jones  
Group Finance Director

## Introduction

Johnson Matthey made solid progress in 2015/16 despite a difficult macroeconomic environment and has continued to invest in R&D and our operations. Underlying profit before tax of £418.2 million was flat on a continuing basis and underlying earnings per share were 1% lower at 178.7 pence. Further aspects of the group's financial performance in 2015/16 are outlined below.

## Corporate Costs

Corporate costs reduced in the year from £34.0 million to £25.7 million which was just under 1% of sales. This decrease is predominantly due to the reduction in performance related pay and benefits in 2015/16. We expect this to reverse next year and corporate costs will revert back to just over 1% of sales.

## Research and Development (R&D)

Gross expenditure on R&D was £188.0 million, which was up 11% compared with 2014/15. This represented around 6% of sales, slightly up from previous years. We have continued to increase our investment in R&D to support growth. R&D expenditure in Emission Control Technologies (ECT) and Process Technologies (PT) accounted for around 60% of total spend.



<sup>1</sup> 2014/15 and 2015/16 adjusted to exclude contribution of Gold and Silver Refining and Research Chemicals businesses. See table on page 60.

## Profit Before Tax

The group's profit before tax decreased by 22% to £386.3 million (2014/15 £495.8 million). The reconciliation of underlying profit before tax to profit before tax is shown in the following table.

## Underlying Profit Reconciliation

	Year ended 31st March 2016			Year ended 31st March 2015		
	Profit before tax £ million	Income tax expense £ million	Profit for the year £ million	Profit before tax £ million	Income tax expense £ million	Profit for the year £ million
Underlying basis	418.2	(67.4)	350.8	440.1	(74.9)	365.2
Amortisation of acquired intangibles	(20.9)	4.9	(16.0)	(17.3)	4.5	(12.8)
Profit on sale or liquidation of businesses	130.0	(15.5)	114.5	73.0	1.9	74.9
Major impairment and restructuring charges	(141.0)	17.4	(123.6)	–	–	–
Reported basis	386.3	(60.6)	325.7	495.8	(68.5)	427.3

## Major Impairment and Restructuring Charges

An impairment and restructuring charge of £141 million was excluded from underlying profit before tax and includes one-off cash costs of £38 million. We anticipate that the restructuring programmes we have completed will lead to cost savings of around £34 million per annum from 2016/17 onwards, and around £8 million of savings are included in the fourth quarter of 2015/16. The charge mainly relates to:

- restructuring in PT in response to challenging market conditions. In addition, we have written down some substitute natural gas (SNG) and upstream oil and gas assets where we expect lower utilisation as a result of reduced growth prospects in these markets;
- New Businesses, mainly in Fuel Cells where, as previously announced and in view of anticipated market demand, we have completed a review of the business and as a result have impaired it;
- ECT, primarily as a result of our decision to cease manufacturing activities in Korea in order to optimise our supply chain;
- Precious Metal Products (PMP), where we have completed some restructuring actions in response to the challenging trading conditions; and
- other charges of approximately £7 million where facilities have been consolidated.

	Impairment and restructuring charge £ million	Cash costs included in the charge £ million	Estimated annual cost savings £ million	Savings realised in Q4 2015/16 £ million
Process Technologies	62	22	23	5
New Businesses	42	2	3	1
Emission Control Technologies	20	6	1	–
Precious Metal Products	10	5	3	2
Other	7	3	4	–
<b>Total</b>	<b>141</b>	<b>38</b>	<b>34</b>	<b>8</b>

## Exchange Rates

The main impact of exchange rate movements on the group's results arises from the translation of overseas subsidiaries' profit into sterling. The group does not hedge the income statement impact of these translation effects. The group's underlying operating profit at constant exchange rates is shown in the table below.

## Underlying Operating Profit

	Year ended 31st March			2015 at 2016 exchange rates	
	2016 £ million	2015 £ million	% change	£ million	% change
Emission Control Technologies	272.2	236.9	+15	234.7	+16
Process Technologies	73.6	106.0	-31	106.2	-31
Precious Metal Products	66.3	101.5	-35	102.0	-35
Fine Chemicals	82.3	88.8	-7	92.5	-11
New Businesses	(17.9)	(22.1)	+19	(22.3)	+20
Corporate	(25.7)	(34.0)		(34.4)	
<b>Total group</b>	<b>450.8</b>	<b>477.1</b>	<b>-6</b>	<b>478.7</b>	<b>-6</b>

## 2. Financial

## FINANCIAL REVIEW (CONTINUED)

Sterling depreciated against the US dollar and Chinese renminbi during 2015/16 but appreciated against the euro. The impact of exchange rates increased sales and underlying operating profit for the year by around £10 million and £1.6 million respectively. Sterling depreciated in the second half of the year against all three major currencies and at 31st March 2016, the exchange rates of sterling against the US dollar, euro and Chinese renminbi were \$1.435, €1.266 and ¥9.28 respectively.

The average exchange rates during 2015/16 of the group's principal overseas currencies were:

	Share of 2015/16 non-sterling denominated underlying operating profit	Average exchange rate		% change
		2015/16	2014/15	
US dollar	42%	1.510	1.613	-6
Euro	29%	1.367	1.275	+7
Chinese renminbi	13%	9.60	9.99	-4

The US dollar, euro and Chinese renminbi represent over 80% of the group's non-sterling denominated underlying operating profit. Each one cent change in the average US dollar and euro exchange rates has approximately a £1.3 million and £1.0 million effect respectively on underlying operating profit in a full year; a ten fen change in the average rate of the Chinese renminbi has around a £0.6 million impact on underlying operating profit in a full year.

If current exchange rates are maintained throughout 2016/17, foreign currency translation will have a positive impact of approximately £15 million on underlying operating profit, primarily due to sterling's weakness against the US dollar and the euro.

## Underlying Results on a Continuing Basis

The reconciliation of the group's underlying results on a continuing basis is as follows:

	2016 £ million	Sales 2015 £ million	% change	2016 £ million	2015 £ million	% change
				Underlying PBT		
Underlying	3,177	3,164	-	418.2	440.1	-5
Gold and Silver Refining	-	45		-	12.6	
Research Chemicals	38	77		7.5	15.0	
Continuing	3,139	3,042	+3	410.7	412.5	-

## Return on Sales

The group's return on sales was 0.9% lower than last year at 14.2%.

## Return on Sales

	Sales excluding precious metals		Return on sales <sup>2</sup>	
	2016 £ million	2015 <sup>1</sup> £ million	2016 %	2015 %
Emission Control Technologies	1,913	1,782	14.2	13.3
Process Technologies	541	591	13.6	17.9
Precious Metal Products	343	417	19.4	24.3
Fine Chemicals	296	328	27.8	27.1
New Businesses	157	91	n/a	n/a
Less inter-segment sales	(73)	(45)	n/a	n/a
<b>Total group</b>	<b>3,177</b>	<b>3,164</b>	<b>14.2</b>	<b>15.1</b>

<sup>1</sup> Sales excluding precious metals have been adjusted to include certain non pass through precious metal items.

<sup>2</sup> Underlying operating profit divided by sales excluding precious metals.

## Return on Invested Capital

The group's return on invested capital (ROIC) reduced from 18.8% to 17.3%. Underlying operating profit for the group was 6% lower than last year at £450.8 million, while average invested capital was £62 million higher at £2,600 million due to capital expenditure in excess of depreciation and lower post-employment benefit obligations.

We remain committed to our 20% long term ROIC target and we will continue to invest organically in our businesses across the world to drive these returns. We will also target appropriate acquisitions that accelerate the delivery of the group's strategy which may depress ROIC in the short term but create long term value. At 17.3%, the group's ROIC is well ahead of our pre-tax cost of capital, which we estimate to be 8.1% (2014/15 8.8%).

## Return on Invested Capital

	Average invested capital <sup>1</sup>		Return on invested capital <sup>2</sup>	
	2016 £ million	2015 £ million	2016 %	2015 %
Emission Control Technologies	962	981	28.3	24.1
Process Technologies	769	725	9.6	14.6
Precious Metal Products	401	469	16.5	21.6
Fine Chemicals	486	481	16.9	18.4
New Businesses	142	106	n/a	n/a
Corporate / other	(160)	(224)	n/a	n/a
<b>Total group</b>	<b>2,600</b>	<b>2,538</b>	<b>17.3</b>	<b>18.8</b>

<sup>1</sup> Average monthly segmental net assets. For the group, the monthly average of equity plus net debt.

<sup>2</sup> Underlying operating profit divided by average invested capital.

## Interest

The group's net finance costs were £32.6 million, down from £37.5 million in 2014/15. This decrease was due to several factors including a reduction in average net debt following the sale of the Gold and Silver Refining and Research Chemicals businesses. 96% of the group's net debt at 31st March 2016 has fixed interest rates averaging approximately 3.0%.

## Taxation

The group's total tax charge for the year was £60.6 million, a tax rate of 15.7% on profit before tax (2014/15 13.8%). The tax charge on underlying profit before tax was £67.4 million, which represents an effective tax rate of 16.1%, down from 17.0% last year. This decrease was primarily due to the continued reduction in the headline rate of corporation tax in the UK from 21% for 2014/15 to 20% for 2015/16.

Going forward, although the geographic mix of profit is uncertain, we anticipate that the rate of tax on the group's underlying profit should remain at least 3% lower than the headline rate for UK corporation tax, partly as the group benefits from the UK's 'patent box' legislation.

## Tax Strategy

Johnson Matthey has operations in over 30 countries across the world. For each country in which we have operations, we organise them to pay the correct and appropriate amount of tax at the right time according to the laws of the relevant country and ensure compliance with the group's tax policies and guidelines.

The group's tax strategy is regularly reviewed and endorsed by the board. This strategy is executed by a global team of tax professionals, assisted by external advisers where appropriate.

Our tax strategy covers the application of all taxes, both direct and indirect, to our business including corporation tax, payroll taxes, value added tax and customs and excise duties. The tax strategy also covers our approach to any tax planning required by the business and key policy areas such as transfer pricing. The group continues to monitor international tax developments arising out of the Base Erosion Profit Shifting (BEPS) initiative and will make appropriate responses where due.

## Earnings per Share

Underlying earnings per share reduced by 1% to 178.7 pence.

## Dividend

The board is recommending a 5% increase in the total dividend for the year, reflecting its confidence in the group's long term performance. This comprises a final dividend of 52.0 pence which, together with the interim dividend of 19.5 pence, gives a total ordinary dividend for the year of 71.5 pence (2014/15 68.0 pence). At this level, the dividend would be covered 2.5 times by underlying earnings per share. In addition, shareholders received a special dividend of 150.0 pence per share in February 2016.

## Cash Flow

During the year ended 31st March 2016, net cash inflow from operating activities was £866.5 million (2014/15 £125.8 million). The group's total working capital decreased by £441.9 million from last year. Excluding the element that relates to precious metals, working capital decreased by £100.0 million, from 66 days to 56 days, which is within our normal range of 50 to 60 days. The decrease was mainly due to ECT's improved management of its receivables and a reduction in Fine Chemicals' working capital following the sale of Research Chemicals. Working capital in respect of precious metals also reduced by £341.9 million, due primarily to lower inventories at the year end within PMP and lower precious metal prices. The group's cash flow conversion (adjusting for the effect of movements in precious metal working capital) was 82% (2014/15 44%), reflecting the decrease in working capital.

We anticipate working capital days to continue to be typically in the range of 50 to 60 and cash flow conversion to average around 70% due to higher levels of investment planned to support future growth.

## Capital Expenditure

Capital expenditure was £257.0 million (of which £253.5 million was cash spent in the year) which equated to 1.8 times depreciation. The principal investments were projects to:

- increase emission control manufacturing capacity and technology in Europe and China to meet demand from new legislation;
- increase pgm refining capacity through the ongoing construction of a refinery in China; and
- upgrade core business systems (mainly included in Corporate in the table below).

The divisional split of capital expenditure in the year was:

	Capital expenditure £ million	Capex / depreciation
Emission Control Technologies	68.9	1.1
Process Technologies	37.0	1.3
Precious Metal Products	39.8	2.2
Fine Chemicals	54.5	2.9
New Businesses	7.4	0.9
Corporate	49.4	10.7
<b>Total group</b>	<b>257.0</b>	<b>1.8</b>

We anticipate that capital expenditure will be at a similar level next year. This will include continued investment to increase capacity to meet demand for catalysts required for upcoming emissions legislation and in our core business systems. Capital expenditure to depreciation is expected to be in the range of 1.6 to 1.8 times.

Depreciation was £139.3 million in 2015/16 (2014/15 £134.7 million) and we expect this to rise steadily at around 8 to 10% per annum over the next three years as a result of the increased investment across the group.

# FINANCIAL REVIEW (CONTINUED)

## Pensions

### Actuarial – Funding Basis

#### UK Scheme

The latest actuarial valuation of the UK scheme as at 1st April 2015 revealed a deficit of £69 million (1st April 2012 £214 million) in the legacy defined benefit career average section, or £28 million after taking account of the future additional deficit funding contributions from the special purpose vehicle set up in January 2013. The valuation also revealed a surplus of £2 million in the defined benefit cash balance section of the scheme, which was opened on 1st October 2012 when the defined benefit career average section was closed to new entrants.

#### US Scheme

The latest actuarial valuations of our two US pension schemes estimated that the deficit of £1 million at 30th June 2014 had changed to a surplus of £3 million at 30th June 2015.

### IFRS – Accounting Basis

The group's net assets / (liabilities) associated with the pension and post-retirement medical benefit schemes are:

	31st March 2016 £ million	31st March 2015 £ million
UK pension scheme		
Scheme surplus / (deficit)	100.8	(77.2)
SPV assets	49.9	54.4
Net UK surplus / (deficit) <sup>1</sup>	150.7	(22.8)
US pension schemes	(21.4)	(26.6)
Other pension schemes <sup>2</sup>	(29.6)	(32.3)
	99.7	(81.7)
Post-retirement medical schemes	(52.4)	(57.6)
<b>Total net surplus / (deficit)<sup>1</sup></b>	<b>47.3</b>	<b>(139.3)</b>

<sup>1</sup> After taking account of the assets held on behalf of the UK pension scheme by the SPV.

<sup>2</sup> Deficits of £31.2 million and surplus of £1.6 million.

The group's net post-employment benefit position at the end of the year, after taking account of the bonds held to fund the UK pension scheme deficit, improved significantly from a liability of £139.3 million to a surplus of £47.3 million. The group's UK pension scheme had a surplus of £100.8 million compared with a deficit of £77.2 million at the start of the year and the deficits in the group's US defined benefit pension schemes decreased by £5.2 million. The main reasons for the significantly improved positions were the experience gains in the UK caused by updating the underlying data to that from the 1st April 2015 actuarial valuation, the decrease in liabilities caused by the higher discount rates (as the yields on high quality corporate bonds increased) and the continued deficit funding cash contributions.

The cost of providing post-employment benefits was £70.5 million. Excluding the past service charges for pension enhancements for eligible employees who have been made redundant included in the major impairment and restructuring charge, the cost in underlying profit before tax is £65.1 million, up from £56.4 million in 2014/15. This increase of £8.7 million was due to an increase in the current service costs caused by the low discount rates at 31st March 2015, partly offset by a £7.1 million past service credit for plan amendments to the US post-retirement medical benefits plan.

We anticipate that the cost will decrease by £7 million for 2016/17, mainly non-cash due to the discount rates at 31st March 2016 being higher than at 31st March 2015, resulting in a lower current service charge for 2016/17. The absence of the past service credit for the US post-retirement medical benefits plan which was a one-off benefit in 2015/16 is mainly offset by the UK pension plan surplus resulting in an interest credit rather than a charge.

### Capital Structure

Net debt at 31st March 2016 was £674.9 million, down £319.5 million. Net debt decreases to £656.7 million when adjusted for the bonds held to fund pensions less the post tax pension deficits. The group's underlying EBITDA reduced to £590.1 million (2014/15 £611.8 million). As a result, the group's net debt (including post tax pension deficits) / EBITDA was 1.1 times (31st March 2015 1.7 times) and, whilst below our target range of 1.5 to 2.0 times, ensures we have capacity to invest further in the future growth of the business.

### Borrowings

	31st March 2016		31st March 2015	
	£ million	%	£ million	%
Over five years	643.5	66	569.8	54
Two to five years	178.8	18	92.3	9
One to two years	2.6	–	101.5	10
Within one year	154.5	16	290.2	27
Gross borrowings (net of swaps)	979.4	100	1,053.8	100
Less: cash and deposits	304.5		59.4	
Net debt	674.9		994.4	

# 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 USA. 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 2016 the group had cash and deposits of £304.5 million and £472.1 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 2016 are illustrated in the table on page 62 and the chart below.

A US \$150 million private placement bond matures in December 2016 and of the committed bank facilities, £110.6 million falls due to be repaid in the 15 months to 30th June 2017 (the going concern period). £55.3 million of the committed bank facilities were refinanced in May 2016 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 for the foreseeable future and so determine that it is appropriate to prepare the accounts on a going concern basis.

## Viability

The directors have assessed the outlook of the company over a longer period than the 15 months covered by the 'Going Concern' statement. The directors have determined that a three year period to 31st March 2019 is an appropriate period over which to assess our viability. We refresh our strategy every three years and 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 stress scenarios linked to the group's principal risks. We have analysed the impact of four individual operational or market risk scenarios plus all of them occurring at the same time. The assessment took account of the group's current funding, forecast requirements and existing debt and committed borrowing facilities. It assumed that existing facilities could be refinanced as they mature. We have also undertaken a reverse stress test in order to analyse scenarios and circumstances that would threaten our current financing arrangements. All of our stress tests were derived through discussions with senior management and the board after considering our principal risks and uncertainties.

Based on this 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.

## Interest Rate Risk

At 31st March 2016 the group had net borrowings of £674.9 million of which 96% was at fixed rates with an average interest rate of 3.0%. The remaining 4% of the group's net borrowings was funded on a floating rate basis. A 1% change in all interest rates would have a 0.1% impact on underlying profit before tax. This is within the range the board regards as acceptable.

## 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 USA 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. Currency options are occasionally used to hedge foreign exchange exposures, for example in a bid situation. Details of the contracts outstanding on 31st March 2016 are shown on page 166.

## 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.

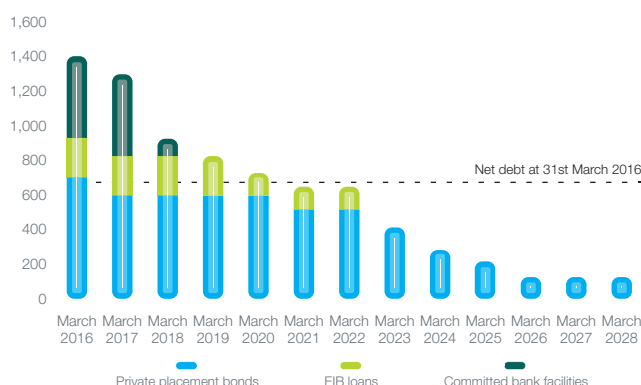
A significant proportion of the group's platinum inventories are unhedged because of the ongoing risk over security of supply.

## 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.

## Maturity Profile of Debt Facilities

At 31st March 2016 exchange rates  
£ million



 Read more about our principal risks on pages 28 to 35.

# PEOPLE AND P

**THIS SECTION HIGHLIGHTS INITIATIVES INVOLVING OUR PEOPLE, OUR COMMUNITIES AND OTHER STAKEHOLDER GROUPS.**

We also provide detail on our social, health and safety and environmental performance.

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## LANET

## 3



Lerato and Thabo, who are based at our Emission Control Technologies facility in Germiston, South Africa, are conducting a monthly general workplace safety inspection.

# PEOPLE AND PLANET

## A REVIEW OF OUR PEOPLE, HEALTH AND SAFETY AND ENVIRONMENTAL PERFORMANCE

**OUR SOCIAL GOALS COVER OUR OWN EMPLOYEES, OUR PLANET AND THE PEOPLE WHO SHARE IT WITH US.**

**HEALTH AND SAFETY IS A PRIORITY AS WE STRIVE TO ACHIEVE WORLD CLASS PERFORMANCE AND AS A BUSINESS, WE CONTINUE TO MAKE A MAJOR CONTRIBUTION TO SAFEGUARDING THE ENVIRONMENT THROUGH THE EFFECTS OF OUR PRODUCTS AND THE WAY WE MANAGE OUR OPERATIONS.**

### OUR PEOPLE AND COMMUNITIES

Identifying, attracting and retaining the right talent is crucial to support the future growth of Johnson Matthey. We help our employees build their careers within the group, which keeps our voluntary staff turnover low.

Over the last year, we have developed and launched our global people strategy. This has given us a single framework which we are using to plan a sustainable workforce. This will help to ensure that our people continue to meet the needs of our business.

Here's how we are working to develop our people worldwide, to meet our current and future needs.

#### Attracting and Recruiting Talent

During the year we developed a suite of recruitment materials that give a consistent message to potential recruits around the world and at the same time, offer the flexibility to be tailored to suit local audiences. Next year we will focus on building our employer brand further, ensuring that our profile in the employment market reflects our standing in our sector. This will help to enhance our reputation as an employer of choice and ensure our business and opportunities are presented in the same way wherever we operate.

All of our recruitment activities are underpinned by our values and we seek out people who will reflect and uphold them.

We have a joined up approach to recruitment across roles in similar professions increasing our success in attracting the best candidates.

In 2016/17 we plan to develop a global induction programme which will help everyone who joins us to quickly understand the company, how we work and what we expect from our people.

#### Developing, Supporting and Rewarding Employees



For us, the right approach to developing our people is to provide challenging experiences alongside collaboration, coaching and mentoring opportunities, as well as formal training. Our career development courses and leadership programmes stretch employees to learn new skills, collaborate across divisions and complete project work based on real business challenges.

We work hard to recognise our most promising employees. Once we have identified individuals with further potential, we accelerate their development and help them realise their full potential through career opportunities and training, including our manufacturing leadership, regional leadership, global management and senior leader development programmes.

Over the next year we will be redefining our leadership strategy and curriculum. This will complement Johnson Matthey's growth aspirations and future skill requirements, and help us continue to create a workplace where

employees have the opportunity to learn, grow and progress. Our aim is to have skilled, engaged and confident employees and a healthy pipeline of internal talent for leadership, technical and commercial roles for now and the future.

During 2015/16, 687 internal appointments were made representing 30% of roles filled during the year and 216 of these were moves between our businesses.

#### Talent Review

Through our new global people strategy we have introduced an updated talent and succession review process for all managers. Our talent review process is an in depth review across all of our divisions. Twice a year, each division discusses their strategic business objectives, talent implications, the roles having the most significant business impact and succession plans. We assess employees with the potential to grow into more senior roles and work with them to put personal development plans in place.

We have started to roll this process out at a business level, cascading it further across the organisation. This helps us to identify and plan our talent leadership pipeline for the future. We support cross divisional career development opportunities by conducting senior talent reviews and by taking a pooled view of our talent across the group.

## OUR PEOPLE AND COMMUNITIES: PERFORMANCE SUMMARY

		2016	2015
Average number of employees		<b>12,494</b>	12,148
Total employee turnover <sup>1</sup>	%	<b>12.1</b>	8.7
Voluntary employee turnover <sup>1</sup>	%	<b>6.9</b>	6.0
Employee gender (female) <sup>2</sup>	%	<b>25</b>	25
Gender of new recruits (female)	%	<b>28</b>	30
Trade union representation	%	<b>24</b>	28
Internal promotions	% of all recruitment in year	<b>30</b>	33
Attendance	days lost per employee	<b>5.6</b>	4.9
Charitable donations	£ thousands	<b>679</b>	612

<sup>1</sup> Employee turnover 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.

<sup>2</sup> At 31st March.

We also consider the talent needs of particular functions by conducting reviews in manufacturing, finance and human resources (HR). The commercial function will be added next year. Country talent reviews are being held in China, India and the US, all of which are significant markets for us.

### Leadership Framework

To guide our leaders at all levels, our leadership framework is aligned to our 3C Strategy. It is a set of core behaviours that are critical for leaders. A cornerstone of our talent strategy, it serves as a practical tool in recruitment, performance and development processes.

This framework includes several core competences, for example, customer focus, building collaborative relationships and leading change. We have identified these as critical for our leaders.

### Performance Reviews

This year we have introduced a consistent global process for performance reviews across the group. This is currently used for management level staff. They are encouraged to think about their career aspirations and development with objectives set each year and reviewed every six months. These include business, personal development and safety objectives. There is also a discussion about safety behaviours at each review meeting. This process will be rolled out more widely across the group in 2016/17.

### Employee Mobility

Our business is international and, increasingly, our people are too. We understand that the quality of our people is a key source of competitive advantage. We have programmes to encourage employee mobility across our divisions and locations as we believe it is an important element of people's development, where appropriate for their role.

### Rewarding and Retaining Our Talent

We continue to improve the way in which we communicate about employee benefits so that our people are clear about how their work is recognised and rewarded. We also benchmark our arrangements for market competitiveness.

### Remuneration and Benefits

Our remuneration and benefit packages are competitive and ensure that we can attract and retain the people we need. We benchmark our benefits in each country where we operate, taking into account cost considerations and adjust and redesign our offering where needed.

This year we have continued to roll out our enhanced employee benefit communications to help employees understand our benefit programme and to promote the idea of total rewards. We have introduced a global pay policy, started to introduce employee choice and flexibility into our benefit programmes and the development of a global job classification system is ongoing. This system will help formalise career development pathways, making the skills and experience required for each level more transparent.

We are working towards a global grading system. We will continue to promote the importance of financial and medical wellbeing among our workforce.

In support of this, many of our businesses already make arrangements for employees to have access to flu vaccinations, discounted rates at local gyms, stress awareness training tailored for managers and employees and other wellness initiatives.

### Share Ownership Schemes and Pensions

Our employee share ownership schemes give staff a financial interest in the company and stimulate their performance. Employees may participate in share ownership plans, where practicable, through which they can buy shares in Johnson Matthey which are matched by a company funded component. Employees in the schemes are able to contribute to a company share ownership plan or a 401k approved savings investment plan (a US tax approved scheme).

Through these ownership plans, Johnson Matthey's current and former employees collectively held 1.66% of the company's shares at 31st March 2016.

Johnson Matthey also provides various pension arrangements for its employees worldwide. These are a combination of defined benefit and defined contribution pension plans, savings schemes and provident funds which are designed to provide retirement benefits, based on local laws and practices.

# PEOPLE AND PLANET (CONTINUED)

## OUR PEOPLE AND COMMUNITIES (CONTINUED)

### Attendance

Good rates of attendance were maintained this year. The average number of days lost per employee in 2015/16 due to sickness and unplanned absence was 5.6 days, a slight increase from 4.9 days in 2014/15. This represents 2.2% of lost time per employee in the working year.

### Right Sizing in Difficult Market Conditions

Overall this year there was a slight increase in our global employee numbers. However, the number of employees in North America fell slightly, principally due to the sale of our Gold and Silver Refining and Research Chemicals businesses in March and September 2015. A programme of planned redundancies as a result of the restructure of Process Technologies (PT) also partly offset growth in our employee headcount for Europe. We aim to 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.

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 2015/16 by geographical region and by employment contract.

### Average Number of People Employed

Average headcount 2015/16

	Permanent employees	Temporary contract employees	Total
Europe	6,083	517	6,600
North America	3,090	39	3,129
Asia	2,143	39	2,182
Rest of World	579	4	583
<b>Total group</b>	<b>11,895</b>	<b>599</b>	<b>12,494</b>

### Annual Change in People Employed

Net change between average headcount 2014/15 and 2015/16

	Permanent employees	Temporary contract employees	Total net change
Europe	+226	-30	+196
North America	-188	+1	-187
Asia	+327	-7	+320
Rest of World	+13	+4	+17
<b>Total group</b>	<b>+378</b>	<b>-32</b>	<b>+346</b>

The high level of employee commitment and loyalty to the group continues to bring strength to our businesses. Voluntary staff turnover was low at 6.9% compared to many other organisations (2014/15 6.0%). The total employee turnover figure rose to 12.1% from 8.7% in 2014/15 mainly due to the restructuring of PT.

The following table sets out the employee turnover in 2015/16 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.

### Employee Turnover by Region

2015/16

	Total leavers	Employee turnover	Voluntary employee turnover
Europe	639	10.5%	5.1%
North America	377	12.2%	7.3%
Asia	348	16.2%	11.7%
Rest of World	73	12.6%	5.5%
<b>Total group</b>	<b>1,437</b>	<b>12.1%</b>	<b>6.9%</b>

### Trade Union Representation

24% of all employees worldwide (2014/15 28%) belong to a recognised trade union. We continue to maintain 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 Johnson Matthey employees who were covered by collective bargaining arrangements and represented by trade unions by geographical region in 2015/16.

During 2015/16 no working time was lost within the group due to employee action.

### Trade Union Representation

Average headcount 2015/16

	Permanent Employees	Represented	% represented
Europe	6,083	2,056	34%
North America	3,090	521	17%
Asia	2,143	73	3%
Rest of World	579	227	39%
<b>Total group</b>	<b>11,895</b>	<b>2,877</b>	<b>24%</b>

### Governance and Human Resources

As a global company, we maintain progressive HR standards backed by group policies. We have sites located in a number of countries which have different legal frameworks and requirements. Consequently, our HR practices always meet local statutory requirements and we often go beyond them to recognise best practice. Our global HR policies are applied across all our sites and are supplemented by local policies. Site specific policies and procedures are explained at inductions and through staff handbooks. We are working towards publishing our gender pay figures in 2018 as part of the UK Equality Act 2010.

In line with our Equal Opportunities Policy, we recruit, train and develop employees who meet 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 reassignment or disability. People with disabilities can often be denied a fair chance at work because of misconceptions about their capabilities, and we seek to enhance the opportunities available by attempting, wherever possible, to overcome the obstacles. This might mean modifying equipment, restructuring jobs or improving access to premises, provided such action does not compromise health and safety standards.

This is set out in our policy, which extends to employees who have become disabled during their employment and who will be offered employment opportunities consistent with their capabilities. We would also look to make reasonable adjustments for new recruits.

We embrace diversity and we see it as a core component of a sustainable business. Job applications are encouraged from all sections of the community including minority groups.

As part of our governance, our HR policies and risks are examined by the Group Management Committee and the Group Policy and Compliance Committee, 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.

## Protecting Human Rights

We support the principles defined within 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). At Johnson Matthey we are working to embed these 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.

## Sustainable Supply Chains

Johnson Matthey procures goods and services across the globe from a broad range of suppliers. Our supply chains are multi-tiered and span a range of sectors, such as the extractives (precious metals and base metals), agro crops for active pharmaceutical ingredients (APIs), industrial chemicals and ceramics.

It is crucial to our business success that our supply chains are as sustainable as our own operations. In 2014/15 we used an external consultancy to conduct a responsible sourcing review of our four mature divisions' policies and due diligence. In 2015/16 we issued an updated Group Ethical and Sustainable Procurement Policy and began developing a Group Supplier Code of Conduct which includes standards on environment, health and safety, human rights and ethical conduct.

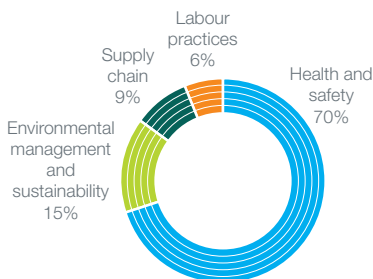
This will enable us to develop a Group Supplier Sustainable Development Programme (SSDP) in the future, building on the leading work of our largest division, Emission Control Technologies (ECT).

ECT's SSDP was launched in 2013. This programme is targeted at suppliers based on importance of material and risk. The programme consists of two elements, an initial self-assessment that new suppliers complete and onsite audits by trained Johnson Matthey staff. Suppliers are visited at the beginning of the relationship and then revisited at least every three years. Suppliers are audited against ECT's Global Supplier

Manual which outlines requirements in the areas of quality, health and safety, environmental management, labour practices, business ethics and conflict minerals. More recently, we have included an assessment on bribery and corruption risks.

Since the introduction of the programme, all of ECT's strategic suppliers have been audited (except for one rated as low risk), representing 74% of ECT's raw material spend<sup>1</sup>. In 2015/16 audits representing 25% of the division's spend on strategic raw materials were conducted. From these, 85 corrective action plans, 70% of which were in response to health and safety concerns, were subsequently put in place in partnership with suppliers. There was one instance where a supplier could not provide evidence to show a minimum age for working on site. However, no evidence of child labour was found during our site visit or review of labour records.

### ECT Supply Chain Audit Non-Conformances 2015/16



No suppliers have been identified as using forced or compulsory labour.

All suppliers visited have confirmed that their employees are allowed to join trades unions or works councils / employee committees where unions are not available.

During 2016/17 we will begin to deploy ECT's SSDP in other divisions, and testing its adaptability to all issues present within the various supply chains within Johnson Matthey.

During the year we continued to improve audit processes with suppliers across the group and assessed the implications of legislation such as the UK Modern Slavery Act 2015 and European conflict minerals regulation. We are confident of our human rights

performance within our own operations in respect of the UK Modern Slavery Act. However, business practices along the supply chain are not always transparent and we are investigating further to ensure that there is no enslaved, bonded or forced labour within them. We will publish our first public statement in 2016/17.



Go online:  
[www.matthey.com/sustainability/sustainability-governance/policies](http://www.matthey.com/sustainability/sustainability-governance/policies)

## Our Culture and Values

For our performance to be world class, living our values and building an empowering internal culture is vital. Our leaders set the standard for everyone, actively demonstrating the actions, processes and outcomes associated with our core values which are presented on page 21.

Our code of ethics, our progress in improving health and safety performance and our renewed commitment to diversity are examples that demonstrate how we are bringing our values to life.

## Doing the Right Thing

'Doing the right thing' is our code of ethics which was launched in September 2015. It was shared with employees via face to face meetings with managers, giving our people the opportunity to ask questions, understand our standards and discuss ethical decision making.

The code is available in multiple languages and contains information and resources that help everyone in the group to carry out their duties safely, ethically and legally while supporting our values. It sets out individual, collective and the company's responsibilities as we continue to grow in new territories and emerging markets.

Around the world, a network of local ethics ambassadors are on hand to help their colleagues with guidance and support.

<sup>1</sup> ECT's raw material spend excludes platinum group metals and substrates, which are the responsibility of the customer.

## 3. People and Planet

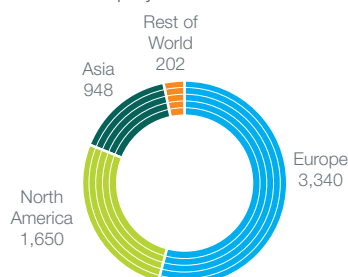
## PEOPLE AND PLANET (CONTINUED)

### OUR PEOPLE AND COMMUNITIES (CONTINUED)

We provide focused training to those employees whom we believe to be most exposed to compliance risks in the course of their roles (see below). There were no significant fines and non-monetary sanctions for non-compliance with laws and regulations during the year.

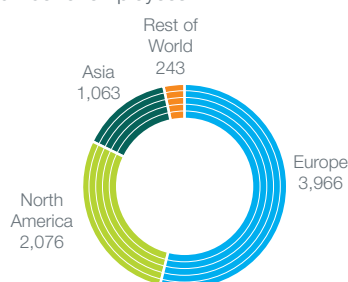
#### Competition Law Training by Region

number of employees



#### Anti-Bribery and Corruption Training by Region

number of employees



#### Encouraging People to Speak Up

Amongst other internal channels available to employees who wish to raise a concern is our 'speak up' confidential whistleblowing website and helpline. This provides an opportunity to raise a concern anonymously where local law permits.

There were a total of 53 speak up reports during 2015/16 detailed in the table below. The total number for 2014/15 was 26. There were no speak up labour practice grievance reports made against Johnson Matthey during the year.

Reports received	Number of cases
Bribery and corruption	11
Discrimination or harassment	11
Misconduct or inappropriate behaviour	9
Conflict of interest	6
Competition / anti-trust	2
Business and financial reporting	3
Environment health and safety	2
Confidential information and intellectual property	1
Other or general enquiry	8

The Audit Committee is responsible for reviewing the group's speak up procedures and the matters raised. At its meeting in January 2016 it reviewed all reports received up to that date during 2015/16. We believe the increase in the number of reports received demonstrates the heightened understanding of our ethics and compliance programme and the awareness created by the roll out of our code of ethics and compliance training. The new speak up case management system also tracks and deals with concerns raised through all internal channels, providing greater oversight of all concerns raised across the group.


On receipt of a speak up report, it is reviewed and assessed under the oversight of an ethics panel which reports annually to the Audit Committee. When it is deemed appropriate to deal with a report formally, an investigation will be conducted in accordance with our investigation principles of confidentiality, impartiality and objectivity, capability and efficiency. All investigations generate recommendations and agreed actions that are tracked and followed through to closure.

#### Diversity and Inclusion

Johnson Matthey is committed to building a truly inclusive culture throughout the group. In 2015/16 we created a cross divisional taskforce of representatives from around the world to focus on this area. We conducted a perception survey, to pulse check the views of our employees, on the specific areas that we have identified where we feel we can make an impact.

In 2016/17 we will focus on training senior leaders throughout the organisation on diversity and inclusion, in particular focusing on how to avoid unintended bias.

The table below shows the gender breakdown of the group's employees as at 31st March 2016.

 Our policies on equal opportunities and diversity are available on our website [www.matthey.com](http://www.matthey.com)

#### Gender Diversity Statistics

As at 31st March 2016

	Male	Female	% male	% female
Board	7	2	78%	22%
Group Management Committee	8	2	80%	20%
Subsidiary directors	115	17	87%	13%
Senior managers	180	51	78%	22%
New recruits	1,173	460	72%	28%
<b>Total group</b>	<b>9,234</b>	<b>3,091</b>	<b>75%</b>	<b>25%</b>

Some individuals are included in more than one category.

#### Engaging Our People

As a global company it is important that employees, wherever they are based, connect with our 3C Strategy and vision.

When we engage our employees effectively, we see that they feel more involved in the company and share our commitment to achieving our goals. In turn, this leads to better performance, employee retention and wellbeing.

We empower our people by showing clearly how activities and management decisions affect their day to day work and how they can contribute to the overall performance of the business. Our culture encourages employee feedback and we promote two way communication. During 2016/17 we plan to carry out a global employee survey, reaching out to all employees for feedback and input.

To further embed our 3C Strategy, in June 2015 we launched the 3C Awards, designed to strengthen the link between reward and recognition, while relating to our strategy and our business priorities. We received more than 300 entries which celebrated the best of the best. The awards created excitement among employees, encouraging friendly competition and proved to be an opportunity for everyone to get involved and feel proud of their achievements. The programme will continue in 2016/17.

During the year we relaunched both *Assay*, our employee magazine, and *Spotlight*, our bi-monthly employee newsletter. These are translated into German and Chinese and aim to help our people achieve better results and deliver our business strategy, by improving collaboration and understanding of the business and by supporting our culture and values.

Our groupwide intranet and enterprise social network, 'myJM', was redesigned during 2015/16. The enhanced system makes it easier for people to find useful, relevant information and to connect with internal experts.

Homepage content is tailored, giving people the information most relevant to them, quickly.

New tools such as Yammer, a social networking platform, make it easy to ask questions and collaborate about particular topics and early adopters have already begun to see the benefits.

Additionally, new communication tools for initiatives such as our code of ethics and health and safety are available online in various languages to ensure they are accessible to all our employees.

## Engaging with External Stakeholders

To keep our stakeholders informed and up to date with our activities, we communicate with them across multiple channels on an ongoing basis. Our regular publications (including this report), as well as our website, surveys and meetings on specific topics, connect us with external stakeholders (see page 26).

During the year we participated in a number of trade associations including the UK Chemical Industries Association, the Diesel Technology Forum, the Society of Motor Manufacturers and Traders, the Association for Emission Control by Catalyst, the Engineering Employers Federation, the Pgm Health Science Research Group of the International Platinum Group Metals Association at the International Precious Metals Institute in the US and Eurometaux, the association servicing and representing the European non-ferrous metals industry. In doing so, we can understand, inform and contribute to the topical issues and discussions that are relevant to our stakeholders, as well as those of the broader industry and market sectors in which we operate.

Our shareholders are an important stakeholder group for us and we meet with major shareholders regularly, as described in the Corporate Governance Report on pages 96 and 97.

We know that a number of our investors are particularly interested in ethical and socially responsible investments so we meet with specialists from their organisation to discuss sustainability and corporate social responsibility (CSR) issues, and to provide the information they need. We also participate in key benchmarking studies as discussed on page 27.

## Working with Our Communities

For us, sustainability is inclusive. We have a strong tradition of good

community relations and believe that we have an important contribution to make to the economic development of our local communities. We are active through collaboration and investment, both financial and in kind.

The communities where we operate are significant partners for us and our workforce includes a large number of people from local areas. We have a strong tradition of encouraging our employees to get involved with, and give back to, their communities. By investing in this area we can:

- realise our commitment as a responsible business that provides value beyond our products;
- make a positive impact in the communities in which we operate;
- build goodwill and enhance our reputation within our local communities; and
- increase our profile as an employer of choice.



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[www.matthey.com/sustainability](http://www.matthey.com/sustainability)

## Community Investment Policy

The main theme of our Community Investment Policy is to support the future growth of our business by encouraging young people to study and succeed in education. As a business reliant upon our expertise in chemistry and its applications, our future depends on the recruitment of excellent science graduates. We actively promote STEM subjects – science, technology, engineering and maths – in schools and universities.

Our Community Investment Committee (CIC) represents our many locations and the different needs of their communities. The aim of the CIC is to deliver our community investment strategy as part of our Sustainability 2017 Vision and to develop relationships with our charity partners that go beyond financial support. The committee meets quarterly to update on progress and agree funding for projects. 89% of our sites are actively involved with their local communities and have either formal or informal engagement plans in place.

We offer all employees two days' paid leave per year for community or charity work, subject to the approval of their manager. Employees are encouraged to work with organisations in their local area where they can make most use of their skills or gain new knowledge.

This two way exchange makes volunteering rewarding and valuable, for both our employees and the charity or local group.

We are a member of the London Benchmarking Group (LBG), a global network of companies that share and promote best practice in corporate community investment.

## Supporting Good Causes

Around the world, our people support many charities locally and nationally, through personal donations, giving up their working time or through the loan of company facilities.

During 2015/16 the company donated £679,000 to charitable organisations. This figure has increased by 11%, mainly due to new legislation in India which requires companies to donate 2% of net profit generated in the country to local good causes. This figure only includes the donations made by Johnson Matthey. It does not include payroll giving, donations made by staff or employee time. The company made no political donations in the year.

We operate a corporate charitable donations programme which represented 44% of the group's total donations in 2015/16. This programme supports organisations in the areas of environment and sustainability, medical and health, science and education, social welfare and economic development.

## Charity Partnerships and Matched Funding

Our two year partnership with Cancer Research UK concluded on 31st March 2016. During the partnership we donated more than £80,000, including a £30,000 corporate contribution. Non-UK sites were encouraged to support their national cancer charities. Our new charity partner is Plan International and we look forward to working closely with them in the coming year to support their mission to alleviate child poverty.

In addition to our corporate charitable donations, we also offer matched funding for employees' fundraising efforts for registered charities. Matching is provided from central group funds up to £1,000 per employee per year, subject to a cap of £70,000 per annum for the group as a whole. Over the last year, employees raised £62,000 for 58 charities to which the company added £52,500 in matched contributions.

## 3. People and Planet

# PEOPLE AND PLANET (CONTINUED)

## HEALTH AND SAFETY

### HEALTH AND SAFETY: PERFORMANCE SUMMARY

	2016	2015	% change
Lost time injury and illness rate (LTIR)	0.37	0.50 <sup>1</sup>	-26
Total recordable injury and illness rate (TRIIR)	0.85	1.13 <sup>2</sup>	-25
Incidents of occupational illness cases per 1,000 employees	0.90	1.03 <sup>3</sup>	-13

<sup>1</sup> Restated to include accidents that occurred during 2014/15 but that were not declared as having resulted in lost time.

<sup>2</sup> Restated for incidents reclassified after the year end.

<sup>3</sup> Restated due to initial diagnosis being changed. Occupational illnesses can have a long latency period and the diagnosis of two cases changed several months after the year end, resulting in the restatement.

### HEALTH AND SAFETY AT THE HEART OF OUR BUSINESS

Over the last year, we have focused on ensuring that everyone in the business is engaged with health and safety and understands the critical role that each of us plays. The emphasis on encouraging our people to make changes to their daily behaviours has already had a real impact across the group. However, our progress was overshadowed by a fatality at one of our US sites during the year.

The Group Management Committee leads the company's drive to improve our health and safety performance and reviews progress on a monthly basis.

### Building and Embedding a Health and Safety Culture

Our focus in 2015/16 has been on raising employees' awareness and bringing them on a journey towards a world class health and safety culture. Strengthening commitment at an individual level is key to this. We will only succeed when our employees follow the rules because they want to, not because they have to.

We have adopted a maturity model (shown below) to guide our health and safety practices and behaviour. The model defines five levels of maturity, from 'emerging' at level 1, through 'managing', 'involving' and 'cooperating', up to level 5 which is 'continually improving'.

The maturity model helps map our course towards further improvements. Through our work this year on developing personal responsibility for health and safety amongst our staff worldwide, we believe that we have moved up to level three, from level two last year.

### Embedding Health and Safety

This year we have invested in new projects and processes to support and communicate our aspirations. These included an internal communications campaign to launch our five health and safety principles which set out the company's position and expectations on health and safety. The global campaign was translated into 13 languages for manager briefings to reinforce the five principles.

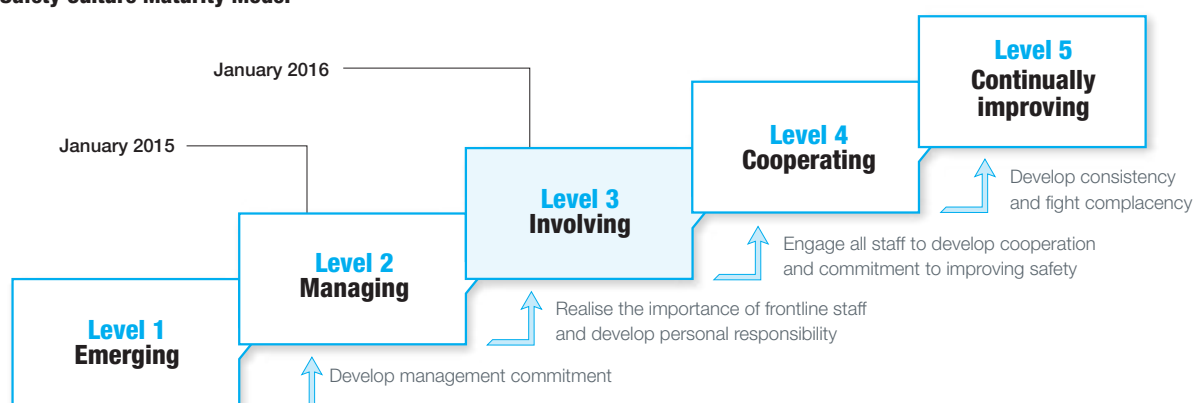
Simultaneously, we have undertaken significant work to embed these, and our lifesaving policies, across every site.

### Our Health and Safety Principles

1. All injuries and occupational illnesses are preventable.
2. We are all responsible for preventing injuries and occupational illness.
3. Adherence to lifesaving policies and site safety rules is mandatory.
4. Working safely is a condition of employment.
5. We will promote off the job health and safety for our employees.

Health and safety is also now part of annual and ongoing performance reviews for all employees. During these reviews the focus is on behavioural, and not just compliance or metrics based, safety objectives. For example, all employees, including those based in offices, must demonstrate their knowledge of relevant behaviours, in accordance with our Environment, Health and Safety (EHS) Behaviour Standard.

### Our Safety Culture Maturity Model



## Training and Knowledge Sharing

Our first global conference for EHS staff was held in September 2015. The theme of this inaugural event was improving team communications and sharing knowledge and best practice. The first topic of the day explored learnings from incidents within the group and how other teams could assess and minimise risks to prevent accidents happening at their own sites.

The event saw a network of over 80 health and safety experts from 55 sites gather to hear from internal and external speakers. One initiative taken forward was the launch of a lessons learned area on our myJM intranet where teams can share and discuss incidents from within and outside Johnson Matthey, with the aim of increasing our own best practice and knowledge.

## New Training Courses

Our EHS management system is supported by policies and guidance documents which serve as a framework for managing EHS matters at our facilities. This year we have completed major updates to our corporate policies on protection of hearing at work, management of the hazard reviews of capital projects and process risk safety management.

With an emphasis on knowledge sharing and communication, we have rolled out new training courses delivered by sector experts from DuPont. These are designed to actively engage employees with our policies and practices, encouraging them to make a personal and public commitment to demonstrate specific behaviours more frequently and more effectively.

Above all, we want people to understand how the behavioural expectations set out in our EHS Behaviour Standard relate to all safety incidents. Business continuity training developed during the year also includes a significant health and safety element.

'Delivering EHS Excellence: Learning to be Proactive' is a training course which aims to reinforce the message that no site is immune to incidents and that all employees must take proactive steps to identify and manage risks. One outcome from this course is the production and implementation of local action plans to support our health and safety culture.

## Safety Performance

Our performance is summarised in the table on page 72 and two year performance is shown in the two graphs below.

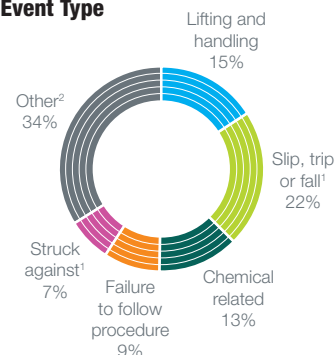
Our LTIIR improved by 26% during the year, from 0.50 in 2014/15 to 0.37 in 2015/16. Over the same period, our TRIIR also improved from 1.13 to 0.85, a reduction of 25%.

There were a total of 46 lost time accidents and illnesses across the group during 2015/16.

Despite these improvements, in July 2015, an employee working at our Fine Chemicals' Riverside site in the US tragically lost his life after a fall. Production activities at the site were temporarily suspended and all work risk assessed. Additional safety measures were introduced and all employees were retrained on fall protection and other safe work requirements before the plant restarted. Subsequently, 26 hazardous work audits were performed at our manufacturing facilities around the world

in an effort to ensure that robust controls and management measures are in place to prevent incidents occurring elsewhere.

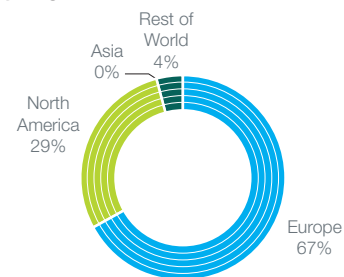
### Lost Time Injuries and Illnesses by Event Type



<sup>1</sup> See page 190 for definitions.

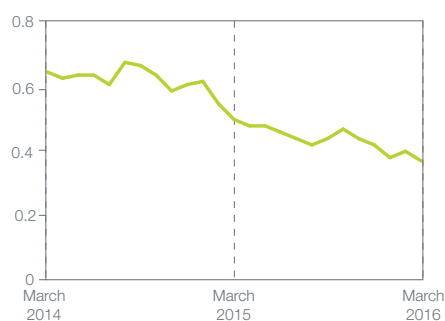
<sup>2</sup> Sum of individual event types below 5%.

### Lost Time Injuries and Illnesses by Region



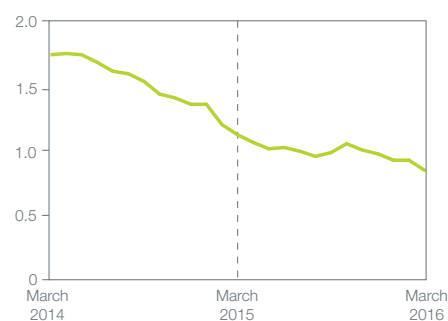
### Lost Time Injury and Illness Rate

per 200,000 working hours in a rolling year



### Total Recordable Injury and Illness Rate

per 200,000 working hours in a rolling year



## 3. People and Planet

## PEOPLE AND PLANET (CONTINUED)

### HEALTH AND SAFETY (CONTINUED)

#### Health Performance

In line with our health and safety principles, we have continued to focus on supporting employees' health and wellbeing both in and outside work. Our global network of specialist occupational physicians have been involved in several projects during the year including investigation of suspected chemical exposures, biological testing regimes and assessment of local occupational health provision. They are also responsible for delivering our programme of education, training, counselling, prevention and risk control and any necessary treatment to our workers.

93% of our facilities around the world reported that they had complied with the requirement to conduct an annual sustainable health review and improvement planning process in 2015/16, which was up on last year. An increasing number of our sites are also BS OHSAS 18001 compliant, and 25 have received certification that they meet the minimum requirements for occupational health and safety management best practice.

We use a health scorecard system to rate the level of implementation of preventative programmes against our corporate standards. This includes 14 key elements of health programmes that align with our most significant health risks. 98% of sites completed their health scorecard review during the year. We saw an increase in the proportion of sites achieving A and B levels of maturity and a corresponding reduction in sites reporting C and D grades. Maturity levels reported in the areas of chemical exposure management, first aid provision and health surveillance showed the most improvement, reversing the decline seen in 2014/15.

In 2015/16 we saw a similar incidence rate of employee occupational illnesses as in the prior year. The incidence reduced from 1.03<sup>1</sup> occupational illness cases per 1,000 employees in 2014/15 to 0.90 cases in 2015/16. This represents a 13% improvement. The overall number of occupational illnesses is very low and annual fluctuations are subject to statistical variation.

#### Contractor Health and Safety

We are as concerned for the wellbeing of our contractors as we are for that of our employees. There was one reported case of occupational illness affecting contractors working at our sites during the year.

Contractors include agency workers who are employed to cover long term sickness absence and maternity leave, and to work on sites where we experience seasonal variations in workload. They also include workers from outsourced functions such as cleaning.

Our metric, LTIR, is also applied to our contractor workforce. This year our contractor 2015/16 LTIR was 0.53 (2014/15 0.48) representing a slight increase. We aim to reverse this trend and during 2016/17 will review and update our contractor control policies and focus on communicating these more clearly.

#### Governance Processes and Auditing

Each of our sites is subject to an audit by our internal EHS team every 12 to 36 months dependent on the scale of the premises and types of work carried out there. During the year 26 hazardous work audits were carried out across the group, focusing on six key life saving policies and assessing the

implementation and effectiveness of these key policies at each facility. These assessments were completed at manufacturing sites selected from all five divisions. To date, the programme has identified a number of improvements which are being tracked and implemented.

We also launched a new group EHS assurance audit process with a global approach, standardised processes and closer alignment of the EHS audits with current business practices. In 2015/16 our team audited 15 of our sites using this methodology. Since April 2016, the remit of this Audit process has been expanded to incorporate the key processes of the hazardous work audit to further enhance our regular EHS assurance audit programme.

#### Product Stewardship

Product stewardship means taking responsibility for the product over its whole lifecycle to reduce any adverse impacts on the environment and human health.

#### Committed to Responsible Management

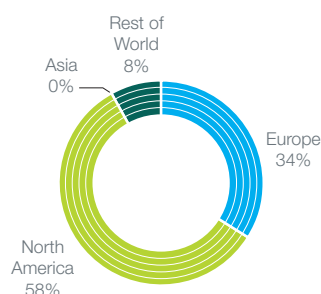
The majority of products that leave our sites are only part way through their lifecycle. They go on to become part of another product or material which will be used and then disposed of or recycled.

Irrespective of a product's lifecycle stage, the same principles of product stewardship are applied. We are committed to responsible management of the chemicals we use and produce, and have well established product stewardship systems to ensure the sound management of chemicals throughout their lifecycle.

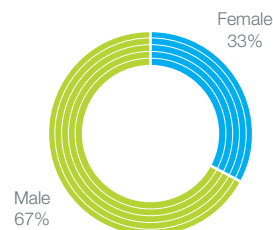
#### Occupational Illness Cases



#### Occupational Illnesses by Region



#### Occupational Illnesses by Gender



<sup>1</sup> Restated due to delayed diagnosis. Occupational illnesses can have a long latency period and the diagnosis of two cases changed several months after the year end, resulting in the restatement.

We follow the global framework introduced by the Strategic Approach to International Chemicals Management (SAICM) to promote chemical safety around the world. Our focus on sustainability also motivates us to apply green chemistry principles when selecting materials. Our products are not restricted or banned in the markets in which they are offered and we openly respond to stakeholder questions related to banned or disputed products.

By carrying out rigorous evaluations of our new and existing products, assessing any health and safety risks associated with product use and determining appropriate risk management measures, we can communicate vital information to end users and others in the supply chain. Our procedures also capture information on component sourcing, when appropriate, and the technical / safety data sheets detail safe use, disposal and substance content information. We work collaboratively with industry partners and customers, regulators and non-governmental organisations to increase understanding of the lifecycle impacts of our products and to maintain confidence in Johnson Matthey as a responsible company.

Our businesses have management systems in place to assess the impact of products across their lifecycle.



Find more online about product stewardship at Johnson Matthey, including our policy on animal testing, at [www.matthey.com/sustainability](http://www.matthey.com/sustainability)

## Product Stewardship Performance

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. 72% of our sites have met the requirement for ISO 9001, demonstrating our commitment to reducing our environmental impact, as well as reducing costs associated with waste management and improving productivity.

In 2015/16, there were no notifications of significant end user health effects involving our products and no major incidents or environmental releases during our product distribution were recorded. No product recalls occurred for safety reasons. Our Diagnostic Services business reported a small spill of Caesium-137 from a piece of equipment in a restricted use area at the University of Tulsa in the US in 2014, which came to light in 2015/16. The business is cooperating with the regulatory authorities in ongoing investigations of the matter.

Following the recruitment of two product stewards to our central team last year, 2015/16 has been a year of embedding and consolidation. Through this period, the team has continued to deliver strong toxicological and regulatory compliance support to all five divisions, as well as a significant number of due diligence projects. In particular, we have enhanced our regulatory horizon scanning capabilities through increased participation in external (e.g. trade association) task forces.

## New Product and Technology Introductions

To strengthen and harmonise aspects of product stewardship further in our business activities, we reported last year that we were developing a more formalised stage gate assessment for new product and technology introductions (NPI). The implementation of this process is ongoing and its launch is expected to coincide with the rollout of a harmonised NPI framework from the Chief Technology Officer's team in 2016/17.

The product stewardship NPI assessments will be an integral part of this and will focus on three key characteristics: product safety, product sustainability and regulatory compliance. Assessments will be iterative and designed to fit the stage of product development.

## Contributing To Industry Wide Guidelines

We continue to contribute to industry wide efforts to develop state of the art guidelines on occupational hazard and safety management information for platinum group metals and their products via the International Platinum Group Metals Association's (IPA's) Platinum Group Metals Health Science Research Group (HSRG) voluntary programmes.

During the year, this programme has delivered a number of important outputs including robust and sensitive methodologies for sampling workplace air and completion and publication of results from phase one of the HSRG funded epidemiology study on occupational chloroplatinate exposure paradigms and risk of respiratory sensitisation (allergy and asthma).

The IPA member companies have concluded that this new data supports the adoption of a voluntary exposure control target lower than the existing regulated occupational exposure limits for chloroplatinates. We are committed to developing the exposure monitoring data using the methodologies mentioned previously to ascertain if our operations currently meet the lower voluntary target.

## Regulatory Matters

Preparations to submit 145 lower tonnage substance registrations before May 2018 under the EU chemical management framework known as REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation) are well underway and we are on track to meet the deadline.

In addition, we continue to update existing registrations with new information, as appropriate, to respond to requests from the European Chemicals Agency (ECHA) for new information. Deadlines related to hazard communication requirements (safety data sheets and product labelling), including the EU and US implementations of the UN Globally Harmonised System for Classification and Labelling were met by all impacted Johnson Matthey businesses.

## 3. People and Planet

# PEOPLE AND PLANET (CONTINUED)

## ENVIRONMENT

### ENVIRONMENT: PERFORMANCE SUMMARY

		2016	2015	% change
Energy consumption	thousands GJ	<b>5,064</b>	5,366 <sup>1</sup>	-6
Total global warming potential	thousand tonnes CO <sub>2</sub> equivalent	<b>480</b>	510 <sup>2</sup>	-6
Electricity consumption	thousands GJ	<b>1,801</b>	1,885	-4
Natural gas consumption	thousands GJ	<b>2,948</b>	3,052	-3
Waste to landfill	tonnes	<b>1,953</b>	3,482	-44
Water consumption	thousands cubic metres	<b>2,605</b>	2,529	+3

<sup>1</sup> Restated to account for a change in calorific value of gas purchased in South Africa.

<sup>2</sup> Restated using national carbon intensity figure for Macedonia. In previous years an average for European non-OECD countries had been used.

### BENEFITING THE ENVIRONMENT

Many of our products have a beneficial impact on the environment. Our emission control catalysts for vehicles and our catalysts for industrial plants reduce the level of harmful pollutants such as oxides of nitrogen (NOx) entering the air. Our process catalysts help customers improve the resource efficiency of their operations and our recycling and refining operations ensure that valuable precious metals, such as platinum and palladium, are conserved for future generations.

  Read more on page 12.

 Go online: [www.matthey.com/sustainability/products](http://www.matthey.com/sustainability/products)

### Improving Our Processes

In our Sustainability 2017 Vision we set ourselves challenging targets to improve our environmental performance and in 2015/16 we have continued to make good progress towards achieving these.

  Read more on pages 24 and 25.

In addition, each of our businesses sets internal reduction targets which are formally reviewed as part of the annual budget process to ensure that they are aligned with and contributing to the group's goals. Further to these process improvement efforts, efficiency and longevity of equipment are considered in purchasing decisions and for large capital expenditure projects.

We have well established policies, systems and processes in place to manage environmental performance and help us realise continuous improvement.

Our goal is for all of our manufacturing sites to maintain the ISO 14001 environmental management system certification as a means of setting, maintaining and improving standards. A total of 75% of all our manufacturing sites are now compliant. New or acquired sites are also expected to achieve the certification within two years of beneficial operation or acquisition. The majority of these sites have now met this requirement.

Additionally, a number of our key manufacturing sites are also ISO 50001 compliant. ISO 50001 focuses specifically on the development of energy management systems to systematically and continuously improve energy efficiency. Our sites in Macedonia, South Africa and Germany have all achieved this certification standard. In addition, our West Deptford Refining and Chemicals site in the US has achieved RC 14001 certification.

 Go online [www.matthey.com/sustainability/governance](http://www.matthey.com/sustainability/governance)

### Environmental Performance

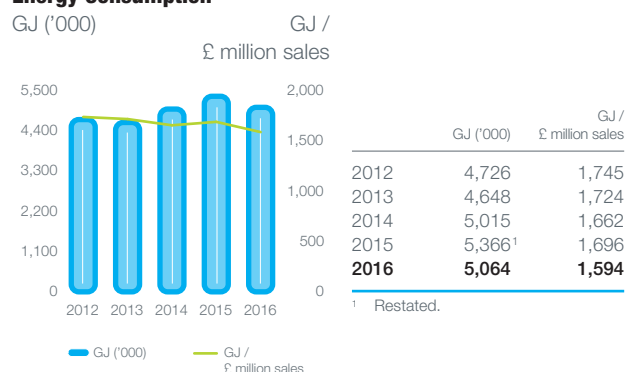
Johnson Matthey undertakes a comprehensive annual review of group environmental performance which covers all manufacturing and R&D facilities. Data is presented for a five year period on page 189 of this report. Year on year performance is highlighted on the following pages.

Five of our six key environmental sustainability indicators decreased, demonstrating the positive impact of our ongoing Sustainability 2017 and Manufacturing Excellence programmes which aim to reduce our impact on the environment.

### Energy Consumption

The group recorded a 6% absolute decrease in energy usage this year within its facilities. This was predominantly due to the absence of data from the Gold and Silver Refining and Research Chemicals businesses which were sold in March and September 2015 respectively.

#### Energy Consumption



Our site energy use comprised 58% natural gas, 36% electricity and 6% other fuels. 2% of our electricity came from local renewable energy sources that are not grid connected (solar and hydroelectric), doubling the amount of renewable energy sourced compared to last year.

As part of our operational excellence programmes employees are tasked with identifying ways to reduce our energy intensity. Our site at Manesar, India has installed a solar array to lessen its dependence on an unreliable electricity grid. We have also retrofitted highly efficient fuel burner systems at four sites in the US and UK which together save more than £300,000 in energy costs and 5,000 tonnes of CO<sub>2</sub> annually.

### Global Warming Potential (GWP)

We report greenhouse gas emissions from our manufacturing processes and energy use and convert the total group energy use to tonnes of carbon dioxide (CO<sub>2</sub>) equivalent using national and regional conversion factors for each emission source as appropriate.

The group's total GWP is based on the following (as defined by the greenhouse gas protocol [www.ghgprotocol.org](http://www.ghgprotocol.org)):

- Scope 1 emissions (generated by the direct burning of fuel, predominantly natural gas, and process derived CO<sub>2</sub> emissions).
- Scope 2 emissions (generated from grid electricity and steam use at our facilities).
- Scope 3 emissions (from the losses associated with transmission and distribution of electricity).

The protocol was revised in January 2015 to include a market based method to calculate Scope 2 emissions in addition to the existing location based one, so this year we have reported using both methodologies. Market data is available for sites covering 59% of our Scope 2 emissions and is obtained from local suppliers, energy contractual documents and website declarations. At 64% of sites where market data is available, the carbon intensity of energy purchased was lower than the national or regional average and so our overall carbon

footprint is lower using the market based method. We expect to see further reductions next year, as several large UK sites have recently transferred to green energy contracts with their providers. We continue to use the location based method for comparing GWP with previously reported data, as shown in the table below.

Our absolute GWP declined 6% in 2015/16 to 480 thousand tonnes CO<sub>2</sub>, in line with our decline in energy consumption. Relative to sales, our total GWP also decreased by 6%. A breakdown of the group's total GWP can be found below. There has been no significant change in the composition of our carbon footprint this year.


### Waste

Waste to landfill across the group decreased by 44% in the year to 1,953 tonnes. Approximately half of this reduction resulted from the disposal of our Gold and Silver Refining and Research Chemicals businesses. New business acquisitions during the year contributed 9% of our waste to landfill. At sites in our continuing businesses, a 30% reduction was recorded, which was largely the result of less construction waste being sent to landfill and a significant one-off disposal of old inventories last year. Additionally, several sites signed new contracts with waste to energy providers in the year, notably our site in Wayne, PA, US, whose new arrangement has halved its waste to landfill.

### Water Consumption

Our water consumption increased by 3%, mainly due to increased demand at one of our UK sites, to 2.6 million m<sup>3</sup> and by 3% relative to sales. 87% of our water was supplied by local municipal water authorities and 13% was abstracted.

Total effluent decreased 3% to 1.688 million m<sup>3</sup>. Of the total effluent produced, 86% was discharged to local authority sewers after treatment and in accordance with local discharge consent agreements. The remainder was discharged to water courses after treatment and within quality limits set by local water authorities. None of our waste water was directly used by another organisation.

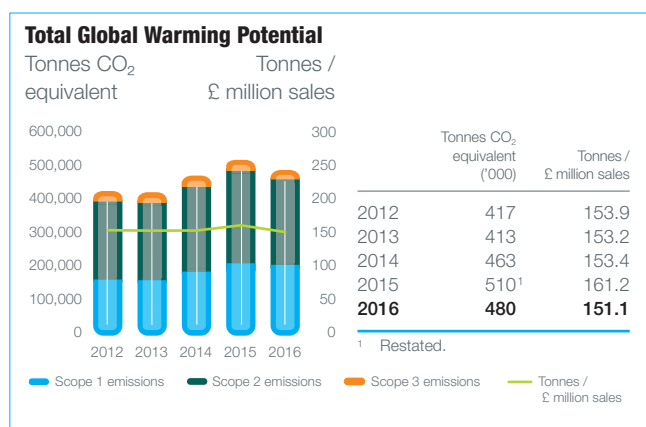
 Further details can be found in the graphs on the following page.

 Go online:  
[www.matthey.com/sustainability/water](http://www.matthey.com/sustainability/water)

### Total Global Warming Potential

	2016 thousand tonnes CO <sub>2</sub> equivalent	2016 % of total GWP	2015 thousand tonnes CO <sub>2</sub> equivalent <sup>1</sup>	2015 % of total GWP
Scope 1	204	43%	209	41%
Scope 2 (location based method)	256	53%	276	54%
Scope 2 (market based method)	252	53%	—	—
Scope 3 (from electricity transmission and distribution)	20	4%	25	5%
<b>Total global warming potential (location based method)</b>	<b>480</b>	<b>100%</b>	510	100%
<b>Total global warming potential (market based method)</b>	<b>476</b>	<b>100%</b>	—	—

<sup>1</sup> Restated using carbon intensity figure for Macedonia. In previous years an average for European non-OECD countries had been used.



## 3. People and Planet

# PEOPLE AND PLANET (CONTINUED)

## ENVIRONMENT (CONTINUED)

### Climate Change



Each year we disclose our environmental performance through the Carbon Disclosure Project (CDP) climate change programme which looks at risks and opportunities of climate change from the world's largest companies on behalf of institutional investors. In 2015 we achieved a B rating and a 95% disclosure score.

In January 2016 we signed L'Appel de Paris (the Paris Pledge for Action), welcoming and committing to implementing the ambition of the UN COP-21 Paris Agreement to limit global temperature rise to less than 2°C.

A changing global climate brings with it a number of risks and opportunities for Johnson Matthey. We review these annually as part of our CDP disclosure.

### Technologies to Tackle Emissions

The success of our Emission Control Technologies Division has been supported by tightening vehicular emissions legislation across the world which has been introduced in a phased manner that allows time for product development. If legislation were to outpace product development this would be a risk for the business. However, we expect legislation will continue to be introduced in a phased manner and this presents an opportunity for us.

As legislation tightens, more complex catalyst technologies are needed to control emissions from internal combustion engines. With increased focus on CO<sub>2</sub> emissions from vehicles, we expect that diesel engines will

continue to have an important role to play in meeting CO<sub>2</sub> targets in the medium term. Johnson Matthey supplies a range of technologies to reduce pollutant emissions such as hydrocarbons, carbon monoxide and NOx for diesel vehicles. The introduction of real world driving emissions testing in Europe from September 2017 will drive further reductions in NOx emissions from diesel cars and Johnson Matthey has developed innovative emission control systems to enable our customers to meet these upcoming requirements.

In addition, tightening limits on CO<sub>2</sub> emissions will drive increased electrification in vehicle powertrains. Over the next decade, whilst we expect that the vast majority of cars will still have an internal combustion engine, these will increasingly be hybridised with a battery system. This will support sales in our Battery Technologies business where we are developing high performance materials for automotive batteries. Our investment in new automotive technologies means we are well positioned to capture value as legislation tightens and the automotive powertrain diversifies.

### Water Availability and Quality

Climate change is also creating risks and opportunities for Johnson Matthey in terms of water availability and quality. We continue to make investments in our Water Technologies business which provides products to enable water recycling in a range of industrial applications through disinfection and purification.

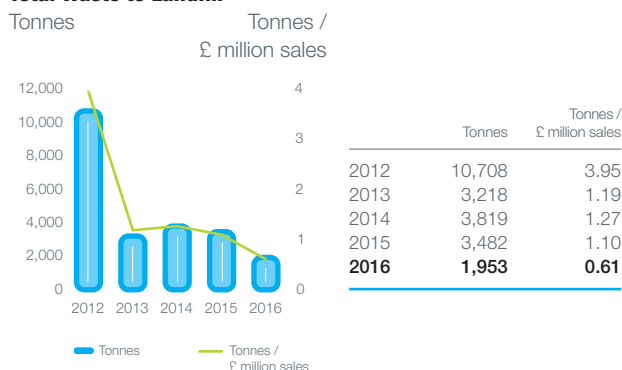
As a business we are susceptible to changes in local water availability. We mitigate this risk in a number of ways. A water stress survey, which we completed in 2012 using the World Business Council for Sustainable Development's global water tool, indicated at that time that none of our manufacturing sites was at high risk. The geographical spread of our sites has changed since 2012, as have global meteorological conditions. As a result, we plan to complete a new water stress survey in the coming year. We assess site risks including water supply and flood risk locally twice a year. Where crops are grown for use as raw materials by our Fine Chemicals Division we store an excess of inventories and work with farmers and local soil experts to plan for adverse weather conditions.

During the year our business continuity programme highlighted our site in Taloja, India as at risk from water stress and a project was initiated to reduce water consumption. A significant rainfall deficit and subsequent restrictions by the local government on water supply to industry reaffirmed the need to take action. Recycling of effluent streams has allowed the site to reduce its consumption by 23% and operate through outages. Further improvements have been identified to reduce consumption to 46% of April 2015 levels.

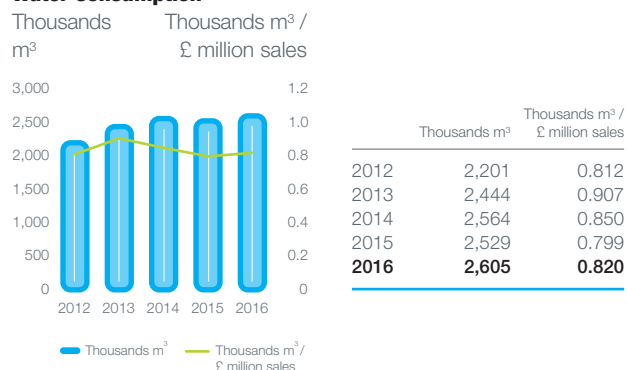


→ Read more about our global markets on pages 16 to 18.

### Total Waste to Landfill



### Water Consumption



## Environmental Management and Regulation



Johnson Matthey has a robust and effective management system which requires all sites to report environmental incidents to the group's Environment, Health and Safety team. During 2015/16 no significant spillages to the environment of raw materials, intermediates or products have been reported by the group and there were no significant fines or non-monetary sanctions for non-compliance with environmental laws and regulations in the year.

We also assess emerging environmental regulations and legislation that may have an impact on our operations. As part of our responsibility to protect the environment we apply the precautionary principle as described in the Rio Declaration on Environment and Development Principle 15.

EU Member States are at various stages of introducing national plans in response to the 2012 EU Energy Efficiency Directive (EED). In the UK this is implemented as the 2014 Energy Savings Opportunities Scheme (ESOS). A third party audit accounting for 100% of all energy consumed by our UK operations verified our compliance with ESOS and the accompanying site energy assessments identified potential annual cost savings in excess of £1 million. Our German sites are compliant with national legislation through ISO 50001 accreditation. We continue to assess the implications of the EED on our other European operations.

## PRIORITIES FOR THE COMING YEAR

### Building a Sustainable Business Beyond 2017

As we approach the end of our Sustainability 2017 programme we are evaluating the overall impact and benefits that it has delivered in the areas of health and safety, environment, financial, social and governance. We are finalising the next stage of our sustainable business strategy which will be launched in 2017/18.



Read more on page 27.

## Strengthening Relationships with Stakeholders

In the coming year we will increase our focus on enhancing our reputation as an employer and as a good corporate citizen. In 2016/17 we will undertake a global employee survey to seek our employees' feedback and to understand what is important to them.

Doing business ethically will continue to be an important area for us. Our online training in areas such as anti-bribery and corruption and competition law will be ongoing, and there will be a new compulsory module for all employees on doing the right thing. We will hold our second global ethics conference to expand the knowledge of our ethics ambassadors.

It is vital for all employees to understand Johnson Matthey's culture and values and communicating this in a consistent way is key. We will launch a global induction programme so that everyone joining us can clearly understand how we work, what is expected from them in their role and what they can expect from Johnson Matthey as a company. As we grow, a diverse and inclusive workforce is essential to help us achieve our goals. Our leaders will strive to set the tone from the top and will receive diversity training to support them in this. We will also continue to develop our relationships with external stakeholders and the communities in which we work.

## Safeguarding Our People

We will maintain our focus on improving health and safety, ensuring it is at the forefront of our employee engagement activities.

Work will continue to update guidance and implement the performance standards in all corporate EHS policies and we will finalise our Global Process Safety Management Policy.

We have invested in new software to streamline our EHS data tracking which will be rolled out from June 2016. As well as providing more accurate data, this will make it easier for people to report any incidents or near misses. Representatives from across the group have been involved in the design of the system so that it best fits our needs and requirements.

We will continue to drive our health and safety performance next year, benchmarking against our peers with an aim to be in the top 10% of companies in our sector. Our ambition is to reduce our LTIIR and TRIR rates further, with the goal of zero harm always in mind.

## Raising Our Environmental Standards

In 2016/17 we will continue to drive improved environmental performance at all sites through a broad range of actions.

We will focus on the sites with the biggest impact in terms of electricity, natural gas and water usage and also those that generate the largest waste to landfill burden.

Two of our largest natural gas consuming sites, at Savannah in the US and Clitheroe in the UK, will be installing fuel burner systems which are expected to cut energy costs and reduce carbon emissions by at least 5%.

We will be encouraging more of our sites to procure low carbon grid electricity (i.e. derived from a renewable source), implement local renewable energy generation options (e.g. solar power) and roll out further energy saving programmes (such as energy performance contracts).

We will also update our water stress and risk assessment to include newly acquired sites and, in light of new global data, to understand better what measures affected sites will need to take to mitigate any risk.

## Summary

These plans are all part of being the best we can be whilst pursuing operational excellence and contributing to our business strategy for our 3rd century of growth. As our Sustainability 2017 Vision enters its final year we are looking forward to setting ourselves more stretching targets for 2025 as we continue to build a sustainable business for the future.

The Strategic Report was approved by the board on 1st June 2016 and is signed on its behalf by:

**Robert MacLeod**  
Chief Executive

# GOVERNANCE

**THE CORPORATE GOVERNANCE SECTION, INTRODUCED BY OUR CHAIRMAN, CONTAINS DETAILS ABOUT THE ACTIVITIES OF THE BOARD AND ITS COMMITTEES DURING THE YEAR.**

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

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Chunlin is a production operator at our battery materials manufacturing facility in Changzhou, China which focuses on developing and manufacturing high technology products for the automotive battery market.



## 4. Governance

## BOARD OF DIRECTORS

as at date of approval of this report



**Tim Stevenson, OBE – Chairman**  
Appointed to board: March 2011

**Experience**

Appointed Chairman in July 2011. Tim 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. He has also sat on a number of other boards including National Express plc, Partnerships UK and Tribal PLC. He was Chief Executive at Burmah Castrol plc from 1998 to 2000. He is a qualified barrister and is Lord Lieutenant of Oxfordshire.

**Committees**

Remuneration Committee, Nomination Committee (Chairman)

**International Experience**

Spain, UK

**Sector Experience**

Chemicals, Manufacturing, Oil and Gas, Retail



**Robert MacLeod – Chief Executive**  
Appointed to board: June 2009

**Experience**

Appointed as Chief Executive in June 2014 having joined Johnson Matthey as Group Finance Director in 2009. Robert was previously Group Finance Director of WS Atkins plc for five years. He was also a Non-Executive Director at Aggreko plc for eight and a half years. 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



**Alan Ferguson – Senior Independent Director**  
Appointed to board: January 2011

**Experience**

Appointed as Senior Independent Director in July 2014. Alan was previously 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 in a variety of roles including Group Finance Director from 1999 until 2005. He is a Chartered Accountant and sits on the Business Policy Committee of the Institute of Chartered Accountants of Scotland.

**Other Current Appointments**

Non-Executive Director and Chairman of the Audit Committee at Croda International Plc, The Weir Group PLC and Marshall Motor Holdings plc, where he is also Senior Independent Director.

**Committees**

Audit Committee (Chairman), Remuneration Committee, Nomination Committee

**International Experience**

South Africa, UK

**Sector Experience**

Automotive, Chemicals, 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 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 Committee, Remuneration Committee, Nomination Committee

**International Experience**

France, UK

**Sector Experience**

Aerospace, Automotive, Defence, Manufacturing, Technology



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

**Experience**

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, and was also Technical Manager for its North Sea exploration and production activities. He is a Chartered Engineer and Fellow of the Royal Society of Arts.

**Other Current Appointments**

Vice Principal, Research and Innovation, at King's College London, Non-Executive Director of The Carbon Trust, The Francis Crick Institute and Imanova Limited. Governor, King's College Hospital NHS Foundation Trust.

**Committees**

Audit Committee, Nomination Committee, Remuneration Committee

**International Experience**

UK, US

**Sector Experience**

Energy, Oil and Gas



**Dorothy Thompson, CBE – Non-Executive Director**  
Appointed to board: September 2007

**Experience**

Prior to joining Drax Group in 2005 Dorothy was head of the European business of the global power generation firm, InterGen. First starting her career in banking, she has had senior management roles in the UK, Asia and Africa.

**Other Current Appointments**

Chief Executive, Drax Group plc and Non-Executive Director, Court of the Bank of England.

**Committees**

Audit Committee, Remuneration Committee (Chairman), Nomination Committee

**International Experience**

Africa, Asia, France, UK

**Sector Experience**

Energy, Utilities



**Den Jones – Group Finance Director**  
Appointed to board: June 2014

**Experience**

Joined Johnson Matthey in June 2014 as Group Finance Director. Den was previously interim Chief Financial Officer at BG Group from September 2012. He held an Executive Director position on its board between February and November 2013. Prior to that he held a number of senior finance positions, including Group Financial Controller and Regional Finance Director of Asia and the Middle East. Before joining BG Group, he spent more than a decade with the investment banking arm of Citibank / Salomon Smith Barney and PwC within their Corporate Finance and Recovery division. He is a Chartered Accountant.

**International Experience**

UK

**Sector Experience**

Chemicals, Finance, Oil and Gas



**Colin Matthews, CBE, FREng – Non-Executive Director**  
Appointed to board: October 2012

**Experience**

Colin has been Chief Executive Officer of Heathrow Airport (previously BAA), Hays plc and Severn Trent plc. He was also Managing Director of Transco and Engineering Director of British Airways. Earlier he worked in the motor industry, in strategy consulting, and at General Electric Company. He has also served as Non-Executive Director of Mondi plc.

**Other Current Appointments**

Non-Executive Chairman, Highways England and Non-Executive Chairman, Shanks Group plc.

**Committees**

Audit Committee, Nomination Committee, Remuneration Committee

**International Experience**

Canada, France, Japan, UK

**Sector Experience**

Aerospace, Infrastructure, Professional Services, Technology, Utilities



**John Walker – Executive Director, Emission Control Technologies**  
Appointed to board: October 2013

**Experience**

Joined Johnson Matthey in 1984; appointed Division Director, Emission Control Technologies in 2009 after holding a series of positions within the division in the US, Asia and Europe. Appointed Executive Director, Emission Control Technologies in October 2013.

**International Experience**

Asia, Australia, Europe, US

**Sector Experience**

Automotive, Chemicals

## BOARD DIVERSITY



### Gender

Male	Female
78%	22%

### Board Tenure



During the year, Larry Pentz served as an Executive Director of the company. He retired from the board on 31st March 2016.

As announced on 3rd February 2016, Dorothy Thompson will retire as a Non-Executive Director with effect from 20th July 2016.

As announced on 2nd March 2016, Den Jones will step down as Group Finance Director over the summer of 2016.



**Simon Farrant – Company Secretary and Group Legal Director**

Joined Johnson Matthey in 1994. Appointed Company Secretary in 1999 and Group Legal Director in 2007. He is a Solicitor and Attorney & Counselor-at-Law (State of New York).

## LETTER FROM THE CHAIRMAN

**GOOD GOVERNANCE IS FUNDAMENTAL TO A SUCCESSFUL COMPANY. WE BELIEVE WE HAVE A GOVERNANCE FRAMEWORK THROUGHOUT OUR ORGANISATION WHICH IS WELL EMBEDDED, FITS OUR NEEDS AND IS EFFECTIVE. THIS HAS HELPED SUPPORT US THROUGH MORE DIFFICULT MARKET CONDITIONS THIS YEAR. HOWEVER, AS A BOARD, WE RECOGNISE THAT THERE ARE ALWAYS WAYS IN WHICH WE CAN IMPROVE TO MAKE US BETTER ABLE TO DEAL WITH THE CHALLENGES WE FACE.**

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 2016.

### My Role as Chairman

My most important role is to ensure that Johnson Matthey has a board which works effectively under my leadership, always mindful of what will work best for our board, for Johnson Matthey and for our shareholders. I believe that our governance arrangements continue to be right for Johnson Matthey. They effectively support our strategy and business model and will enable us to respond to any challenges we may face. For me, ensuring the right dynamics of the board is vital. I am pleased to say 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 and balance 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.

### Culture

I recognise 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 and grow sound governance behaviours and practices.

### Risk Management

Risk management is an important part of our wider discussion of strategy and our business model. In this report, we aim to demonstrate how our strategy is underpinned by a robust risk management framework.

### Succession Planning, Diversity and Inclusion

Thoughtful, strategic and practical succession planning is a key driver in maximising our board's effectiveness and an important contributor to our company's long term success. Strong succession planning, together with refreshing and selecting the right individuals for the board from a diverse talent pool, helps to nurture our culture, sustain our business model and deliver our strategy. We recognise the benefits of bringing greater diversity and inclusion into the boardroom and throughout our organisation, and I am keen to maintain our good momentum in this area. We explain our approaches to these fundamental components of board effectiveness in this report.

### Board and Committee Evaluation

I see open and constructive board and committee evaluation as fundamental to improving our effectiveness. After conducting an externally facilitated evaluation process last year, I led an internal review process this year. We report in detail on the methodology used and the outcomes.

### The UK Corporate Governance Code

We are reporting in our Corporate Governance Report this year against the 2014 version of the UK Corporate Governance Code and related guidance. We report on how we have applied the Code's main principles and complied with its relevant provisions. Except in one respect (relating to Senior Independent Director contact with major shareholders), Johnson Matthey has complied with all relevant provisions throughout the year ended 31st March 2016 and from that date up to the date of approval of this annual report.

Tim Stevenson  
Chairman

## 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 business. At each board meeting the board undertakes a strategic review of one or more of our divisions, either focusing on the whole division or various businesses within it. These sessions are attended by the relevant division director and, where appropriate, other divisional senior management. The sessions give the board an excellent opportunity to hear about, discuss and challenge the strategic direction of our business. Throughout the year the board also reviews our key functional areas. These reviews are attended by the relevant functional head and, where appropriate, other senior functional management. They enable the board to assess the strength of these functions in their ability to support delivery of the group's strategic objectives.

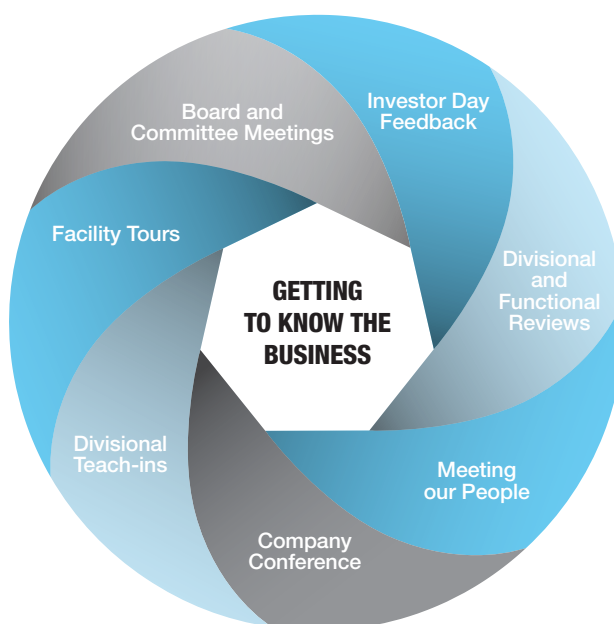
During 2015/16, we introduced business 'teach-ins' for our board. These are half day sessions, separate from board meetings, which are attended by a range of managers from the relevant business. They are designed to give the board a more in depth insight into our business than is possible during board meetings. This deeper understanding of the business enhances the Non-Executive Directors' ability to challenge, debate and contribute to divisional strategy at board meetings. Two teach-ins were held during the year – Fine Chemicals (November 2015) and Battery Technologies (New Businesses) (February 2016).

Whilst the majority of our board meetings are held at our London office in the UK, the board holds two board meetings each year at one or more of our other sites. Site visits are always undertaken and presentations are given by management 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 also a useful opportunity for the board to hear about environment, health and safety developments as well as the business' sustainability and manufacturing efforts. During 2015/16, board meetings were held at our manufacturing site at Royston, UK (April 2015) and at our R&D facility at Chilton, UK (September 2015). At Royston the board visited our Precious Metal Products Division to learn more about the individual businesses which make up our Noble Metals business including metal processing, nitro technologies, gauze manufacturing, 3D printing and industrial products. At Chilton, the board visited some of the businesses in our Process Technologies Division (PT). Areas of focus during this tour included process risk management, Chemical Catalysts and technologies.

In addition to the above, our Non-Executive Directors undertake visits to our sites independent of the Executive Directors, either individually or collectively, to further enhance their knowledge and understanding. They also meet with management and other employees. During the year, for example, Tim Stevenson, Alan Ferguson, Odile Desforges and Colin Matthews visited our PT facility in Savannah, US to hear more about the operation of the site and its business.

Each year our Chairman, Tim Stevenson, attends our annual Investor Day to hear first hand from our investors. Tim and the majority of our Non-Executive Directors also attended the 2015 company conference which gave them an opportunity to get a feel for the group's culture and hear more about the group's priorities in action, and meet a range of employees across all our divisions and functions.

All of the above activities help to provide the board with a sound understanding and knowledge of our group which supports it in its role to provide entrepreneurial leadership and set strategy.



# 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. The key elements of these are described in this Corporate Governance Report.

### UK CORPORATE GOVERNANCE CODE

The UK Corporate Governance Code was published by the Financial Reporting Council (FRC) in May 2010 with revised versions published in September 2012 and September 2014 (the Code). 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 so as 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. We have complied with all relevant provisions of the Code throughout the year except in relation to Senior Independent Director contact with major shareholders. This is explained in more detail on page 97.

## 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.

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).

The GMC is supported by four sub-committees – the Group Policy and

Compliance Committee, the Finance and Administration Committee, the IT Committee and the Contracts Review Committee, each of which has responsibility for certain areas within the group.

The governance framework is described on page 87.

There is a clear division of responsibilities between the running of the board and the executive responsibility for the running of 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.

This statement, together with the schedule of matters reserved for the board, as well as the terms of reference of the Audit Committee, Nomination Committee and Remuneration Committee, can be found in the Investor Relations / Corporate Governance section of our website.

Further information on the role of our board and its committees and how they operate is also set out in the Investor Relations / Corporate Governance section of our website. We also explain further the respective roles of our Chairman, our Chief Executive, our Executive Directors, our Non-Executive Directors, our Senior Independent Director and our Company Secretary.



Go online: [www.matthey.com/investor/governance](http://www.matthey.com/investor/governance)

## Board Meetings

### Annual Agenda Plan

Each year the board agrees an annual agenda plan designed to ensure that it has the right amount of time throughout the year to discuss all necessary matters. In particular, the board has sought to ensure there is sufficient time to discuss strategy so that the Non-Executive Directors have a good opportunity to challenge and help develop strategy proposals.

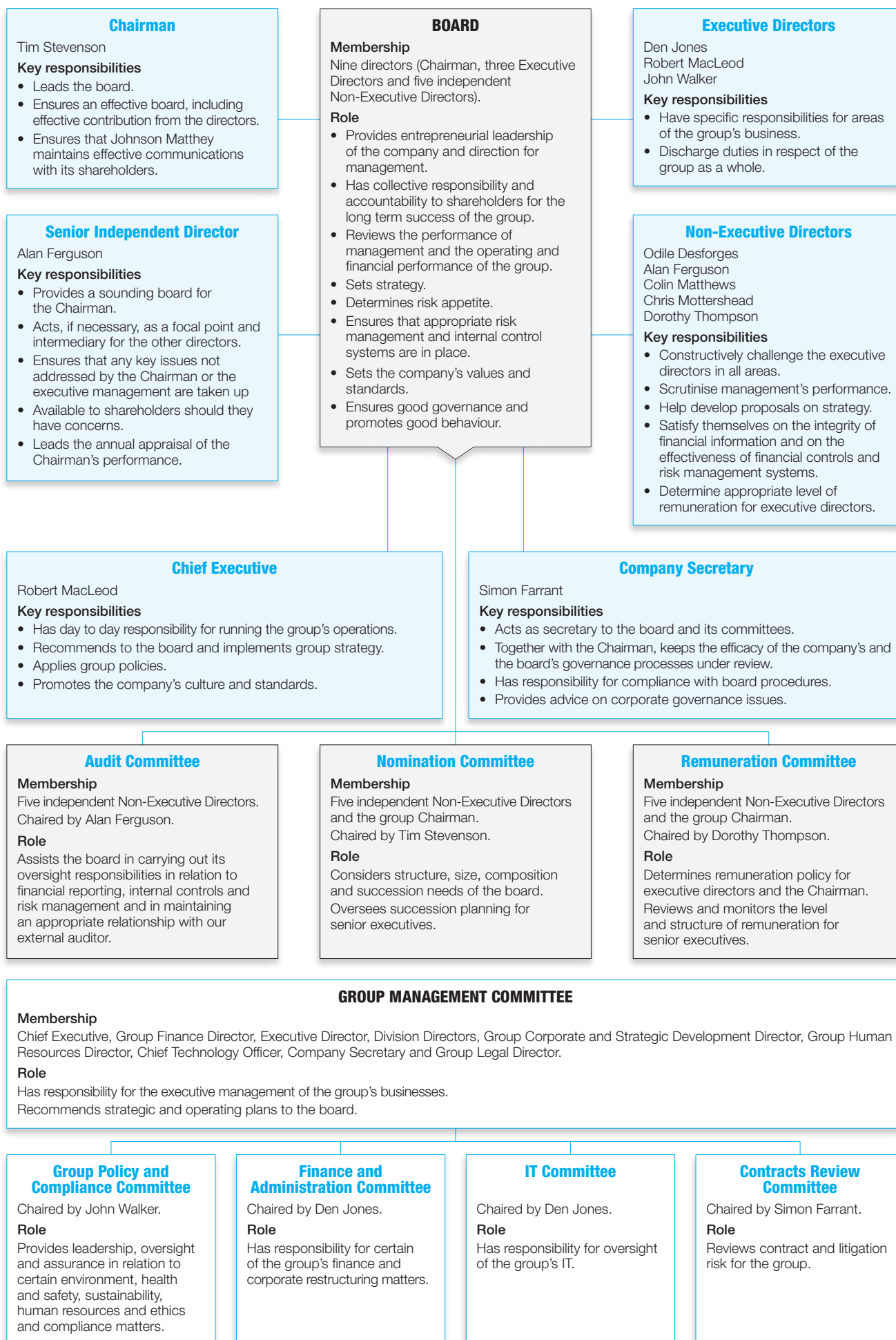
### Board Activities During the Year

Our board usually meets formally six times a year. During the year these meetings were held at various locations and additional activities were carried out as shown below.

Date of board meeting	Location	Additional activities
1st April 2015	Royston, UK	Tour of Noble Metals' plant
2nd June 2015	London, UK	–
21st July 2015	London, UK	–
29th September 2015	Chilton, UK	Tour of Process Technologies' site Strategy review session
17th November 2015	London, UK	Fine Chemicals teach-in
2nd February 2016	London, UK	Battery Technologies teach-in

In addition to the above formal meetings, during the year board members participated in two scheduled board telephone conference calls. The purpose of these was to give the Executive Directors the opportunity to update the Non-Executive Directors on key matters during the longer gaps between scheduled board meetings.

## OUR GOVERNANCE FRAMEWORK

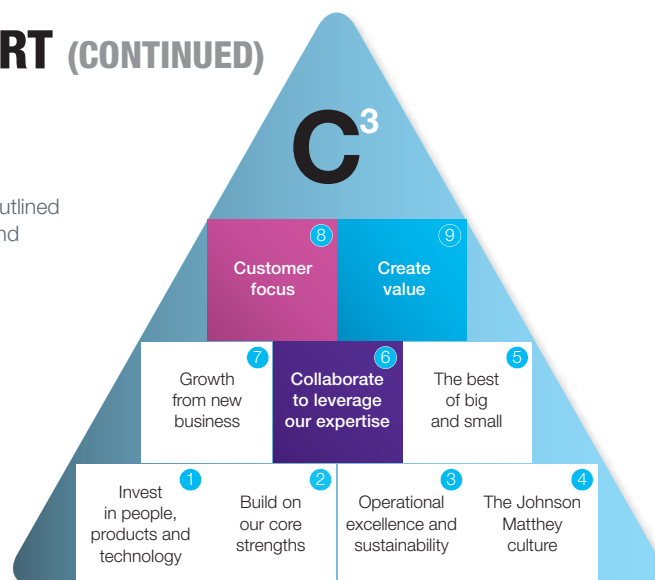


## 4. Governance

## CORPORATE GOVERNANCE REPORT (CONTINUED)

During the year the board focused on a number of specific areas which are outlined in the following table. Links to the group's 3C Strategy (shown on the right) and 12 principal risks (below) are also highlighted in the table.

- 1 Growth within our existing business
- 2 New business
- 3 Innovation
- 4 Global economic, political and regulatory uncertainty
- 5 Environment, health and safety
- 6 Supply chain
- 7 People
- 8 Security of assets
- 9 Intellectual capital
- 10 Failure of significant sites
- 11 Ethics and compliance
- 12 Business transition



## Principal Board Activities

Activities	Key outcomes	Link to key strategy building blocks	Link to principal risks
<b>Strategy</b>			
• Reviewed market and supply chain developments in respect of our Fuel Cells business' position in the automotive sector.	Approved strategy to refocus the business on the stationary sector while maintaining the technology position in the automotive sector.	7 8 9	2
• Reviewed Emission Control Technologies' (ECT's) strategy including global growth drivers and investment in technology.	Approved strategy.	1 2 3 8 9	1 3 4
• Reviewed Fine Chemicals' strategy.	Approved strategy to establish Johnson Matthey as the leading integrated controlled substance and technology enabled Active Pharmaceutical Ingredient (API) supplier to the pharmaceutical sector. Endorsed accelerating the move up the value chain to formulated drug products.	1 2 8 9	1 3
• Reviewed New Businesses Battery Technologies' strategy including the technology capabilities in battery materials.	Approved strategy.	1 2 7 8 9	2 3
• Reviewed innovation.	Endorsed the approach being taken to build on technical competences and skills including the development and management of a groupwide innovation portfolio.	1 2 6 9	1 2 3
• Considered performance against our Sustainability 2017 Vision and proposals for post-2017.	Agreed to build on the success of Sustainability 2017 by developing a Sustainability 2025 programme.	3 4 9	3 5 6 7
• Considered investment proposals.	Approved acquisition of Stepac (Atmosphere Controls Technologies, New Businesses) and Miox (Water Technologies, New Businesses). Agreed investment in Shanghai Bi Ke Clean Energy Technology Co Ltd, (CECC), a Chinese chemical process technology commercialisation and licensing start-up company (PT).	1 4 7 9	1 2 3 11
• Discussed 2025 Vision and Johnson Matthey's 200th anniversary in 2017.	Considered how to use the anniversary in 2017 to support our strategic objectives, image, reputation and future growth.	4 6 8 9	–
Reviewed at off site strategy meeting:			
• Johnson Matthey's growth portfolio;	Agreed approach to securing short term profit potential of the portfolio and approach to longer term growth prospects across key sectors (including PT). Agreed approach to organisational design to enable delivery of strategy.	1 2 4 5 6 7 8 9	1 2 3 6 7 12
• PT strategy; and			
• aspects of group organisation.			
• Two half day deep dive teach-ins on Fine Chemicals and Battery Technologies.	Helped to facilitate board strategic review and discussion.	1 2 5 6 7 8 9	1 2 3



Read more about our 3C Strategy on pages 20 and 21.



Read more about our principal risks on pages 28 to 35.

Activities	Key outcomes	Link to key strategy building blocks	Link to principal risks
<b>Environment, Health and Safety (EHS)</b>			
<ul style="list-style-type: none"> <li>Reviewed EHS performance at each board meeting.</li> <li>Considered significant EHS incidents.</li> <li>Reviewed key areas of focus and effectiveness of EHS reporting and management processes.</li> </ul>	Reviewed fatality at Riverside (Fine Chemicals) including management response and actions.	3 4	5
<b>Risk and Governance</b>			
<ul style="list-style-type: none"> <li>Reviewed board's responsibilities in relation to risk assessment and monitoring of risk management and internal control systems following changes to the UK Corporate Governance Code.</li> <li>Reviewed principal risks, key assurance activities and risk appetite.</li> </ul>	<p>Agreed processes.</p> <p>Assessed and agreed principal risks and the management and mitigation of these risks.</p>	1 2 3 4 7 8 9	1 2 3 4 5 6 7 8 9 10 11 12
<ul style="list-style-type: none"> <li>Reviewed key findings of board, committee and Chairman performance evaluation.</li> <li>Reviewed directors' conflicts of interest and Non-Executive Directors' independence.</li> </ul>	Agreed board development plan for 2016/17 (page 94).	4 9	—
<b>Financial and Operational</b>			
<ul style="list-style-type: none"> <li>Reviewed group budget and three year plan.</li> <li>Reviewed full year results, half-yearly results, trading updates and the annual report.</li> <li>Reviewed the group's capital structure, dividend policy and proposals in respect of dividends.</li> </ul>	Approved.	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 10 12
<ul style="list-style-type: none"> <li>Reviewed the group's information security strategy.</li> </ul>	Approved.	1 4 5	8 9 10 12
<ul style="list-style-type: none"> <li>Reviewed progress on the development and implementation of new groupwide IT and business information systems.</li> </ul>	Approved major capital investment to upgrade core business systems.	1 5 6 9	8 9 10 12
<ul style="list-style-type: none"> <li>Considered capital investment proposals and undertook post-investment reviews of key capital expenditure projects.</li> </ul>	Approved capital investments including an expansion in capacity at ECT's Redwitz, Germany facility, a new platinum group metals catalyst plant at PT's Emmerich, Germany facility and additional investment at Fine Chemicals' Annan, UK facility.	1 2 3 7 8 9	1 2 3 5 7
<b>Shareholder Engagement</b>			
<ul style="list-style-type: none"> <li>Reviewed analyst and investor feedback following full year and half-yearly results announcements, Investor Day and outcome of biennial investor perception study.</li> <li>Reviewed proposed results presentations to investors and analysts.</li> <li>Received an update from one of our brokers, Bank of America Merrill Lynch, regarding share price performance, market perceptions and relevant macroeconomic factors.</li> </ul>	Key reflections taken into consideration by executive management.	—	—
<b>Our Values</b>			
<ul style="list-style-type: none"> <li>Received a legal, ethics and compliance and intellectual property risk update.</li> <li>Code of ethics training session for board.</li> </ul>	Challenged pace of progress in embedding Johnson Matthey's new code of ethics.	4 5 9	9 11
<b>Leadership and People</b>			
<ul style="list-style-type: none"> <li>Reviewed our people strategy in relation to recruitment, development and support, reward and retention, culture and values and supporting change.</li> <li>Considered board succession.</li> </ul>	Approved the appointment of Jane Griffiths as a Non-Executive Director.	1 2 4 5 6 9	7 11

## 4. Governance

# CORPORATE GOVERNANCE REPORT (CONTINUED)

## Board Committees

Our board has three committees: the Nomination Committee, the Audit Committee and the Remuneration Committee. Their terms of reference can be found in the Investor Relations / Corporate Governance section of our website.

## Board Attendance

The attendance of members at board meetings in 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 <sup>1</sup>	6	6	100%
Odile Desforges	Non-Executive Director	1st July 2013	6	6	100%
Alan Ferguson	Non-Executive Director	13th January 2011	6	6	100%
Den Jones	Group Finance Director	5th June 2014	6	6	100%
Robert MacLeod	Chief Executive	22nd June 2009 <sup>2</sup>	6	6	100%
Colin Matthews	Non-Executive Director	4th October 2012	6	6	100%
Chris Mottershead	Non-Executive Director	27th January 2015	6	6	100%
Larry Pentz	Executive Director	1st August 2003	6	6	100%
Dorothy Thompson	Non-Executive Director	1st September 2007	6	6	100%
John Walker	Executive Director	9th October 2013	6	6	100%

<sup>1</sup> Tim Stevenson was appointed Chairman on 19th July 2011.

<sup>2</sup> Robert MacLeod was appointed Chief Executive on 5th June 2014.

Since the end of the year, the board has met twice and all members attended.

The attendance of members at board committee meetings in the year is set out in the Audit Committee Report, the Nomination Committee Report and the Remuneration Report (in respect of the Remuneration Committee) on pages 102, 98 and 118 respectively.

Where directors are unable to attend a board or board committee meeting, they communicate their comments and observations on the matters to be considered in advance of the meeting via the group Chairman, the Senior Independent Director or the relevant board committee chairman for raising as appropriate at the meeting. Individuals' attendance at board and board committee meetings is considered, as necessary, as part of the formal annual review of their performance.

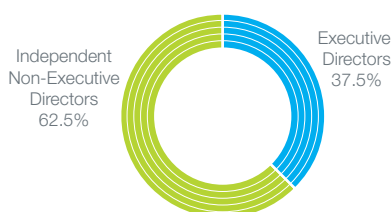
## EFFECTIVENESS

### Our Board's Composition

As at 31st March 2016 (following the retirement of Larry Pentz as an Executive Director on that date) and as at the date of approval of this annual report, our board comprised the Chairman, three Executive Directors and five Non-Executive Directors, each of whom is determined by the board to be independent. Details of all our directors can be found on pages 82 and 83.

Our board seeks to ensure 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 board is of the view that it is the right size to meet the business' requirements, that changes to its composition and that of its committees can be managed without undue disruption and that it is not so large as to be unwieldy. It also believes that it includes an appropriate combination of Executive and Non-Executive Directors (and, in particular, independent Non-Executive Directors). The size and composition of the board is regularly reviewed by the Nomination Committee.

### Current Board Composition<sup>1</sup>



<sup>1</sup> Under the Code, the Chairman is excluded when considering the independent Non-Executive Director composition of the board.

### Independence of the Non-Executive Directors

The board formally reviews Non-Executive Director independence annually, most recently at its meeting in May 2016. The board considers all relevant relationships and circumstances, including those set out in the Code. It considers, for example, whether the director has, or has had within the last three years, a material business relationship with Johnson Matthey, holds cross directorships or has significant links with fellow directors through involvement in other companies or bodies, or represents or has a material connection to a controlling or significant shareholder or is nominated by a shareholder.

The board considers that there are no business or other relationships or circumstances which are likely to affect, or may appear to affect, the judgment of any Non-Executive Director. Each Non-Executive Director is determined by the board to be independent in character and judgment.

Information on the company's procedures for authorising potential conflicts of interest is set out under 'Directors' Conflicts of Interest' on page 93.

## Board and Committee Appointments

The board, through the Nomination Committee, follows a formal, rigorous and transparent procedure to select and appoint new board directors. The processes are similar for the appointment of Executive and Non-Executive Directors. The Nomination Committee leads the process and makes recommendations to the board. The board recognises the importance of developing internal talent for board appointments, as well as recruiting externally, and Johnson Matthey has a variety of mentoring arrangements and a wide range of management development programmes for all employee levels, as described on pages 66 and 67. The board also 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.

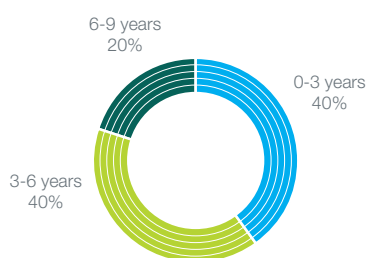
### Terms of Appointment of the Non-Executive Directors

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.

In accordance with the Code, any term beyond six years for a Non-Executive Director is subject to particularly rigorous review and takes into account the need for progressive refreshing of the board.

Colin Matthews, one of our Non-Executive Directors who will be proposed for re-election at the 2016 AGM, has served on our board for three years. His term of appointment was reviewed and extended during the year to 3rd October 2018.

#### Non-Executive Director Tenure



## Succession Planning

The board recognises that effective succession planning is not only a fundamental component of board effectiveness but is also integral to the delivery of Johnson Matthey's strategic plans. It is essential in ensuring 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.

Below board level, there is a structured approach to succession planning designed to secure a pipeline of talented and capable individuals from within Johnson Matthey who will ultimately progress to board and GMC positions. Each of our divisions and corporate functions prepare and maintain succession plans, assisted by divisional and group Human Resources. The GMC rigorously reviews these plans each year. A key aim is to ensure broad experience and encourage cross fertilisation across our divisions. The identification and development of high potential individuals is also considered by the GMC. The GMC's review of the 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 Group Human Resources Director, 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.

Johnson Matthey has in place a range of ongoing talent management and development initiatives designed to further develop senior management. Many of these are well established, but new initiatives are being developed and introduced which are designed to support current strategic imperatives. Key initiatives continued this year are our executive development programme with London Business School, aimed at developing senior level talent and boosting their capabilities around strategy and leadership, and a global training curriculum to support the group's Manufacturing Excellence programme, as described on page 25.

Succession planning at board and senior management level for Johnson Matthey includes potential succession to all senior roles, including that of Chief Executive, and considers the identification, development and readiness of potential internal successors. The board (through the Nomination Committee) will continue to focus during the coming year on the key issues of active talent management, mobility across the group and diversity.

# CORPORATE GOVERNANCE REPORT (CONTINUED)

## Boardroom Diversity



Our board believes that diversity is important for board effectiveness.

### Diversity Policy

Our board has adopted a diversity policy and this is set out in full in the Sustainability / Sustainability Governance / Our Policies section of our website. We have not set express diversity quotas or measurable objectives for implementing the policy. However, in recent Non-Executive Director selection processes the board has encouraged applications from women subject to the objective selection criteria being met and to the appointment of the best qualified candidate.

As at the date of approval of this annual report we had two women on our board, which represented 22% of our total board membership.

The company has taken, and continues to take, several steps to promote diversity and inclusion, including gender diversity, both at senior management level and in the boardroom. Developing policies and processes that prevent bias in relation to recruitment and promotion form the basis of this. However, the key to progress lies in ensuring that positive measures are taken. These include requiring balanced shortlists when recruiting, ensuring diversity mix at company events and conferences, actively discussing diversity in succession planning and talent management, promoting industrial and scientific careers to women and developing family friendly 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 continuing to make good progress.



Read more on page 70.

## Board Evaluation Process

Under the Code, evaluation of the board should consider the balance of skills, experience, independence and knowledge of the company on the board; its 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 2015/16. Further information is set out under 'Evaluation of the Board, Board Committees and Directors' on page 93.

### Appointments to the Board

As described under 'Board and Committee Appointments' on page 91, the search for board candidates is conducted, and appointments made, on merit, against objective selection criteria, having due regard for the benefits of diversity on the board, including gender.

### 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, and provided in the letters of appointment, is two days per 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. The board requires to be, and is, informed of subsequent changes as they arise. Details of Tim Stevenson's other significant commitments are set out on page 82. There were no changes to his significant commitments during the year. Details of the other board members' other significant commitments are set out on pages 82 and 83.

## Director Induction and Development

### Induction

Johnson Matthey puts full, formal and tailored induction programmes in place for all its new board directors. While directors' backgrounds and experience are taken into account, the induction is aimed to be a broad introduction to the group's businesses and its areas of significant risk. Key elements are meeting the executive directors and senior and middle management individually and collectively and visiting the group's major sites in order to be briefed on group strategy and on individual businesses.

### Familiarisation, Training and Development

Our intention is that all directors have familiarity with, and appropriate knowledge of, Johnson Matthey and gain access to our operations and 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 on our board and its committees and so that their contributions remain informed and relevant. Further details are provided in 'Getting to Know the Business' on page 85.

The board holds at least one board meeting per year at one of the group's operational sites and takes the opportunity to tour the site and discuss business issues, risks and strategy with local management. Two such meetings were held during the year as detailed on pages 85 and 86. Individual Non-Executive Directors also undertake site visits. These presentations, meetings and site visits help the Non-Executive Directors to familiarise themselves with, and gain a greater insight into, Johnson Matthey's businesses and help to give a balanced overview of the group. They 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 relationships. They are also important for building links with our employees.

As part of the annual performance review process referred to under 'Evaluation of the Board, Board Committees and Directors' on page 93, our Chairman, Tim Stevenson, discusses any individual training and development requirements. Tim is also available throughout the year to discuss these areas.

### Information and Support

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 high quality in terms of its accuracy, clarity, appropriateness, comprehensiveness and currency. 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 to discharge their responsibilities as directors.

### Indemnification of Directors and Insurance

Under Deed Polls dated 20th July 2005 Johnson Matthey 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 remained in force for the benefit of all persons who were directors of the company or of its subsidiaries 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 2016 the board undertook an annual review of potential conflict matters including in respect of directors' external appointments (both current and pending). 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 matter. Therefore currently there are no approved conflict matters. Potential conflict matters 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

Our board carries out a formal annual evaluation of its own performance and that of its committees and individual directors with the aim of improving effectiveness. This is led by the Chairman and seeks to be as rigorous and objective as possible. The process considers the board's strengths and weaknesses, its range and balance of skills, experience, independence and knowledge of the company, its diversity, including gender, how the board works together as a unit and any other factors considered to be relevant. Individual evaluation aims to show whether each director continues to contribute effectively and to demonstrate commitment to the role (including time commitment). The Chairman acts on the results of the performance evaluation. Strengths are recognised and any weaknesses addressed.

In 2014/15 the board and its committees underwent an external evaluation process led by consultants, JCA Group. This year, 2015/16, our Chairman led an internal review process supported by the committee chairs and the Company Secretary. In January and February 2016 the Chairman had individual discussions with each member of the board, the Company Secretary, the Group Human Resources Director and the KPMG lead audit partner. The conversations were open, confidential and unattributed, using a discussion framework to steer but not prescribe the topics.

The Chairman discussed his findings with the Chief Executive and presented them to the board in April 2016 together with a number of ideas and key recommendations for consideration by the board. These have been discussed by the board and follow up actions and responsibilities considered. The board also discussed the evaluation process itself and agreed that this had been appropriate and effective.

Key discussion areas in the review included board composition, organisation of meetings and agendas (numbers of meetings, paperwork, management of board affairs, knowledge and information), the nature and style of discussions, key board responsibilities (succession management, culture and ethics and strategy), risk management and roles.

The 2015/16 review echoed the key findings of the prior year's review that the board was well founded in terms of composition, organisation and culture and operating effectively to support the business. Since the 2014/15 review, the Chairman and the board have sought to make continuous improvements and enhance focus in order to make the board even more useful both as a monitor of executive performance and (more importantly) a contributor to that performance. This was felt to be particularly relevant at a time when the market environment has become more challenging. Certain actions were developed by the board following the 2014/15 review and progress on these was reflected on in the 2015/16 review as well as further consideration being given in some areas.

A summary of findings and actions undertaken following the 2014/15 review and the key findings and recommendations from this year's review are outlined on the following page.

# CORPORATE GOVERNANCE REPORT (CONTINUED)

## Board Evaluation

### Culture, ethics and governance



Read more on  
pages 68 to 70.

The 2014/15 review emphasised the importance of the board being able to gain a deeper read on the culture of Johnson Matthey, together with the continued need to attend closely to ethics and governance as the group grows into new geographies and new sectors. In this context, the board recognised the importance of demonstrating its full support for the reinforcement of ethical conduct and the leadership of this by the Chief Executive.

The 2015/16 review reaffirmed the responsibility of the board in respect of style, tone and culture throughout the organisation, particularly in terms of continuing to ensure an open and straightforward culture which encourages and supports the raising of difficult issues.

### Strategy



Read more on  
pages 20 and 21.

In 2014/15 the review focused on creating time for further discussion on the longer term strategy for the business to gain maximum benefit from the collective experience and input of all board members. It considered how best to ensure ongoing dialogue by the board to continue to evaluate investment decisions and, in particular, to ensure the board is able to provide effective challenge as it considers expansion into new areas and / or geographies.

The 2015/16 review found that the board's agendas allocate appropriate time to consideration of strategic issues and the continuing development of strategy as circumstances evolve.

### Risk management



Read more on  
pages 28 to 35.

In 2014/15 the review recognised the need to continue to pay close attention to risk management, including non-financial risk, and the further embedding of risk management into Johnson Matthey's culture.

The 2015/16 review found that, in general, good progress is being made in the way in which risk in the business is identified and managed, but that there is further work to do in this area, including in enhancing and developing our processes. Proposals for improvements were made in respect of risk reviews by the board.

### Board composition



Read more on  
pages 82 and 83.

In the 2014/15 review, consideration was given to the ongoing need to ensure appropriate board composition and mix of experience.

In the 2015/16 review, the board felt its size and the balance of non-executive and executive members was appropriate and would continue to be so after the retirement of Larry Pentz in March 2016. It was also felt the current mix of skills, experience and diversity (including of style and approach) across the Non-Executive Directors should continue to serve the board and the company well.

### Board dynamics



Read more on  
page 85.

In 2014/15 the review focused on a desire for continued strengthening of engagement, contribution and constructive challenge by all board members.

The 2015/16 review found good engagement, strong and open contribution to discussion and decisions and constructive challenge to the executive. However, more challenge from the non-executive members would be welcome and valuable. Suggestions were considered on a range of matters, including the value of agenda free (sometimes exploratory) discussions and how to gain full value from presentations to the board. Consideration was given to our practice of having all Non-Executive Directors sit on all board committees and it was felt that this additional commitment for the Non-Executive Directors was outweighed by the value of everyone being kept up to date and contributing in all key committee areas. It was felt that 'teach-ins' on major business areas, explicitly separated from consideration of strategy, are an important and most valuable step forward in increasing non-executive understanding and contribution.

### Succession management



Read more on  
pages 66, 67 and 99.

In 2014/15 the review underlined the need for continued focus on succession management, including providing the board with a deeper understanding and visibility of talent and higher potentials in the group below GMC level.

The 2015/16 review again reflected that a key role of the board, and particularly its Nomination Committee, is to ensure that there is a viable and effective process for management of succession to key positions and that this is backed up by processes for management of individual careers through development of skills (management moves and appropriate training). It was felt that, well supported by the group's Human Resources function, excellent progress was being made in this critical area. However, there were some important areas for focus on key succession strength and the development of individual talent. Several proposals were put forward to enable more to be achieved in this area.

### Future Review

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.

### 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 2016, 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 setting 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 of the board.

### Review of Executive Director Performance

The Chairman met with the Non-Executive Directors without the Executive Directors being present in November 2015 in order to review the Executive Directors' performance.

### Annual Re-Election of Directors

In accordance with the Code, all directors retire at each Annual General Meeting (AGM) and offer themselves for re-election by shareholders.

As announced on 3rd February 2016, Dorothy Thompson will be retiring from the board with effect from the close of the AGM and therefore will not be offering herself for re-election.

As announced on 2nd March 2016, Den Jones will step down as Group Finance Director and from the board over the summer this year. Den is therefore seeking re-election.

At the 2016 AGM, all other directors will be offering themselves for re-election.

As announced on 1st June 2016 Dr Jane Griffiths will be appointed to the board as a Non-Executive Director with effect from 1st January 2017. As required by our Articles of Association, she will retire at the AGM in 2017 and then offer herself for election.

We have five Non-Executive Directors, all of whom are 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. Biographical details of each of the directors standing for re-election can be found on pages 82 and 83.

Our 2016 AGM circular details why the board believes each director should be 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 of the Remuneration Committee is set out in the Annual Report on Remuneration (pages 108 to 126), which describes the work of the Remuneration Committee in discharging its responsibilities.

## 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.

The group reports the results of its five divisions: Emission Control Technologies, Process Technologies, Precious Metal Products, Fine Chemicals and New Businesses. The divisions are all separately managed but each reports to the board through a board director. The GMC reviews monthly summaries of financial results from each division through a standardised reporting process. Forecasts are prepared monthly throughout the year and the group has a comprehensive annual budgeting and planning process including plans for the following two years. Budgets are approved by the board. Variances from budget are

closely monitored. In addition to the annual budgeting process, there is a ten year strategy review process.



Read more about our five divisions on pages 44 to 62.

### 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 FRC 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.



Read more about our principal risks and how they are being managed or mitigated on pages 28 to 35.

## 4. Governance

## CORPORATE GOVERNANCE REPORT (CONTINUED)

**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 judgments. Our Group Control Manual, which is distributed to all group operations, clearly sets out the composition, responsibilities and authority limits of the various board and executive committees and also specifies what may be decided without central approval. It is supplemented by other specialist policy and procedure manuals issued by Johnson Matthey, its divisions and individual businesses or departments.

**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 internal audit function are described in the Audit Committee Report (page 104).

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, human resources, 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 101 to 107), which describes the work of the Audit Committee in discharging its responsibilities.

**Financial Experience**

The board is satisfied that at least one member of the Audit Committee, Alan Ferguson, has recent and relevant financial experience.

**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 Investor Day**

We report formally to our shareholders when we publish our full year results in June and our half-yearly results in November. These results are posted on our website. When we publish the results, our Executive Directors give presentations on the half-yearly and full year results in face to face meetings with institutional investors, analysts and the media in London. Live webcasts and transcripts of these presentations are available on our website. Our first quarter and third quarter trading updates (issued in July and late January / early February each year) are also posted on our website.

In addition, we hold an Investor Day for our institutional investors and analysts. At the February 2016 Investor Day, held in London, we gave presentations on 'Johnson Matthey and the Evolving Powertrain' to explain how global drivers are influencing future powertrain developments and creating market opportunities. We went on to detail how high technology solutions in both emission control and battery technologies will play a role and to highlight how Johnson Matthey is positioned to create superior value from these opportunities. A live webcast of the Investor Day presentation, a transcript of the event and a downloadable copy of the slides are available in the Investor Relations / Presentations section of our website.

**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 Group Finance Director. 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 shareholder views are communicated to the board. Our Investor Relations Department acts as a focal point for contact with investors throughout the year.

The Chairman is available to meet with institutional investors to hear their views and discuss any issues or concerns, including on governance and strategy. The Senior Independent Director and the other Non-Executive Directors are similarly available if requested, but no such meetings were held or requested during the year.

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 of 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. It is planned that the next such survey will be undertaken in September 2017. The purpose of these surveys is to obtain the views and opinions of a broad range of shareholders and non-shareholders.

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 believes that these methods, taken together, are a practical and efficient way for all our directors to keep in touch with shareholder opinion and views and to reach a balanced understanding of major shareholders' objectives, issues and concerns.



Read more about our principal risks on pages 30 to 35.

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, where relevant, to the company's overall approach to governance.

#### 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. We have not complied with this provision throughout the year. The board considers, and has done for a number of years, 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 continues to believe that this approach is consistent with the relevant main principle of the Code on dialogue with shareholders, to which Code provision E.1.1 relates, 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.

## 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 2015 the entire board attended. 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.

At the AGM we propose separate resolutions on each substantially separate issue. This year we are proposing separate resolutions in respect of the disapplication of pre-emption rights in accordance with the Pre-Emption Group's Statement of Principles. 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 of a vote 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 rather than on a show of hands and poll voting is carried out by electronic means. The results of the poll are announced as soon as possible and posted on our website. This shows votes for and against as well as votes withheld.

Our 2016 AGM will be held on 20th July 2016. The notice, together with an explanation of the resolutions to be considered, is set out in a circular to shareholders.

# NOMINATION COMMITTEE REPORT

**OUR ROLE IS TO ENSURE THAT JOHNSON MATTHEY HAS THE RIGHT LEADERSHIP, INCLUDING A BOARD WITH THE RIGHT MIX OF ATTRIBUTES AND SKILLS TO EFFECTIVELY DEVELOP, AND SUPPORT DELIVERY OF, THE COMPANY'S STRATEGY.**

**Tim Stevenson**  
Chairman of the Nomination Committee



The year under review saw changes to our board composition with the retirement of Larry Pentz as an Executive Director in March 2016 after a long and distinguished career. Further changes will take place shortly with the retirement of Dorothy Thompson, one of our Non-Executive Directors, who will have served on the board for nine years. Our committee led the search for a new Non-Executive Director following Dorothy's retirement and we recently announced that Dr Jane Griffiths will be joining the board in January 2017

Also, as we have announced, Den Jones will step down as Group Finance Director and from the board over the summer this year. We will make an announcement on his successor in due course. During the year we continued our focus on succession planning and talent management recognising the importance these 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 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. Our terms of reference can be found on the Investor Relations / Corporate Governance section of our website.

## Composition

Our committee has six members, myself as Chairman and all the independent Non-Executive Directors of the company. Only members of the committee have the right to attend meetings. However, the Chief Executive and the Group Human Resources Director, as well as external advisers and others, attend for all or part of our meetings by invitation as and when appropriate. Simon Farrant, Company Secretary, is secretary to the committee.

## Committee Meetings During the Year

Our committee meets on an ad hoc basis, usually immediately prior to or following a board meeting, but on other occasions as may be needed.

We met six times during the year ended 31st March 2016. I also kept committee members up to date by means of telephone calls and email communications between meetings. Several members of the committee, led by me, also met as a working group of the committee during the year to progress Non-Executive Director recruitment. The attendance of members at committee meetings during the year was as below:

	Date of appointment to committee	Number of meetings eligible to attend	Number of meetings attended	% attended
Tim Stevenson	29th March 2011 <sup>1</sup>	6	6	100%
Odile Desforges	1st July 2013	6	6	100%
Alan Ferguson	13th January 2011	6	6	100%
Colin Matthews	4th October 2012	6	6	100%
Chris Mottershead	27th January 2015	6	6	100%
Dorothy Thompson	1st September 2007	6	6	100%

<sup>1</sup> Tim Stevenson was appointed group Chairman on 19th July 2011.

Since the end of the year, the committee has met twice and all members attended.

## Committee Activities During the Year

Our committee has been active in addressing several key matters in the course of the year:

<b>Non-Executive Director succession</b>	Considered Non-Executive Director succession and succession to the role of Chair of the Remuneration Committee in view of the prospective retirement of Dorothy Thompson as a Non-Executive Director. Conducted a search process for a new Non-Executive Director with the assistance of The Zygos Partnership. Recommended to the board the appointment of Dr Jane Griffiths as a new Non-Executive Director.  Recommended to the board that on the retirement of Dorothy Thompson in July 2016, Colin Matthews take on the role of Chair of the Remuneration Committee.
<b>Talent management framework</b>	Received a presentation from the Group Human Resources Director and the Group Talent and Learning Director on the group's integrated talent management process, addressing the talent requirements for delivery of its strategic aspirations.
<b>Succession planning and senior management changes</b>	Reviewed the 2016 succession plans in respect of the Group Management Committee (GMC) and other senior executives in each division. Discussed certain GMC membership changes (including the appointments during the year of a Chief Technology Officer and a new Division Director, Precious Metal Products) and certain proposed senior (non-GMC) moves.
<b>Renewal of appointment term</b>	Having considered his performance and his ability to continue to contribute to the board in light of the knowledge, skills and experience required, as well as his independence, the committee recommended to the board that Colin Matthews' term of appointment as a Non-Executive Director be renewed for a second three year term to 3rd October 2018.
<b>Review of performance and effectiveness during 2015/16</b>	Led by the committee Chairman, reviewed our committee's performance and effectiveness.
<b>Nomination Committee Report</b>	Reviewed and approved the draft Nomination Committee Report for 2015/16.

## 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 and of the capabilities required for the appointment and set objective selection criteria accordingly. The benefits of diversity on the board, including gender diversity, 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 selection criteria.

## Boardroom Diversity

The search for board candidates is conducted, and appointments made, on merit, against objective selection criteria having due regard, amongst other things, to the benefits of diversity on the board, including gender. While the board has not set express diversity quotas or measurable objectives, in the selection process leading to the appointment of Dr Jane Griffiths as a Non-Executive Director the board encouraged applications from women 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. The Nomination Committee will continue to focus in particular during the coming year on the key issues of active talent management, mobility across the group and diversity.

We reviewed in detail the succession plans and development actions in respect of the GMC including for the Chief Executive.

We considered a presentation from our Group Human Resources Director 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 2016. This included discussion of further strengthening of performance management across the group.

## NOMINATION COMMITTEE REPORT (CONTINUED)

### Non-Executive Director Succession

We considered Non-Executive Director succession in view of Dorothy Thompson stepping down from the board. We announced on 3rd February 2016 that Dorothy would be retiring from the board with effect from the close of our AGM on 20th July 2016 after nine years as a Non-Executive Director including two years chairing our Remuneration Committee.

We also announced on 3rd February 2016 that Colin Matthews, one of our Non-Executive Directors, would be appointed to the role of Chairman of the Remuneration Committee in July 2016.

Having considered board size and balance, we decided that it was desirable to seek a replacement Non-Executive Director following Dorothy's retirement. We discussed and identified certain key criteria for the proposed appointment, in light of the balance of skills and experience, knowledge, independence and diversity, including gender, on the board.

The selection process aimed to identify the best qualified candidates based on merit following objective assessment. The preference expressed to the head hunters was for a candidate with sound executive experience directly relevant to our Fine Chemicals Division. In terms of 'fit' there was a desire for 'difference' while maintaining the collegiality of the board. It was also agreed that consideration would be given to those without FTSE 100 board experience. The Chairman led a sub-committee comprising himself and Alan Ferguson, working with Robert MacLeod and our Group Human Resources Director.

We engaged The Zygos Partnership in a search process which led to the appointment of Jane Griffiths as a Non-Executive Director of the company. Jane's appointment, which was announced on 1st June 2016 will take effect on 1st January 2017. The Zygos Partnership has no other connection with the company.

### Executive Director Changes

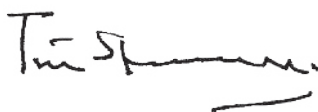
During the year, the committee has supported the Chief Executive in considering the agreed stepping down of Den Jones, our Group Finance Director, which was announced on 2nd March 2016. The Chief Executive, together with the committee, has begun a process to identify Den's successor.

Larry Pentz retired as an Executive Director and from the group at the end of March 2016. His functional responsibilities regarding environment, health and safety and operational excellence were assumed by John Walker with effect from 1st October 2015. We agreed that the question of board balance post Larry's retirement would be kept under review.

#### OUR 2015/16 PERFORMANCE REVIEW

Last year we reviewed our performance with the assistance of external consultants, JCA Group. This year, I led an internal review. I sought the views of all committee members, as well as others who regularly attend our meetings. Matters covered included the scope of the agenda and the running of our meetings. The outcome of the review was summarised at our April 2016 meeting and discussed by the board. While the importance of giving continued appropriate attention to succession planning and board balance was emphasised, there were no areas where significant change or improvement was felt necessary.

On behalf of the Nomination Committee:



**Tim Stevenson**

Chairman of the Nomination Committee

# AUDIT COMMITTEE REPORT

**DURING THE YEAR WE CONTINUED TO PLAY A KEY ROLE IN MONITORING THE INTEGRITY OF THE GROUP'S PUBLISHED FINANCIAL INFORMATION, ASSESSING THE EFFECTIVENESS OF ITS INTERNAL CONTROLS AND ENSURING THAT OUR EXTERNAL AUDITOR, KPMG, DELIVERS A HIGH QUALITY AND EFFECTIVE AUDIT.**

**Alan Ferguson**  
Chairman of the Audit Committee



I am pleased to present our report for the year ended 31st March 2016. During the year, the committee has continued to play an important role in Johnson Matthey's governance landscape. At each committee meeting we spend a significant amount of time assessing the effectiveness of the group's internal controls and risk management systems. This is particularly important during periods of change for the business. During the year, we focused some of our reviews on the risks and controls associated with the group's investment in business information systems. We have an oversight role to play in ensuring that the potential benefits of this investment are not jeopardised by failure to properly identify and manage the risks associated with the implementation and upgrade of new and existing systems. Each year we look in depth at the control environment of our individual divisions and this year we focused on Emission Control Technologies (ECT), with the Divisional Finance Director of that division presenting to the committee.

Working with the board, we have looked at the risk management processes across the group and at risk assurance mapping. During the year the group refined and developed its risk management processes

which will further enhance how the board reviews principal risks, the associated mitigating controls and how the committee provides assurance to the board on the effectiveness of those controls. These new processes will bring further benefits as they become firmly embedded in the year ahead.

Looking ahead to the next 12 months, as well as the business as usual work, we will continue to focus on the group's investment in business information systems which will reach a crucial stage with the first implementations planned during the year. We will also work closely with the incoming Group Finance Director, when appointed, to help ensure there is an effective induction. Finally, towards the end of the year, we will turn our attention to planning for the external audit tender which is intended to take place during 2017. Planning this process well in advance will maximise our chances of the best outcome for our company.



Read more about our risk processes on pages 28 and 29.

## 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 are available on the Investor Relations / Corporate Governance section of our website.

## Composition

Our committee currently comprises five members, myself as Chairman and all of our independent Non-Executive Directors. I have chaired the committee since 2011. I am a Chartered Accountant with many years' experience working in finance having been the Group Finance Director at Inchcape, BOC and at Lonmin Plc. I also chair the audit committees of three other

companies. As a team we have a broad range of knowledge, skills and experience gained from a variety of backgrounds as detailed on pages 82 and 83. This is essential to the effective discharging of our duties.

The board has agreed that I have recent and relevant financial experience as required by the provisions of the UK Corporate Governance Code.

The secretary to the committee is Simon Farrant, Company Secretary.

## AUDIT COMMITTEE REPORT (CONTINUED)

### Committee Meetings During the Year

We met five 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 <sup>1</sup>	5	5	100%
Odile Desforges	1st July 2013	5	5	100%
Colin Matthews	4th October 2012	5	5	100%
Chris Mottershead	27th January 2015	5	5	100%
Dorothy Thompson	1st September 2007	5	5	100%

<sup>1</sup> Alan Ferguson was appointed Chairman of the committee on 19th July 2011.

Since the end of the year, the committee has met twice and all members attended.

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 Group Finance Director and the Head of Corporate Assurance and Risk attend all of our meetings and other senior managers attend when necessary. There is an open and constructive communication between the committee and management.

In addition, our meetings are attended by the KPMG lead audit partner, Stephen Oxley, 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 Stephen and with the Head of Corporate Assurance and Risk, who manages the internal audit function, to give them the opportunity to discuss matters without executive management being present.

On a more frequent basis, I meet with the Group Finance Director, the Head of Corporate Assurance and Risk, other senior management and with KPMG. These meetings often take place before committee meetings and this enables any issues or concerns to be raised at an early stage thereby allowing me to ensure that adequate time is devoted to them at the subsequent committee meeting.

### How we Discharged our Responsibilities During the Year

Our principal activities during the year, and up to the date of this report, were as follows:

#### 1 Published Financial Information

*Role: to monitor the integrity of the reported financial information and to review significant financial issues and judgments.*

- Reviewed the group's full year results, half-yearly results and quarterly updates, considered the significant accounting policies, principal estimates and accounting judgments used in their preparation.
- Considered the judgments and methodologies applied in determining the accounting treatment of the disposal of the Research Chemicals business and the restructuring programmes carried out during the year.
- Reviewed the matters and assumptions which informed the board's assessment that it was appropriate to prepare the accounts on a going concern basis.
- Reviewed and challenged the financial modelling and stress testing based on plausible scenarios arising from selected principal risks taken into account by the board in assessing the long term viability of the group.
- Received and considered reports from KPMG on its audit of the full year results and its review of the half-yearly results.

- Reviewed management representation letters requested by KPMG in respect of the full year and half-yearly results prior to them being signed on behalf of the board.
- Reviewed and assessed the process by which management gave assurance that the 2016 Annual Report and Accounts, taken as a whole, was fair, balanced and understandable and provided the information necessary for shareholders to assess the company's position and performance, business model and strategy. Confirmed to the board that we had done so and that the process was satisfactory.
- Received an update on new or forthcoming accounting standards that could materially impact the group.

## 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 the exercise by management of particular judgment or a high degree of estimation. Our role is to assess whether the judgments and estimates made by management are reasonable and appropriate. Set out below are what we consider to be the most significant accounting areas which required the exercise of judgment or a high degree of estimation during the year, together with details of how we addressed these. These are all considered to be recurring issues.

### Significant issue 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, key judgments are made in estimating the amount of precious metal that may be lost during the refining and fabrication processes. In addition, refining stock takes involve key judgments in estimating volumes of precious metal bearing material in the refining system and the subsequent sampling and assaying to assess the precious metal content (note 41 on page 179).

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.

The refining process and stock takes were also an area of focus for KPMG who reported its findings to us.

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.

#### Impairment of goodwill, other intangibles and other assets

Key judgments 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 (notes 17 and 41 on pages 159, 160 and 179 respectively).

The restructuring programmes (described in more detail on page 59) carried out during the year resulted from the challenging conditions in a number of our markets, particularly Process Technologies and New Businesses' Fuel Cells. These programmes indicated that certain assets may be impaired. Management then performed impairment tests and found that this was the case for those assets described on page 59 and in note 5 on page 146. We reviewed a report from management which explained the methodology used and the rationale for the assumptions. We particularly focused on the market assumptions for the Fuel Cells business and Syngas and the upstream Diagnostic Services assets where the likely future market conditions are either not as favourable as previously assumed or have resulted in the businesses moving away from certain segments which has resulted in impairments and restructuring. For ECT Korea we also examined the closure / exit plans.

As part of the annual impairment review of goodwill and other intangible assets not yet being amortised, we reviewed a report from management which explained the methodology used and the rationale for the assumptions made including explanations for any significant changes from those used in prior years. All these annual impairment tests resulted in significant headroom over the carrying value of the relevant CGU's net assets.

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.

#### Taxation

Key judgments 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 (note 41 on page 179).

We reviewed explanatory papers from management which included a review of the appropriateness of the tax provisions and relevant disclosures.

KPMG also reported its findings in this area to us and we reviewed these.

We concluded that the judgments, estimates and disclosures were reasonable and appropriate.

#### Post-employment benefits

Key judgments are made in relation to the assumptions used when valuing post-employment benefits obligations (note 15 on pages 152 to 158).

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. We also considered the opinions expressed by KPMG in this area.

We concluded that the assumptions used are appropriate for the group's post-employment benefit plans.

# AUDIT COMMITTEE REPORT (CONTINUED)

## 2 Internal Control, Risk Management Systems and Internal Audit

*Role: to review the group's internal financial controls and its internal control and risk management systems and to monitor the effectiveness of the group's internal audit function.*

- Received reports at every meeting from the Head of Corporate Assurance and Risk on:
  - *Corporate assurance and risk reviews.* These reports summarised the number and type of internal audits and security reviews undertaken during the period and how this compared 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, divisional 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 if we had any concerns that actions were not being dealt with in a timely manner.
  - *Key control questionnaire.* Reviewed a report at our May 2016 meeting on the key control questionnaire process for the year ended 31st March 2016. This questionnaire, which forms an important part of our overall assurance programme, is a bottom up process by which managers across all our businesses are required to certify the existence and effectiveness of certain 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 and how management intended to address any unsatisfactory findings. We were pleased with improvements made during the year which resulted in it being a much more inclusive process.
  - *Risk management processes.* Working with the board, the risk assurance processes were reviewed and refined. We concentrate primarily on the mitigating controls and the levels of assurance over these. The corporate assurance and risk plan for 2016/17 is focused on this area (see above right).
- Monitored progress against the 2015/16 corporate assurance and risk plan and agreed the 2016/17 corporate assurance and risk plan.

## CORPORATE ASSURANCE AND RISK PLAN

One of the cornerstones of our role in ensuring that the group has an effective control environment is agreeing an annual internal audit plan which is risk based, comprehensive, well targeted and which provides the right level of assurance. Each year we spend a significant amount of time reviewing the detail of the proposed plan which is presented to us by the Head of Corporate Assurance and Risk. In particular we want to know the factors taken into account in devising the plan, the varying risk profile of auditable sites and businesses, the scope and depth of each type of audit and the plan's coverage across the group. Although we want to know what is covered by the plan, it is just as important for us to understand what is not covered by the plan, either by way of business activity or geographic coverage, and where there is no coverage at certain sites or businesses we look at what other mechanisms are in place to check the adequacy of controls, such as divisional management oversight or external audit activity. In reviewing the 2016/17 plan we were pleased to see that it now incorporates a review of assurance activities connected with the group's principal risks at each site and business selected for audit. This means the audit will provide further assurance over our principal risks and this work is in addition to coverage of other financial and operational controls. We believe the 2016/17 plan addresses Johnson Matthey's key risks and its coverage is right for the size and nature of the group and on that basis we approved the plan.

- Monitored the effectiveness of the Corporate Assurance and Risk function. Last year we reported on the reorganisation of the function to ensure delivery of a high quality, efficient and independent audit and this year has seen the changes being fully embedded. We pay close attention to the resourcing of the function knowing that the calibre, knowledge and experience of individual auditors are critical to achieving an effective audit. We continually assess the effectiveness of the function. At each meeting the Head of Corporate Assurance and Risk is present and we have the opportunity to probe and challenge her, we receive regular reports from her as noted above and we seek the views of managers and also of KPMG, all of whom have frequent contact with the function. We also pay attention to whether the function has adequate standing across the group and is free from management or other restrictions. As Chairman of the committee I occasionally meet with the Corporate Assurance and Risk team and will be doing so again during 2016/17.
- Reviewed systems and controls associated with the group's continued investment in business information systems. The Finance and Business Systems Improvements Director attended two of our meetings during the year to talk to us about the implementation of these systems with particular focus on key project milestones, challenges and risks and how these were being managed. Update reports were provided at other meetings therefore enabling us to keep in close touch with the projects. A lead partner from the independent programme assurance provider, KPMG, also attended two of our meetings to share his views on how well the projects were being managed, including from a risk and control perspective.
- Undertook a detailed review of the control environment within ECT. The Divisional Finance Director attended one of our meetings, giving us an opportunity to learn more about ECT's key financial risks and how these were being managed. In particular, he talked to us about the main themes arising from the key control questionnaire process and from KPMG's 2014/15 audit. This gave us an opportunity to understand better the control weaknesses in the division and to seek assurance on the progress of actions being taken to address them. He also briefed us on how the division approaches risk management as well as presenting the division's high performance finance roadmap, which is part of a groupwide programme to further develop the effectiveness of the finance function.
- Reviewed reports from the Group Legal Director on litigation and on the speak up (whistleblowing) procedures. In particular we heard about enhancements made to speak up procedures during the year, including the introduction of a new case management system and a new investigation process. Both of these are designed to ensure that speak up cases are managed consistently and efficiently across the group. We asked for certain refinements to be made to the reporting format to give us greater visibility of the nature of cases raised, on how they were investigated and on the conclusions of the investigations. These refinements will be included in future reports.
- Reviewed the risk management and control statements in the Annual Report and Accounts before they were approved by the board.



Read more on page 70.

### 3 External Auditor

*Role: to ensure an appropriate relationship with the external auditor, to monitor its independence and objectivity, negotiate and approve its fees, and to ensure it delivers an effective high quality audit.*

- Reviewed KPMG's performance and the effectiveness of the external audit process.

#### HOW WE REVIEW KPMG'S PERFORMANCE AND THE EFFECTIVENESS OF THE EXTERNAL AUDIT PROCESS

Towards the end of the 2015/16 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 and coordination, ability to meet delivery dates and objectives, industry / specialist knowledge, preparedness and organisation, ability to firmly challenge management, independence, level and quality of communication and value for money.

We examined the results of this questionnaire with a particular focus on areas which had been identified in the prior year's review as requiring improvement. The results showed an overall level of satisfaction with KPMG and that action had been taken on last year's points. There are still areas where improvements can be made and at our next meeting, Stephen Oxley, our lead audit partner, will explain how he intends to adapt the audit approach for the current year to take into account the findings and we will ensure that any relevant issues are picked up when we review the proposed external audit plan later this year.

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 of 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 Group Finance Director and the Group Reporting Controller, all of whom have extensive interactions with KPMG. As noted earlier, I have regular one to one update meetings with Stephen to discuss not only agenda items but any other matters which either Stephen or I feel are relevant.

We also reviewed the FRC Audit Quality Inspection Report issued in May 2015 on KPMG. We obtained feedback from Stephen on how KPMG was addressing the FRC's findings and received his assurance that any findings which could be relevant to the conduct of the Johnson Matthey audit would be picked up during future audits. We also discussed with KPMG their internal quality review processes.

Following the above, we concluded that KPMG continues to provide an effective audit and therefore we recommended to the board its reappointment for 2016/17. A resolution proposing its reappointment is included in the notice of the 2016 AGM.

- Took steps to ensure that external auditor objectivity and independence were safeguarded. We did this by:
    - reviewing compliance against our policy on the provision of non-audit services and considered the continued appropriateness of this policy. We concluded that the policy remained fit for purpose and no changes were needed although the policy will be reviewed in the light of the EU Audit Directive and EU Audit Regulation as well as the FRC's Revised Ethical Standard 2016, all of which come into force in June 2016;
    - reviewing details of the non-audit services provided by KPMG and associated fees. Non-audit fees in the year were £0.6 million compared to audit fees of £2.0 million. The non-audit fees predominantly comprised expenditure on the provision of independent programme assurance (as discussed in more detail in the paragraph below), and direct and indirect tax compliance and advisory services. 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 7 on the accounts, page 147;
    - considering for approval the engagement of KPMG to provide non-audit services above certain monetary thresholds, as set out in the policy (see page 106). During the year I approved the engagement of KPMG to provide non-audit services on various matters and the committee approved the engagement of KPMG to provide independent programme assurance in relation to the implementation of new business information systems. This followed a tender process in which three providers put forward proposals. A panel, led by the Head of Corporate Assurance and Risk, evaluated the proposals and obtained external references. Taking into account factors such as knowledge, expertise, experience, practical approach, value for money and the fact that synergies could be obtained through its appointment, the panel recommended the appointment of KPMG. A detailed report on the tender process was submitted to us. We challenged the decision making process and satisfied ourselves that this appointment did not compromise auditor independence and objectivity. Following discussion, we approved the appointment of KPMG;
    - reviewing the procedures followed by KPMG to safeguard its objectivity and independence. We received confirmation from KPMG that it was compliant with APB Ethical Standards in relation to the audit engagement;
    - approving, after due challenge and discussion, KPMG's proposed terms of engagement, audit plan and fees for 2015/16; and
    - considering the timing for putting our external audit out to tender.



→ Read more about our policy on the provision of non-audit services, the external audit, audit plan and our approach to external audit tendering on page 106.

## AUDIT COMMITTEE REPORT (CONTINUED)

### EXTERNAL AUDIT PLAN

The external audit plan for 2015/16 was presented by the lead audit partner at our November 2015 meeting. The plan set out KPMG's audit approach including materiality (set at 5% of profit before tax), scoping (86% of group sales (excluding precious metals); 85% of profit before tax and 84% of total assets) and key audit risks. The actual scoping percentages as set out in the Independent Auditor's Report on page 184 are not materially different to those agreed in the plan. 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. In deriving the key audit risks, KPMG considered the internal and external factors impacting the group, the group's own risk assessment and its main developments and priorities. These were then discussed with divisional and group management and translated into audit risks which shaped the audit approach. A new aspect of this approach is that the audit will start to focus on the controls design and implementation plans for the business information systems which will start to be implemented during 2016/17. In line with the prior year, four key audit risks were identified which are referred to in the Independent Auditor's Report on pages 182 and 183. Following discussion we concluded that the proposed plan was sufficiently comprehensive for the purpose of the audit of the group's accounts.

### OUR POLICY ON THE PROVISION OF NON-AUDIT SERVICES – SUMMARY

- Audit related services – KPMG can be invited to provide services which, in its position as auditor, it must or is best placed to undertake. This includes formalities relating to borrowings, shareholder and other circulars, various other regulatory reports and work in respect of acquisitions and disposals.
- Tax compliance and advice – KPMG may provide such services where it is best suited, otherwise the work must be put out to tender.
- Other services – these may not be provided where precluded by ethical standards or where it is believed the objectivity and independence of KPMG would be compromised.

Should non-audit services be provided in accordance with the above, 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 Group Finance Director, services likely to cost more than £25,000 but £100,000 or less should be approved by myself as Chairman and services likely to cost over £100,000 must be approved by the committee.

The policy 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.

### Our Approach to External Audit Tendering

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 remains our intention to put the external audit out to tender during the current lead audit partner's five year tenure, at a time which is right for Johnson Matthey. We do not propose to carry out an external audit tender during 2016/17 as we are satisfied with the work KPMG is carrying out on behalf of our shareholders, and to tender whilst awaiting the appointment of a new Group Finance Director would be inappropriate. The lead audit partner's term will expire after completion of the 2017/18 audit and so it is intended to put the external audit out to tender during 2017 so that the process is completed by 1st April 2018. This approach is in line with EU legislation which comes into force on 17th June 2016. Under EU transitional arrangements, KPMG's last possible audit of our group would be for the year ending 31st March 2020.

### Statement of Compliance

The committee confirms that, during the financial year ended 31st March 2016, 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.

### 4 Other Activities

- Received a report from the Group Finance Director on the status of the group's high performance finance programme and on the group's finance strategy, particularly how it would support delivery of the group's strategy.
- Reviewed reports from the Group Treasurer on credit controls and credit risks.
- Reviewed our performance and effectiveness during 2015/16. Our review took the form of a questionnaire circulated to all committee members, as well as others who regularly attend committee meetings, seeking their views on matters such as the adequacy of the agenda, the efficiency of meetings and on the interaction with Corporate Assurance and Risk and KPMG.

I reviewed and summarised the responses and presented them for discussion at a committee meeting. The responses were positive with just two areas highlighted for improvement. The first was in further enhancing our understanding of assurance levels over principal risks. Significant progress has been made in this area in the last year but there is more to do. The 2016/17 corporate assurance and risk plan, with its increased coverage of assurance activities associated with principal risks, will help us to improve in this area. The second area, which is an area of focus for me as Chairman of the committee, is to ensure engagement and understanding on more technical matters from those committee members who do not have detailed financial expertise.

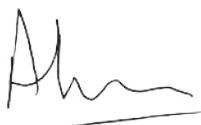
- Reviewed and approved the draft Audit Committee Report for 2015/16.
- Received reports on, and monitored, key governance and regulatory developments.

## Our Priorities

In last year's annual report we set out our priorities for 2015/16. Below we report on the status of these and set out our priorities for 2016/17.

2015/16	Comments
<ul style="list-style-type: none"> <li>Increased focus on assurance mapping across the group and on reviewing the mitigating controls over the group's principal risks and assessing the level of assurance being provided.</li> </ul>	Significant progress made as noted above.
<ul style="list-style-type: none"> <li>Consider the implications for the committee of the 2014 changes to the UK Corporate Governance Code in relation to risk management and internal controls.</li> </ul>	Reviewed in conjunction with the board. In compliance.
<ul style="list-style-type: none"> <li>Look more closely at risks and controls associated with the group's continued investment in business information systems.</li> </ul>	Two presentations were made to the committee on the investment in business information systems. Cyber security is reviewed by the board.
<hr/>	
2016/17	
<ul style="list-style-type: none"> <li>Continue to monitor progress of the investment in business information systems.</li> <li>Work closely with the incoming Group Finance Director, when appointed, to help ensure a successful induction to the business, including supporting the business if there is a gap between Den Jones leaving and a new Group Finance Director being appointed.</li> <li>Start the detailed planning for the external audit tender which is intended to be undertaken in 2017.</li> </ul>	

On behalf of the Audit Committee:



**Alan Ferguson**

Chairman of the Audit Committee

# REMUNERATION REPORT

**OUR ROLE IS TO ENSURE THAT JOHNSON MATTHEY'S REMUNERATION ARRANGEMENTS ARE APPROPRIATE, ALIGNED WITH SHAREHOLDERS' INTERESTS AND ARE MANAGED IN LINE WITH GOOD GOVERNANCE.**

Dorothy Thompson, CBE  
Chair of the Remuneration Committee



## INTRODUCTION

As Chairman of the Remuneration Committee I am pleased to present our report for the year ended 31st March 2016. This report is intended to give an insight into the key matters considered by the committee during the previous 12 months and to give an indication of the matters we expect to consider over the next 12 months.

During the past year some of our key considerations included: reviewing the salaries of Executive Directors, as well as the performance conditions of our incentive plans; setting the remuneration terms for departing Executive Directors; and reviewing our remuneration advisers. Looking forward to the next 12 months, in addition to our usual business, we will focus on reviewing our Remuneration Policy in time for its submission to shareholders at our 2017 Annual General Meeting (AGM).

The committee was pleased by the level of shareholder support received for our 2015 directors' Remuneration Report, our second year of reporting under the new reporting regulations. Our policy, which was introduced in 2014 following strong shareholder support, remains unchanged and I can confirm that there is no intention to make any revisions to it ahead of our 2017 AGM. We remain committed to continued transparency and engagement with our shareholders on proposed changes to our executive arrangements and will continue to consult with our shareholders prior to any change in our policy.

## Corporate Performance and Incentive Outcomes

The overall objective of the company is to deliver superior long term growth from value adding sustainable technologies and therefore the remuneration strategy focuses on ensuring alignment with long term success and growth. Long term variable reward is firmly based on growth as measured by increases in underlying earnings per share (EPS), and annual bonuses require strong near term delivery against challenging targets.

The last year has seen some challenging economic conditions and notable weakening in some of the markets in which the company operates but the company has still been able to deliver a robust performance. A number of business operations were restructured to reflect the deterioration in their markets while those businesses in markets with continued opportunity for growth, such as Emission Control Technologies (ECT), focused on delivering sustainable growth. These challenging conditions are reflected in the annual bonus payment to Executive Directors, which will be 15% of maximum payout for Robert MacLeod, 17% of maximum payout for Den Jones and 37% of maximum payout for John Walker. The 2013 Long Term Incentive Plan (LTIP) allocation will vest at 33% of maximum.

## Future Incentives and Performance Conditions

In view of the current economic outlook, we considered the performance range of the LTIP, which is currently a 6%-12% compound annual growth rate (CAGR) in underlying EPS. To reflect the stage in the company's growth cycle, the low inflationary environment and challenging outlook for global economies and commodities, the committee propose a performance range for the 2016 LTIP allocation of 4% – 10% compound annual growth in underlying EPS, with threshold vesting remaining unchanged at 15% of the award.

In setting the performance range of the 2016 LTIP allocation the committee carefully reviewed how the business plan approved by the board would be translated into performance targets that are appropriately challenging, aligned with shareholder expectations and provide executives with a meaningful incentive to drive performance. The LTIP and its performance targets will be reviewed again next year as part of the triennial review of executive director remuneration to ensure continued appropriateness and shareholder alignment.

The committee also reviewed the composition and performance conditions attached to our annual bonus plans and decided that these will remain unchanged for the coming year.

## Salary Reviews

The salaries of executive directors are reviewed in August each year. John Walker received a higher increase of 7.5% in 2015 to reflect his performance and increasing level of experience and skill on the board, following his appointment to it in October 2013. John will receive an increase of 6% in August 2016 after which it is expected his salary will increase in line with other employees in Johnson Matthey. Robert MacLeod will receive an increase of 2.25% in August 2016, which is broadly in line with that awarded to other employees in Johnson Matthey.

## Board Changes

During the year a number of announcements have been made about changes to the board. In October 2015, we announced Larry Pentz's intention to retire from Johnson Matthey on 31st March 2016 and in March this year we announced that Den Jones would step down as Group Finance Director during the summer of 2016.

Larry joined Johnson Matthey in 1984 and during his long and distinguished career led a number of significant businesses within the group. The remuneration terms agreed by the committee in respect of Larry's retirement are in line with our policy and include no special arrangements, further details are set out on page 124.

The leaving terms of Den will be discussed by the committee prior to his departure but I can confirm that it is intended that the terms will be in line with our policy and include no special arrangements. The process for identifying a suitable successor is ongoing and the committee will apply its approach to recruitment remuneration set out in the policy.

In addition to these Executive Director changes, I will retire as a Non-Executive Director (and Chairman of the Remuneration Committee), having served for nine years, with effect from the close of the company's AGM on 20th July 2016. I will be succeeded as Chairman of the Remuneration Committee by fellow Non-Executive Director, Colin Matthews.

## Adviser Review

During 2015 we took the decision to undertake a review of our committee adviser. PricewaterhouseCoopers LLP (PwC) has been adviser to the committee for many years and the committee believes periodic reviews are good governance practice. As a result of this review, the committee appointed New Bridge Street as our adviser with effect from 16th November 2015. PwC and New Bridge Street are both signatories to the Code of Conduct of the Remuneration Consultants Group.

## The Year Ahead

Over the coming year the committee will review its Remuneration Policy and consult with major shareholders on any changes prior to the 2017 AGM. In the meantime we believe that our current policy continues to align with the interests of our shareholders whilst providing appropriate incentives for our executives relative to performance. With continuing uncertainty in global markets the year ahead will be challenging but the variable elements of executive remuneration will remain strongly focused on the simple and transparent measures of underlying profit before tax (PBT) and underlying EPS with targets that are appropriately challenging.



Dorothy Thompson

## REMUNERATION REPORT (CONTINUED)

### 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 took effect immediately following the 2014 AGM and applies to all remuneration for the year commencing 1st April 2014.

#### Policy Table

Purpose and link to strategy	Operation (and changes if appropriate) of the element	Potential value of element and performance measures																				
<b>Base salary</b> 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 August each year.</p> <p>In determining salaries for new Executive Directors and salary increases, the Remuneration Committee will take account of 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 100, 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 Directors' 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>	<p>Base salaries at the last review are shown below:</p> <table><tr><th>Director</th><th>Salary as at 1st August 2015 £</th><th>Salary as at 1st August 2014 £</th><th>% change</th></tr><tr><td>Robert MacLeod</td><td>768,750</td><td>750,000</td><td>2.5</td></tr><tr><td>Den Jones</td><td>476,625</td><td>465,000</td><td>2.5</td></tr><tr><td>Larry Pentz</td><td>463,300</td><td>452,000</td><td>2.5</td></tr><tr><td>John Walker<sup>1</sup></td><td>424,625</td><td>395,000</td><td>7.5</td></tr></table> <p><sup>1</sup> The increase awarded to John Walker is to account for some market realignment and his increased board experience following his appointment in October 2013.</p> <p><b>Maximum opportunity</b> No salary increase will be awarded which results in a base salary which exceeds the competitive market range.</p> <p><b>New salaries 2016</b> The base salary of executive directors will be reviewed on 1st August 2016 in accordance with the policy.</p>	Director	Salary as at 1st August 2015 £	Salary as at 1st August 2014 £	% change	Robert MacLeod	768,750	750,000	2.5	Den Jones	476,625	465,000	2.5	Larry Pentz	463,300	452,000	2.5	John Walker <sup>1</sup>	424,625	395,000	7.5
Director	Salary as at 1st August 2015 £	Salary as at 1st August 2014 £	% change																			
Robert MacLeod	768,750	750,000	2.5																			
Den Jones	476,625	465,000	2.5																			
Larry Pentz	463,300	452,000	2.5																			
John Walker <sup>1</sup>	424,625	395,000	7.5																			

## Policy Table (continued)

Purpose and link to strategy	Operation (and changes if appropriate) of the element	Potential value of element and performance measures
<p><b>Annual bonus</b></p> <p>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.</p> <p>The annual bonus plays a key part in the motivation and retention of senior employees, one of the key requirements for long term growth.</p> <p>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.</p>	<p>The Remuneration Committee sets annual bonus performance measures and targets at the start of the year. 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 prevent any bonus award if, in its opinion, the underlying financial performance of the company has not been satisfactory in the circumstances.</p> <p><b>Deferral</b></p> <p>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.</p> <p><b>Malus and clawback</b></p> <p>The deferred element of the bonus is subject to a malus provision such that it can be forfeited in part or in full in the event of a misstatement of results. Deferred awards are also forfeited in the event of dismissal for misconduct.</p> <p><b>Adjustments</b></p> <p>The Remuneration Committee retains judgment to adjust the bonus paid within the defined range should the original target no longer reflect overall business performance or individual contribution. For example, appropriately adjusting budgets to reflect significant acquisitions or disposals.</p> <p>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 senior management 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.</p> <p>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.</p>	<p><b>Performance measures</b></p> <p>It is intended that for the lifetime of this policy the annual bonus will be subject to a financial measure based on achievement of the group's budgeted underlying PBT, although the Remuneration Committee retains discretion to amend the performance measure upon which bonus is to be paid to ensure that bonuses remain appropriately linked to the prospects of the business. In such circumstances the performance measures will still have a substantial proportion based on key financial measures.</p> <p>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 121.</p> <p>The performance period for annual bonus purposes matches the financial year (1st April to 31st March).</p> <p><b>Maximum opportunity and vesting thresholds</b></p> <p>Chief Executive – 180% of base salary.</p> <p>Other Executive Directors – 150% of base salary.</p> <p>Threshold vesting will result in a bonus of 15% of base salary. On-target performance will result in 50% payment of the maximum opportunity.</p>

# REMUNERATION REPORT (CONTINUED)

## Policy Table (continued)

Purpose and link to strategy	Operation (and changes if appropriate) of the element	Potential value of element and performance measures
<p><b>LTIP</b></p> <p>LTIP is designed to ensure that executives take decisions in the interest of the longer term success of the group. Having a target that looks at growth over the longer term ensures that the interests of executives are aligned with shareholder wishes for long term value.</p> <p>The LTIP is based around targets which require strong growth in underlying EPS.</p> <p>Having a strong underlying EPS target requires that annual budgets are also ambitious and focused on growth.</p> <p>We consider that underlying EPS is a simple and clear measure and reflects the full total of all company activities.</p> <p>It is also a key objective of the company to achieve earnings growth only in the context of a good performance on return on invested capital (ROIC). Accordingly, the Remuneration Committee is required to make 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 expectations.</p>	<p>Shares may be awarded each year, with the potential to vest after three years subject to performance conditions over a three year performance period.</p> <p>The performance targets are set by the Remuneration Committee based on internal growth forecasts and to ensure they remain appropriate and aligned with shareholder interests.</p> <p><b>Deferral</b></p> <p>Subject to performance conditions being met, one third of the vested shares are released on the third anniversary of the date of award. The remaining vested shares are subject to a post-vesting deferral period and will be released in equal instalments on the fourth and the fifth anniversaries of the initial date of award.</p> <p><b>Malus and clawback</b></p> <p>LTIP awards granted in 2014 and subsequently will be subject to malus and clawback provisions that can apply in the case of misstatement or misconduct.</p> <p><b>Adjustments</b></p> <p>The Remuneration Committee has power to adjust the vesting level of an award based on the general performance regarding the expected value of ROIC.</p> <p>A guideline ROIC of 20% is in place. However, the Remuneration Committee does not wish to discourage long term investment and acquisitions which might depress short term ROIC. Therefore the Remuneration Committee has not implemented a hard numerical measure to the assessment of the satisfactory development of ROIC.</p> <p>The Remuneration Committee may adjust the performance measure to reflect material events such as significant acquisitions or disposals, share consolidation, share buy-back or special dividend. Any such change would be fully explained to shareholders.</p>	<p><b>Performance measures</b></p> <p>LTIP vesting is based on the CAGR of underlying EPS over the three year performance period.</p> <p>Vesting is also subject to a discretionary ROIC underpin that is monitored by the Remuneration Committee. ROIC is assessed against internal expectations and forecasts.</p> <p>The Remuneration Committee retains discretion to amend the targets and / or the performance measures for future awards. Wherever possible, the views of shareholders will be sought when it is proposed to make any substantive changes to the performance measures. It is currently envisaged that the LTIP award will remain strongly based on underlying EPS growth for the duration of this Remuneration Policy. The proposed prospective targets and measures for the year commencing 1st April 2016 are shown on page 122.</p> <p><b>Maximum opportunity and vesting thresholds</b></p> <p>The current LTIP was approved by shareholders in 2007 and allows for an absolute maximum award of 200% of base salary. This Remuneration Policy specifies that the maximum award made under this policy will be 200% of base salary for the Chief Executive and 175% of base salary for other executive directors.</p>
<p><b>Benefits</b></p> <p>To provide a market aligned benefits package.</p> <p>The purpose of any benefits is to align with normal market practices, and to remove certain day to day concerns from Executive Directors and other senior managers, 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 and schooling for dependents.</p> <p>Directors may be assisted with tax advice and tax compliance services.</p> <p>The company will reimburse all reasonable expenses which the Executive Director is authorised to incur whilst carrying out executive duties.</p> <p>Certain benefits are provided to Executive Directors in connection with the company requiring them to be internationally mobile, for example the provision of living accommodation, transport or medical insurance away from their country of residence. The company may pay the tax on these benefits.</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 their 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 director and dependents will not exceed £15,000 per annum.</p> <p>Company sick pay is 52 weeks' full pay.</p>

## Policy Table (continued)

Purpose and link to strategy	Operation (and changes if appropriate) of the element	Potential value of element and performance measures
<b>Pension</b> 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 supplement is 25% of base salary.
<b>All employee share plans</b> Encourages share ownership.	Executive Directors are entitled to participate in the company's all employee plan under which regular monthly share purchases are made and matched with the award of company shares, subject to retention conditions.  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.	Executive Directors are entitled to participate up to the same limits in force from time to time for all employees.
<b>Shareholding requirements</b> To encourage Executive Directors to build a shareholding in the company and ensure the interests of management are aligned with those of shareholders.	Executive Directors are expected to build up a shareholding in the company over a five year period.  Shares that count towards achieving these guidelines include: all shares beneficially owned by an executive or a person connected to the executive as recognised by the Remuneration Committee; deferred bonus shares and LTIP awards which have vested and so are no longer subject to performance conditions but are subject to the post-vesting deferral period.  Executive Directors are expected to retain at least 50% of the net (after tax) vested shares that are released under the LTIP and deferred bonus plans until the required levels of shareholding are achieved.  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.  In the event of an Executive Director not reaching the expected level within the five year period, or subsequently, the director will discuss the circumstances with the Remuneration Committee and agree an appropriate plan.	The minimum shareholding requirement is as follows:  Chief Executive – 200% of base salary.  Other Executive Directors – 150% of base salary.  The above shareholding requirements are effective as of the date of approval of this policy. The previous shareholding requirement was 100% of base salary for the Chief Executive and the other Executive Directors.  There is no requirement for Non-Executive Directors to hold shares but they are encouraged to acquire a holding over time.
<b>Non-Executive Director fees</b> Attracts, retains and motivates Non-Executive Directors with the required knowledge and experience.	Non-Executive Directors are paid a base fee each year with an additional fee for each committee chairmanship or additional role held.  Non-Executive Director fees are reviewed every year. Any increase will take into account the market rate for the relevant positions within the comparator group of similarly sized companies with a comparable international presence and geographic spread and operating in relevant industry sectors.	Annual fees at the last review in 2015 are shown below:  Non-Executive Chairman – £338,250.  Non-Executive Directors – £61,500.  Audit Committee chairmanship additional fee – £15,500.  Remuneration Committee chairmanship additional fee – £15,500.  Senior Independent Director (SID) additional fee – £16,500.  Where the SID is also the chairman of a committee an additional fee of £2,000 will be paid, such that the total payable is £18,500.

## REMUNERATION REPORT (CONTINUED)

### Selection of Performance Targets

<b>Annual bonus</b>	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. The performance targets for 2016/17 are based upon budgeted underlying PBT to ensure that there is strong attention paid to delivery of current operational plans and operational efficiency <sup>1</sup> . 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 2016/17.
<b>LTIP</b>	EPS targets under the LTIP 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 good 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.

<sup>1</sup> The measures for John Walker for periods after 31st March 2015 are such that they are 60% based on the performance against the group's budgeted underlying PBT and 40% based on the financial performance of ECT.

### 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 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, LTIP and bonus, 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 they participate in the LTIP in line with the same EPS based performance conditions (although only Executive Directors are subject to the post-vesting LTIP holding period and only the top three levels of management are subject to deferral of annual bonus).

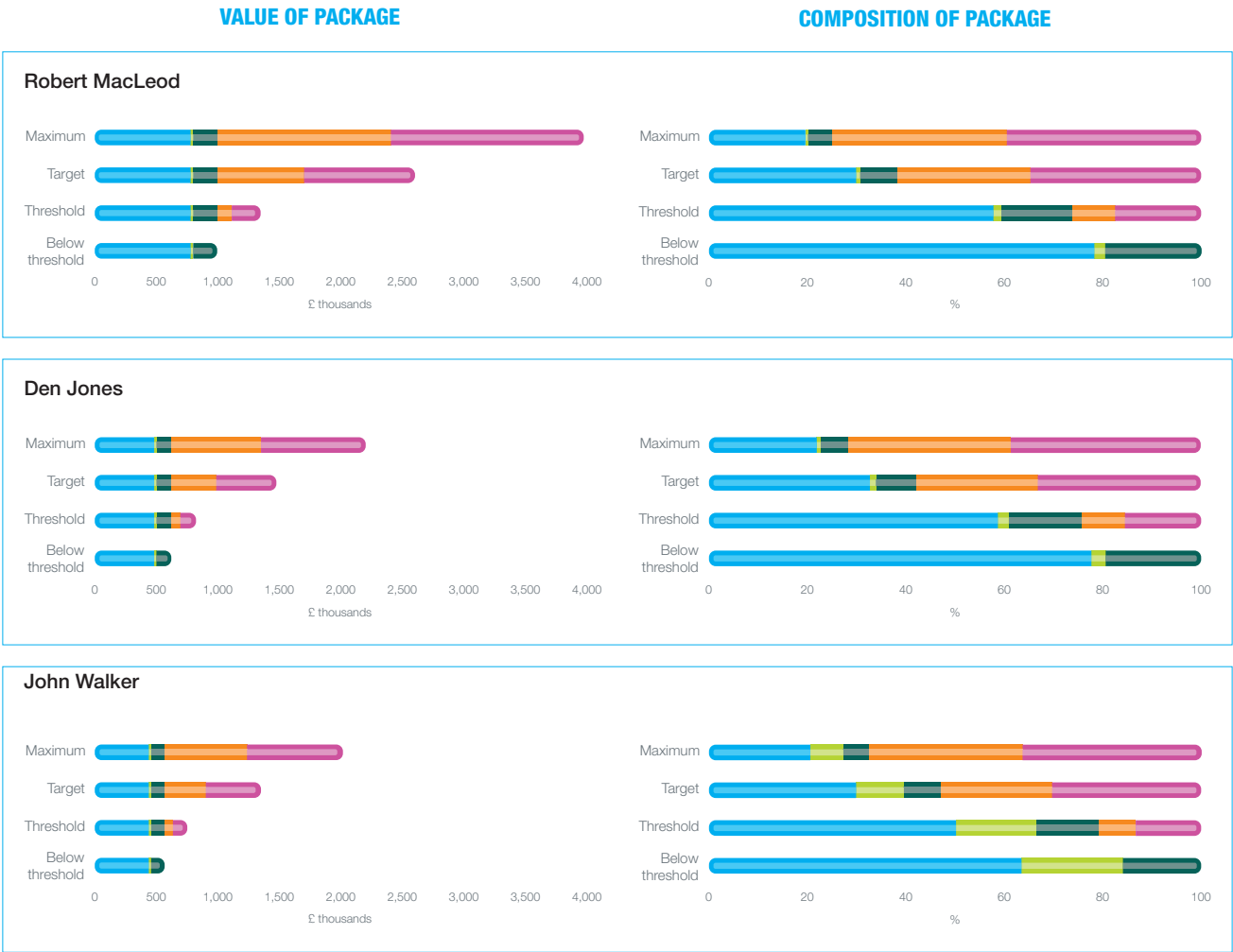
There are also a number of country and business dependent arrangements under which bonuses may be paid to the entire business unit workforce where performance conditions associated with profitability are met.

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 management grades is base salary and Johnson Matthey's policy is to ensure that base salaries are fully 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 2016, both in absolute terms and as a proportion of the total package under different performance scenarios.



## REMUNERATION REPORT (CONTINUED)

### 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
<b>Overall</b>	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.
<b>Base salary or fees</b>	Salary or fees will be determined by the Remuneration Committee in accordance with the principles set out in the policy table on page 110.
<b>Benefits and pension</b>	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 112 and 113.
<b>Annual bonus</b>	The maximum level of opportunity is as set out in the policy table on page 111.  The Remuneration Committee retains discretion to set individual performance targets for a new externally appointed Executive Director, or adjust performance targets in the case of an internal promotion, to be assessed over the remainder of the financial year, in which case any bonus payment would be made at the same time as for existing directors, such award to be pro-rated for the time served in the performance period.
<b>LTIP</b>	The maximum level of opportunity is as set out in the policy table on page 112.  In order to achieve rapid alignment with Johnson Matthey and shareholder interests, the Remuneration Committee retains discretion to grant an LTIP award to a new externally appointed executive director with the same performance targets as awards already granted in that year. The level of such awards would be pro-rated from the normal opportunity to take account of the time elapsed since the start of the performance period.
<b>Replacement awards</b>	The Remuneration Committee retains discretion to grant replacement buy-out awards 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 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.
<b>Other</b>	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 112.

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 table below 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. In these exceptional circumstances, 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, Den Jones, Larry Pentz 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	Den Jones	Larry Pentz <sup>1</sup>	John Walker <sup>2</sup>
<b>Date of service agreement</b>	31st January 2014	10th February 2014	31st January 2014	31st January 2014
<b>Date of appointment as director</b>	22nd June 2009	5th June 2014	1st August 2003	9th October 2013
<b>Employing company</b>	Johnson Matthey Plc			
<b>Contract duration</b>	No fixed term.			
<b>Notice period</b>	Not less than 12 months' notice of termination by the company. Not less than six months' notice of termination by the director.			
<b>Post-termination restrictions</b>	<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"> <li>– non-compete – six months;</li> <li>– non-dealing and non-solicitation of client / customers – 12 months;</li> <li>– non-solicitation of suppliers and non-interference with supply chain – 12 months; and</li> <li>– non-solicitation of employees – 12 months.</li> </ul>			
<b>Summary termination – payment in lieu of notice (PILON)</b>	<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 his 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 he has 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 (Larry Pentz and John Walker) would be in equal monthly instalments.</p>			
<b>Termination payment – change of control</b>	<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>			
<b>Termination – treatment of annual bonus</b>	<p>Annual bonus awards are made at the discretion of the Remuneration Committee. Employees 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"> <li>• the participant leaves as a result of misconduct; or</li> <li>• the participant, prior to vesting, breaches one of the post-termination restrictions or covenants provided for in his employment contract, termination agreement or similar agreement.</li> </ul>			
<b>Termination – treatment of LTIP awards</b>	<p>Employees leaving the company's employment will normally lose their LTIP 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 to the end of the financial year preceding the accelerated vesting date. 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>			
<b>Redundancy scheme</b>	<p>The director is not entitled to any benefit under any redundancy payments scheme operated by the company.</p>			
<b>Holiday</b>	<p>Upon termination for any reason, directors will be entitled to payment in lieu of accrued but untaken holiday entitlement.</p>			

<sup>1</sup> Larry Pentz is eligible for continuing post-retirement medical benefits as he retired directly from Johnson Matthey on 31st March 2016, and so satisfies the conditions of this plan.

<sup>2</sup> John Walker is eligible for continuing post-retirement medical benefits provided he satisfies the conditions of this plan and retires directly from Johnson Matthey.

## 4. Governance

# REMUNERATION REPORT (CONTINUED)

## 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	July 2017	6 months	6 months
Odile Desforges	A, R, N	1st July 2013	30th June 2016	1 month	1 month
Alan Ferguson	A, R, N	13th January 2011	12th January 2017	1 month	1 month
Colin Matthews	A, R, N	4th October 2012	3rd October 2018	1 month	1 month
Chris Mottershead	A, R, N	27th January 2015	26th January 2018	1 month	1 month
Dorothy Thompson	A, R, N	1st September 2007	31st August 2016	1 month	1 month

A: Audit Committee R: Remuneration Committee N: Nomination Committee

## 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	Aggreko plc <sup>1</sup>	Non-Executive Director	81
Larry Pentz	Victrex plc	Non-Executive Chairman	164

<sup>1</sup> Robert MacLeod retired as Non-Executive Director of Aggreko on 28th April 2016 and was appointed a Non-Executive Director of RELX Group plc on 21st April 2016.

## ANNUAL REPORT ON REMUNERATION

The following section provides details of how the Remuneration Policy was implemented during the year.

### 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.

The members of the Remuneration Committee and their attendance at committee meetings during the year ended 31st March 2016 is shown below.

	Committee role	Date of appointment	Meeting attendance				
			1st June 2015	21st July 2015	16th November 2015	2nd February 2016	1st March 2016
Dorothy Thompson	Chairman	1st September 2007	✓	✓	✓	✓	✓
Odile Desforges	Member	1st July 2013	✓	✓	✓	✓	✓
Alan Ferguson	Member	13th January 2011	✓	✓	✓	✓	✓
Colin Matthews	Member	4th October 2012	✓	✓	✓	✓	✓
Chris Mottershead	Member	27th January 2015	✓	✓	✓	✓	✓
Tim Stevenson	Member	29th March 2011	✓	✓	✓	✓	✓

Since the end of the year, the Remuneration Committee has met twice and all members attended.

The Remuneration Committee's terms of reference can be found in the Investor Relations / 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 Remuneration Committee receives recommendations from the Chief Executive on the remuneration of those reporting to him as well as advice from the Group Human Resources Director, who acts as secretary to the Remuneration Committee.

## Key Topics Covered at Remuneration Committee Meetings 2015/16

The Remuneration Committee met on five occasions during the year. The principal activities carried out were as described below.

Meeting	Agenda items
1st June	Approval of Executive Directors' salary. Review of salary increases for the Group Management Committee and senior managers. Review of pay within the group. Approval of the Remuneration Report.
21st July	Approval of LTIP awards and bonus. Approval of LTIP vesting. Review of Larry Pentz's retirement arrangements. Review of Chairman's fees.
16th November	Review of the LTIP performance conditions and annual bonus composition. Appointment of new remuneration advisors. External market update on executive remuneration.
2nd February	Review of the LTIP performance conditions and annual bonus composition. Approval of Larry Pentz's retirement arrangements. Preliminary discussion on the triennial remuneration review. US medical plan review update.
1st March	Discussion on the leaving arrangements of Den Jones.

## Advisers to the Committee

In determining the remuneration structure, the Remuneration Committee appoints and receives advice from independent remuneration consultants on the pay and incentive arrangements prevailing in comparably sized industrial companies in each country in which Johnson Matthey has operations.

During the year the committee undertook a review of its remuneration advisers as PwC had been advisers to the committee for many years and the committee believes periodic reviews are good governance practice. As a result of this review, the committee appointed New Bridge Street (Aon Hewitt Limited) as our advisers with effect from 16th November 2015.

Both PwC and New Bridge Street are signatories to the Code of Conduct of the Remuneration Consultants Group.

No fees were payable to PwC in respect of remuneration advice to the committee and £34,100 was paid to New Bridge Street.

Herbert Smith Freehills LLP, which is authorised and regulated by the Solicitors' Regulation Authority of England and Wales, provided legal advice to the Remuneration Committee on compliance with the regulations relating to the reporting of directors' remuneration. Herbert Smith Freehills has also 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 Remuneration 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 2016 is available on our website in the Investor Relations / Corporate Governance section.

## 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 2015 and the year ended 31st March 2016.

An explanation of how the figures are calculated follows the table.

	Base salary / fees £'000		Benefits £'000		Annual bonus £'000		LTIP £'000		Pension £'000		Total £'000	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
<b>Executive Directors</b>												
Robert MacLeod	748	697	21	21	208	702	199	–	191	174	1,367	1,594
Den Jones	464	382	18	13	117	307	–	–	118	95	717	797
Larry Pentz	460	448	265 <sup>1</sup>	183 <sup>2</sup>	114	363	191	–	115	113	1,145	1,107
John Walker	415	385	14	10	233	367 <sup>3</sup>	102	32 <sup>4</sup>	104	96	868	890
<b>Former Executive Directors</b>												
Neil Carson	–	422	–	10	–	408	229	–	–	105	229	945
<b>Non-Executive Directors</b>												
Tim Stevenson	335	320	–	–	–	–	–	–	–	–	335	320
Odile Desforges	61	58	–	–	–	–	–	–	–	–	61	58
Alan Ferguson	79	74	–	–	–	–	–	–	–	–	79	74
Colin Matthews	61	58	–	–	–	–	–	–	–	–	61	58
Chris Mottershead <sup>5</sup>	61	11	–	–	–	–	–	–	–	–	61	11
Dorothy Thompson	76	68	–	–	–	–	–	–	–	–	76	68
Michael Roney	–	21	–	–	–	–	–	–	–	–	–	21

<sup>1</sup> The value of Larry Pentz's benefits includes living accommodation costs while he is working away from his country of residence and cash in lieu of untaken paid time off as at 31st March 2016.

<sup>2</sup> The value of Larry Pentz's benefits includes living accommodation costs while he is working away from his country of residence.

<sup>3</sup> This figure represents the annual bonus awarded for the year ended 31st March 2015 plus a discretionary bonus of £50,000 awarded by the Remuneration Committee.

<sup>4</sup> The 2015 LTIP paid to John Walker in 2015 while a member of the board is in respect of a performance period that includes time before and after his appointment to the board. The figure shown is the actual value paid to Mr Walker.

<sup>5</sup> Chris Mottershead was appointed to the board on 27th January 2015.

## REMUNERATION REPORT (CONTINUED)

### Explanation of Figures

<b>Base salary / fees</b>	Salary paid during the year to Executive Directors and fees paid during the year to Non-Executive Directors.
<b>Benefits</b>	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.
<b>Annual bonus</b>	Annual bonus awarded for the year ended 31st March 2016. The figure includes any amounts deferred and awarded as shares.
<b>LTIP</b>	The 2015 figure represents the value of shares which vested in August 2015. The volume weighted average share price at vest was 2,889 pence. The 2016 figure represents the estimated value of the shares which are due to vest in August 2016 based on achievement of performance conditions over the three years to 31st March 2016, calculated using the average share price from 1st January 2016 to 31st March 2016 which was 2,503 pence.
<b>Pension</b>	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 2016

The table below sets out the composition of the annual bonus of Executive Directors for 2015/16.

	Percentage of bonus available		
	Group underlying PBT	ECT underlying operating profit	ECT working capital days
<b>Chief Executive</b>	100%	—	—
<b>Executive Directors</b>	100%	—	—
<b>Executive Director, ECT<sup>1</sup></b>	60%	30%	10%

<sup>1</sup> The bonus composition for John Walker was changed with effect from 1st April 2015 to ensure alignment in driving forward ECT and its contribution to the group.

The table below sets out the bonus opportunity and performance targets for the year ended 31st March 2016.

	Required performance			Bonus as % of base salary	
	Group underlying PBT <sup>1</sup>	ECT operating profit <sup>1</sup>	ECT working capital days	Chief Executive	Executive Directors
<b>Threshold</b>	95% of budget	95% of budget	105% of budget	15%	15%
<b>Target</b>	100% of budget	100% of budget	100% of budget	90%	75%
<b>Maximum</b>	110% of budget	110% of budget	95% of budget	180%	150%

<sup>1</sup> Actual performance for group underlying PBT and ECT underlying operating profit is measured using budget foreign exchange rates.

The annual budget 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 2016 is set out along with bonus payments awarded in the table below. Commercial sensitivity precludes the advance publication of bonus targets but we reproduce below the targets for 2015/16 and the previous years.

	2013/14	2014/15	2015/16
<b>Underlying group PBT</b>			
Budgeted, £ million	410.0	437.0	447.7
Actual, £ million <sup>1</sup>	427.3	440.1	428.9
Actual growth, %	12 <sup>2</sup>	3	-3
Actual % of budget	104	101	96
<b>ECT underlying operating profit</b>			
Budgeted, £ million	n/a	n/a	278.9
Actual, £ million <sup>1</sup>	n/a	n/a	282.1
Actual % of budget	n/a	n/a	101.1
<b>ECT working capital days</b>			
Budgeted, number of days	n/a	n/a	77.0
Actual, number of days	n/a	n/a	65.5
Actual % of budget	n/a	n/a	85.1
<b>Bonus awarded, % of base salary</b>			
Chief Executive	89	94	27
Executive Directors	89	80	25
Executive Director, ECT	89	80	55

<sup>1</sup> For 2015/16 actual performance for group underlying PBT and ECT operating profit is measured using budget foreign exchange rates. Performance at actual exchange rates was £418.2 million and £272.2 million respectively.

<sup>2</sup> In 2013/14 the underlying PBT for 2012/13 was restated for the adoption of new and revised accounting standards.

For bonus payments earned in relation to the year ended 31st March 2016 the following rules of deferral apply:

- For the Chief Executive and other Executive Directors, 50% of the bonus payable is awarded as shares and deferred for a period of three years.
- There are no further performance conditions attached to the deferred element.
- Dividend equivalent shares are paid on the proportion of any bonus awarded in shares during the deferral period. These are paid at the end of the deferral period and are equal to the value the executive director would have received had they held the shares directly.
- The Remuneration Committee is entitled to apply forfeiture to the deferred element in the case of misstatement or misconduct.

The Remuneration Committee retains discretion in awarding annual bonuses to vary the level of annual bonuses from the formulaic outcome.

## 2 LTIP Vesting for the Three Year Performance Period Ended 31st March 2016

The table below sets out the opportunity and performance targets for the LTIP award made in August 2013 with a three year performance period which ended 31st March 2016.

Required underlying EPS performance	Proportion of award which may vest	Vesting as % of base salary at time of award	
		Chief Executive <sup>1</sup>	Executive Directors <sup>2</sup>
<b>Threshold 6% CAGR</b>	15%	21%	21%
<b>Maximum 15% CAGR</b>	100%	140%	140%

<sup>1</sup> Robert MacLeod was appointed Chief Executive on 5th June 2014. Prior to this he was an executive director and as such the figure shown represents the 2013 LTIP awarded to him as an executive director.

<sup>2</sup> John Walker became an executive director on 9th October 2013. Mr Walker's 2013 LTIP award has a threshold opportunity of 18.75% of base salary and maximum opportunity of 125% of base salary.

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 2013 LTIP award was granted with a performance range from threshold to maximum of 6%-15% CAGR in underlying EPS. The Remuneration Committee reviewed the impact of the disposal of the Gold and Silver Refining business in March 2015, the Research Chemicals business in September 2015 and the share consolidation in January 2016 on the performance ranges for in flight awards and concluded that the calculation of the growth in underlying EPS would be adjusted to reflect the impact of these events.

## 4. Governance

## REMUNERATION REPORT (CONTINUED)

## LTIP Outcomes

The 2013 LTIP awards will vest on 1st August 2016. The performance to the end of the performance period on 31st March 2016 was a compound annual growth in underlying EPS of 7.85% per annum. This growth in underlying EPS has been achieved with ROIC in line with the group's expectations. The table below shows the expected vesting outcomes based on this performance.

	% of base salary awarded	Shares awarded	% of award to vest	Shares to vest	Estimated value on vesting <sup>1</sup> £
<b>Executive Directors</b>					
Robert MacLeod	140	24,476	32.51	7,957	199,164
Den Jones	—	—	—	—	—
Larry Pentz	140	23,468	32.51	7,630	190,979
John Walker	125	12,483	32.51	4,058	101,572
<b>Former Executive Directors</b>					
Neil Carson <sup>2</sup>	175	28,178	32.51	9,161	229,300

<sup>1</sup> The value of the 2013 award, which will vest on 1st August 2016, is estimated using the average share price for the period 1st January 2016 to 31st March 2016 which was 2,503 pence.

<sup>2</sup> Neil Carson retired from the board on 30th September 2014. The LTIP shares awarded to Mr Carson in August 2013 (56,409) were, on leaving, pro-rated to 28,178 based on his completed service since the start of the performance period.

## 3 Variable Pay Awarded During the Year Ended 31st March 2016 (LTIP Awards Subject to Future Performance)

In August 2015 awards were made to the Executive Directors under the LTIP in respect of the three year performance period to 31st March 2018. The table below sets out the opportunity and performance targets for these awards.

Required underlying EPS performance	Proportion of award which may vest	Vesting as % of base salary at time of award	
		Chief Executive	Executive directors
<b>Threshold 6% CAGR</b>	15%	30%	26.25%
<b>Maximum 12% CAGR</b>	100%	200%	175%

The table below sets out the details of the actual awards made on 1st August 2015 as a percentage of base salary.

	% of base salary	Shares awarded	Face value <sup>1</sup> £
Robert MacLeod	200	48,709	1,537,500
Den Jones	175	26,412	833,695
Larry Pentz	175	25,685	810,747
John Walker	175	23,541	743,072

<sup>1</sup> Face value is calculated using the share price on the date of award of 3,156.5 pence.

For LTIP awards made after 31st March 2015, dividend equivalent shares are accrued on shares held during the post-vesting deferral period. These are paid on the fifth anniversary of the initial LTIP award date and are equal to the value the Executive Director would have received had they held the shares directly.

## 4 LTIP Awards to be Made During the Year Commencing 1st April 2016

The table below sets out the opportunity and proposed performance targets for these awards, which will be confirmed at the time of award.

Required underlying EPS performance	Proportion of award which may vest	Vesting as % of base salary at time of award	
		Chief Executive	Executive directors
<b>Threshold 4% CAGR</b>	15%	30%	26.25%
<b>Maximum 10% CAGR</b>	100%	200%	175%

The Remuneration Committee will review the performance target range prior to any future award taking into account internal and external factors at the time of award to ensure that the performance targets remain appropriately challenging and the interests of shareholders and Executive Directors are appropriately aligned.

## 5 Prior Year LTIP Awards and Outcomes

	Years of award	Years of vesting	% salary awarded	Shares awarded	Compound annual growth in underlying EPS in the period	% of award vested	Shares vested	Value on vesting <sup>1</sup> £
Robert MacLeod	2009	2012	170 <sup>2</sup>	55,072	19.7%	100	55,072	1,129,369
	2010	2013	120	31,397	20.2%	100	31,397	871,686
	2011	2014	140	29,979	13.3%	75	22,445	676,180
	2012	2015	140	27,222	6.07%	–	–	–
	2013	2016	140	24,476	7.85%	33	7,957	199,164
	2014	2017	200	47,709	n/a	n/a	–	–
Den Jones	2015	2018	200	48,709	n/a	n/a	–	–
	2014	2017	175	25,882	n/a	n/a	–	–
Larry Pentz	2015	2018	175	26,412	n/a	n/a	–	–
	2007	2010	120	22,327	1.7%	–	–	–
	2008	2011	120	21,853	10.0%	52	11,455	238,672
	2009	2012	100	31,116	19.7%	100	31,116	638,100
	2010	2013	120	30,115	20.2%	100	30,115	836,093
	2011	2014	140	28,744	13.3%	75	21,521	648,344
	2012	2015	140	26,100	6.07%	–	–	–
	2013	2016	140	23,468	7.85%	33	7,630	190,979
	2014	2017	175	25,159	n/a	n/a	–	–
John Walker	2015	2018	175	25,685	n/a	n/a	–	–
	2011	2014	125	15,214	13.3%	83	12,599	379,559
	2012 <sup>3</sup>	2015	125	13,883	6.07%	8	1,102	31,836 <sup>4</sup>
	2013	2016	125	12,483	7.85%	33	4,058	101,572
	2014	2017	175	21,986	n/a	n/a	–	–
	2015	2018	175	23,541	n/a	n/a	–	–

<sup>1</sup> The value of the 2013 award, which will vest in August 2016, is estimated using the average share price for the period 1st January 2016 to 31st March 2016, which was 2,503 pence.

<sup>2</sup> In 2009, Robert MacLeod joined the group as Group Finance Director and was awarded a one-off allocation of 170% of base salary to ensure alignment of his objectives with those of shareholders.

<sup>3</sup> John Walker became an executive director on 9th October 2013. The performance targets of Mr Walker's 2012 LTIP are 6% and 15% CAGR respectively for service up to 9th October 2013 and 7% and 16% CAGR thereafter.

<sup>4</sup> The actual value on vesting for Mr Walker's 2012 LTIP award is shown.

## 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, John Walker and Larry Pentz 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.

Larry Pentz was a member of the US Johnson Matthey Inc. Salaried Employees Pension Plan until 1st January 2006 at which point he joined JMEPS. Mr Pentz opted out of JMEPS on 31st October 2012 and elected to transfer the value of his JMEPS benefits to a personal pension arrangement on 30th November 2012.

Details of the accrued pension benefits of the Executive Directors as at 31st March 2016 in the UK and US pension schemes are given below:

	Total accrued annual pension entitlement at 31st March 2016 £'000
Robert MacLeod <sup>1</sup>	10
Den Jones	–
Larry Pentz <sup>2</sup>	71
John Walker <sup>3</sup>	77

<sup>1</sup> Pension payable from age 65 based on pensionable service in the UK pension scheme up to 31st March 2011.

<sup>2</sup> Pension payable from age 60 based on pensionable service in the US pension scheme up to 1st January 2006. This pension will be paid in local currency.

<sup>3</sup> 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.

## 4. Governance

# REMUNERATION REPORT (CONTINUED)

## Payments for Loss of Office

Larry Pentz received his salary, normal benefits and pension supplement up until 31st March 2016, being the date of his retirement and cessation of office. The Remuneration Committee determined that it was appropriate to award Larry Pentz a bonus for the full 2015/16 year, which amounted to £113,972, one half of which will be awarded as shares subject to a three year deferral period.

Mr Pentz was awarded 2,421 deferred shares under the annual bonus plan in 2014. These will be released to him on the normal release date in August 2017. Mr Pentz was awarded 5,618 shares under the annual bonus plan in 2015. These will be released to him on the normal release date in 2018. Mr Pentz will be awarded shares under the annual bonus plan in August 2016. These will be released to him on the normal release date in 2019.

Dividend equivalent shares will accrue on the 2015 and 2016 deferred bonus awards during the relevant vesting period.

Shares allocated to Mr Pentz in August 2013 under the LTIP will be released to him on the normal vesting date in 2016. Shares allocated to Mr Pentz in August 2014 and August 2015 under the LTIP will be released to him in three equal tranches on the executive release dates in August 2017, 2018 and 2019 for the 2014 allocation and August 2018, 2019 and 2020 for the 2015 allocation.

The 2013 allocation of 23,468 shares will not be pro-rated as Mr Pentz was employed for the entire performance period. However, the 2014 and 2015 awards will be pro-rated on leaving to 16,772 and 8,561 shares based on his completed service since the start of the performance period. In all cases, final vesting will be determined by reference to the achievement of the relevant performance conditions.

Dividend equivalent shares will accrue on the 2015 LTIP allocation between the first and last executive release dates.

## Statement of Directors' Shareholding

### Directors' Interests

The table below shows the directors' interests in the shares of the company, together with their unvested scheme interests, as at 31st March 2016.

	Ordinary shares <sup>1</sup>	Unvested scheme interests Subject to ongoing performance conditions <sup>2</sup>	Not subject to further performance conditions <sup>3</sup>
<b>Executive Directors</b>			
Robert MacLeod	31,643	120,894	13,701
Den Jones	101	52,294	4,864
Larry Pentz	25,965	48,801	8,039
John Walker	11,903	58,010	8,274
<b>Non-Executive Directors</b>			
Tim Stevenson	4,958	—	—
Odile Desforges	1,416	—	—
Alan Ferguson	2,078	—	—
Colin Matthews	1,888	—	—
Chris Mottershead	839	—	—
Dorothy Thompson	8,762	—	—

<sup>1</sup> 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.

<sup>2</sup> Represents shares underlying unvested LTIP awards.

<sup>3</sup> Represents shares underlying unvested deferred annual bonus awards.

Directors' interests as at 1st June 2016 were unchanged from those listed above, other than that the trustees of the all employee share matching plan have purchased on behalf of Robert MacLeod and John Walker a further 27 shares each.

### Scheme Interests

Further details of the directors' unvested scheme interests are given below.

Long Term Incentive Plan <sup>1</sup>	Shares subject to ongoing performance conditions as at 31st March 2015	Awarded during the year	Vested during the year	Lapsed during the year	Shares subject to ongoing performance conditions as at 31st March 2016
<b>Executive Directors</b>					
Robert MacLeod	99,407	48,709	—	27,222	120,894
Den Jones	25,882	26,412	—	—	52,294
Larry Pentz	74,727	25,685	—	51,611 <sup>2</sup>	48,801
John Walker	48,352	23,541	1,102	12,781	58,010
<b>Former Executive Directors</b>					
Neil Carson	80,430	—	—	52,252	28,178
Bill Sandford	11,895	—	—	11,895	—

<sup>1</sup> All LTIP awards are subject to the EPS performance condition as described on pages 121 and 122.

<sup>2</sup> Includes shares lapsed as a result of LTIP allocations being pro-rated on 31st March 2016.

Deferred Bonus Plan	Shares no longer subject to ongoing performance conditions as at 31st March 2015	Awarded during the year	Vested during the year	Lapsed during the year	Shares no longer subject to ongoing performance conditions as at 31st March 2016
<b>Executive Directors</b>					
Robert MacLeod	6,085	11,115	3,499	—	<b>13,701</b>
Den Jones	—	4,864	—	—	<b>4,864</b>
Larry Pentz	5,776	5,618	3,355	—	<b>8,039</b>
John Walker	4,352	5,819	1,897	—	<b>8,274</b>
<b>Former Executive Directors</b>					
Neil Carson	22,440	6,460	12,902	—	<b>15,998</b>
Bill Sandford	4,083	—	2,968	—	<b>1,115</b>

Executive Directors are expected to build up a shareholding in the company over five years. The minimum shareholding requirement, as set out on page 113, is 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 2016 (% of base salary) <sup>1,2</sup>
Robert MacLeod <sup>3</sup>	148
Den Jones	26
Larry Pentz	184
John Walker <sup>4</sup>	119

<sup>1</sup> Value of shares as a percentage of base salary is calculated using a share value of 2,503 pence, which was the average share price prevailing between 1st January 2016 and 31st March 2016.

<sup>2</sup> 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 vested but unreleased shares under the LTIP for which there are no further performance conditions.

<sup>3</sup> Robert MacLeod took up the role of Chief Executive on 5th June 2014 and became subject to a higher shareholding requirement and is building his holding over time in line with the Remuneration Policy.

<sup>4</sup> John Walker became an executive director on 9th October 2013 and will build his 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 seven year period from 31st March 2009 to 31st March 2016 against the FTSE 100 as the most appropriate comparator group, rebased to 100 at 1st April 2009.



As at 31st March 2016, Johnson Matthey was ranked 75 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 <sup>1</sup>	2015/16 <sup>1</sup>
<b>Single total figure of remuneration</b>	1,596	2,095	1,870	3,025	3,855	1,594	1,367
<b>Bonus award (% of maximum)</b>	100	100	75	—	71	54	15
<b>LTIP vesting (% of award)<sup>2</sup></b>	—	52	100	100	75	—	33

<sup>1</sup> The figures for 2014/15 and 2015/16 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 prior Chief Executive, Neil Carson.

<sup>2</sup> LTIP vesting for the three year performance period ending in the financial year shown.

The above data are calculated according to the same methodology as applied in the single figure table on page 119.

## 4. Governance

# REMUNERATION REPORT (CONTINUED)

## 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 2016. 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 <sup>2</sup>	Comparator group <sup>1</sup>
<b>Salary</b>	An increase of 7.32%	An increase of 5.01%
<b>Bonus</b>	A decrease of 70.37%	A decrease of 6.61%
<b>Benefits</b>	No change in benefits policy. No change on overall costs between 2014/15 and 2015/16.	No change in benefits policy. No change on overall costs between 2014/15 and 2015/16.

<sup>1</sup> Including promotions.

<sup>2</sup> Increase shown between base salary earned in 2014/15 and 2015/16. The figure for 2014/15 includes a period of 2 months when Mr MacLeod held the role of Group Finance Director.

## 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 2015 and 31st March 2016.

	Year ended 31st March 2016 £ million	Year ended 31st March 2015 £ million	% change
Payments to shareholders – special dividends	304.5	–	n/a
Payments to shareholders – ordinary dividends	140.1	129.9	7.9
Total remuneration (all employees) <sup>1</sup>	603.5	591.5	2.0

<sup>1</sup> Excludes termination benefits.

## 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 at the 2014 AGM and the directors' Remuneration Report at the July 2015 AGM.

Resolution	Number of votes cast	For	Against	Votes withheld
Remuneration Policy	142,717,124	139,293,726 (97.60%) <sup>1</sup>	3,423,398 (2.40%) <sup>1</sup>	524,316
Remuneration Report	144,539,545	139,533,499 (96.54%) <sup>1</sup>	5,006,046 (3.46%) <sup>1</sup>	347,039

<sup>1</sup> Percentage of votes cast, excluding votes withheld.

The Remuneration Committee believes that the 97.60% vote in favour of its Remuneration Policy and the 96.54% vote in favour of the Remuneration Report showed very strong shareholder support for the group's remuneration arrangements at that time.

The Remuneration Report was approved by the Board of Directors on 1st June 2016 and signed on its behalf by:



**Dorothy Thompson**  
Chairman of the Remuneration Committee

# DIRECTORS' REPORT

For the year ended 31st March 2016

## Directors

The following served as directors during the year:

- Tim Stevenson
- Odile Desforges
- Alan Ferguson
- Den Jones
- Robert MacLeod
- Colin Matthews
- Chris Mottershead
- Larry Pentz (retired 31st March 2016)
- Dorothy Thompson
- John Walker

The biographical details of all the directors serving at the date of this report are shown on pages 82 and 83.

## 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 93.

## Appointment and Replacement of Directors

The rules about the appointment and replacement of directors are contained in our Articles of Association. These include:

- the number of directors is not subject to any maximum but must not be less than six, unless otherwise determined by the company by ordinary resolution;
- directors may be appointed by an ordinary resolution of the members or by a resolution of the directors; and
- a director appointed by the directors 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.

Notwithstanding these provisions, the board has agreed that all directors will seek re-election at each AGM in accordance with the UK Corporate Governance Code.

A director may be removed by a special resolution of the company. In addition, a director must automatically cease to be a director if he or she (i) ceases to be a director by virtue of any provision of the Companies Act 2006 (2006 Act) or becomes prohibited by law from being a director,

or (ii) becomes bankrupt or makes any arrangement or composition with his or her creditors generally, or (iii) is suffering from a mental disorder, or (iv) resigns from his or her office by notice in writing to the company or, in the case of an Executive Director, the appointment is terminated or expires and the directors resolve that his or her office be vacated, or (v) is absent for more than six consecutive months without permission of the directors from meetings of the directors and the directors resolve that his or her office be vacated, or (vi) is requested in writing, or by electronic form, by all the other directors to resign.

## Powers of the Directors

The powers of the directors are determined by our Articles of Association, UK legislation including 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. Any shares so purchased by the company may be cancelled or held as treasury shares. Further information is set out under 'Purchase by the Company of its Own Shares' on page 128.

## Directors' Interests in the Company's Shares

The interests of persons who were directors of the company (and their connected persons) at 31st March 2016 in the issued shares of the company (or in derivatives or other financial instruments relating to such shares), which have been notified to the company in accordance with the Financial Conduct Authority's (FCA) Disclosure and Transparency Rules (DTR 3), are set out in the Remuneration Report on pages 108 to 126. The Remuneration Report also sets out details of any changes in those interests between 31st March 2016 and 1st June 2016.

## 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 FCA's Listing Rules) subsisting 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 19.5 pence per share (2015 18.5 pence) was paid in February 2016. The directors recommend a final dividend of 52.0 pence per share in respect of the year (2015 49.5 pence), making a total for the year of 71.5 pence per share (2015 68.0 pence), payable on 2nd August 2016 to shareholders on the register at the close of business on 10th June 2016.

On 2nd February 2016, pursuant to approval given at a general meeting of the company held on 16th December 2015 (2015 General Meeting), the company paid a special dividend of 150.0 pence per share. The special dividend represented a return of cash to shareholders of £304.5 million. The special dividend was accompanied by a consolidation of the company's share capital which took effect on 11th January 2016 (Share Consolidation).

Other than as referred to under 'Employee Share Schemes' on page 128, 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 (DRIP) 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 193 and on the Investor Relations / Shareholder Centre section of our website.

## Share Capital

### Capital Structure

On 11th January 2016, the Share Consolidation replaced every 18 existing ordinary shares of 104<sup>16</sup>/<sub>21</sub> pence each with 17 new ordinary shares of 110<sup>49</sup>/<sub>53</sub> pence each.

As at 31st March 2016, the issued share capital of the company was 193,533,430 ordinary shares of 110<sup>49</sup>/<sub>53</sub> pence each (excluding treasury shares) and the company held 5,407,176 treasury shares. There were no purchases, sales or transfers of treasury shares during the year.

### Share Allotments

In connection with the Share Consolidation, on 11th January 2016 the company allotted 0.39 of an ordinary share other than for cash (the partial new share was paid up by capitalisation of the relevant amount from the company's share premium account). There were no other share allotments during the year.

## DIRECTORS' REPORT (CONTINUED)

### Purchase by the Company of its Own Shares

At the 2015 General Meeting shareholders authorised the company to make market purchases of up to 19,353,343 ordinary shares of 110<sup>49</sup>/<sub>63</sub> pence each, representing 10% of the issued share capital of the company (excluding treasury shares) as at 11th January 2016 (the effective date of the Share Consolidation). This authority subsisted at 31st March 2016.

During the year, the company did not make any purchases of its own shares or propose 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.

Since 31st March 2016 the company has not made any purchases of its own shares, entered into any options to purchase its own shares or entered into any contracts to make such purchases (including transactions made through the market or by an offer made to all shareholders or otherwise).

### Rights and Obligations Attaching to Shares

The holders of ordinary shares in Johnson Matthey are entitled to receive dividends when declared, to receive the company's annual report, to attend and speak at general meetings, to appoint proxies and to exercise voting rights.

As at 31st March 2016 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 to do so under the Uncertificated Securities Regulations 2001. The directors may also refuse to register a transfer of ordinary shares in certificated form, which represents 0.25% or more of the issued share capital of the company, following the failure by the member or any other person appearing to be interested in the shares to provide the company with information requested under section 793 of the 2006 Act.

Also as at 31st March 2016 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 JMPY. 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 193.

### Employee Share Schemes

At 31st March 2016, 4,565 current and former employees representing approximately 37% of employees worldwide, were shareholders in the company through the group's employee share schemes. Through these schemes, current and former employees held 3,219,322 ordinary shares (1.66% of issued share capital, excluding treasury shares). As at 31st March 2016, six current and former employees held options over 5,845 ordinary shares through the company's executive share option schemes. Also as at 31st March 2016, 2,138,725 ordinary shares had been allocated but had not yet vested under the company's long term incentive plan to 1,352 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 <sup>1</sup>	% of total voting rights <sup>2</sup>
<b>As at 31st March 2016:</b>			
BlackRock, Inc.	Indirect	20,181,149	9.85%
	Financial Instrument (CFD)	209,763	0.10%
Ameriprise Financial, Inc.	Direct	107,014	0.05%
	Indirect	9,776,749	5.05%
Norges Bank	Direct	8,576,485	4.19%

<sup>1</sup> Total voting rights attaching to the issued ordinary share capital of the company (excluding treasury shares) at the time of disclosure to the company.

<sup>2</sup> % 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.

No changes in interests in the voting rights of the company's issued share capital have been notified to the company in accordance with DTR 5 between 31st March 2016 and 1st June 2016.

## Contracts with Controlling Shareholders

There were no contracts of significance (as defined in the FCA's Listing Rules) subsisting during the year between any group undertaking and a controlling shareholder. There were no contracts for the provision of services to any group undertaking by a controlling shareholder subsisting during the year.

## The Company's Articles of Association

Johnson Matthey's Articles of Association are available on the Investor Relations / Corporate Governance section of our website. The Articles of Association may only be amended by a special resolution at a general meeting of the company.

## Change of Control

As at 31st March 2016 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 2016 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 2016 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 policy of the group not to make political donations or to incur political expenditure. During the year, there were no political donations made to any EU political party, EU political organisation or to any EU independent election candidate. Also during the year, no EU political expenditure was incurred.

# DIRECTORS' REPORT (CONTINUED)

## 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 66 to 79.

- **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 68.

- **Research and Development Activities**  
An indication of the activities of the group in the field of research and development.

  Pages 22 and 23.

- **Likely Future Developments**  
An indication on likely future developments in our business.

  Pages 10 and 11.

- **Greenhouse Gas Emissions**  
Disclosures relating to greenhouse gas emissions.

  Pages 76 and 77.

- **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 166 to 172.

## Disclosures Required by Listing Rule 9.8.4R

Disclosures required by the FCA's Listing Rule 9.8.4R, which are not otherwise included in this Directors' Report, can be found on the following pages:

  Statement of capitalised interest page 158.

  Long term incentive schemes pages 112 and 123.

## Important Events since 31st March 2016

There have been no important events affecting the company or any subsidiary since 31st March 2016.

## 2016 Annual General Meeting

Our 2016 AGM will be held at 11.00 am on Wednesday 20th July 2016 at The Royal Society, 6-9 Carlton House Terrace, London SW1Y 5AG.

The notice of the 2016 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 the Investor Relations / Shareholder Centre / Annual General Meeting section of our website.

## Auditor and Disclosure of Information

The auditor of the company is KPMG LLP.

So far as each person serving as a director of the company at the date this Directors' Report was approved by the board is aware, 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 1st June 2016 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 that 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 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 judgments and estimates that are reasonable and prudent;
- state whether they have been prepared in accordance with IFRS as adopted by the EU; and
- prepare the accounts on the going concern basis unless it is inappropriate to presume that the group and the parent company will continue in business.

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 have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the group and to prevent and detect fraud and other irregularities.

Under applicable law and regulations the directors are also responsible for preparing a Strategic Report, Directors' Report, directors' 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

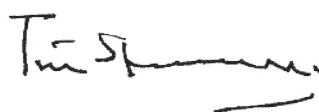
Each of the directors as at the date of the Annual Report and Accounts, whose names and functions are set out below:

- Tim Stevenson, Chairman
- Robert MacLeod, Chief Executive
- Den Jones, Group Finance Director
- John Walker, Executive Director
- Odile Desforges, Non-Executive Director
- Alan Ferguson, Non-Executive Director
- Colin Matthews, Non-Executive Director
- Chris Mottershead, Non-Executive Director
- Dorothy Thompson, Non-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 1st June 2016 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.**

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Peter and Nick operate an engine test cell at our Emission Control Technologies site in Royston, UK. Globally, more than 90% of new passenger vehicles are now fitted with autocatalysts, one third of which have been supplied by Johnson Matthey.

## 5. Accounts

**CONSOLIDATED INCOME STATEMENT**

for the year ended 31st March 2016

	Notes	2016 £ million	2015 £ million
<b>Revenue</b>			
Cost of sales	1,2	<b>10,713.9</b> <b>(9,947.1)</b>	10,059.7 (9,242.0)
Gross profit		<b>766.8</b>	817.7
Distribution costs		<b>(126.1)</b>	(133.3)
Administrative expenses		<b>(189.9)</b>	(207.3)
Profit on sale or liquidation of businesses	3	<b>130.0</b>	73.0
Amortisation of acquired intangibles	4	<b>(20.9)</b>	(17.3)
Major impairment and restructuring charges	5	<b>(141.0)</b>	–
<b>Operating profit</b>	1,6	<b>418.9</b>	532.8
Finance costs	8	<b>(40.2)</b>	(47.0)
Finance income	9	<b>7.6</b>	9.5
Share of profit of joint venture and associate		<b>–</b>	0.5
<b>Profit before tax</b>		<b>386.3</b>	495.8
Income tax expense	10	<b>(60.6)</b>	(68.5)
<b>Profit for the year</b>		<b>325.7</b>	427.3
<b>Attributable to:</b>			
<b>Owners of the parent company</b>		<b>333.1</b>	428.7
Non-controlling interests		<b>(7.4)</b>	(1.4)
		<b>325.7</b>	427.3
		pence	pence
<b>Earnings per ordinary share attributable to the equity holders of the parent company</b>			
Basic	11	<b>166.2</b>	211.2
Diluted	11	<b>165.9</b>	210.7

**CONSOLIDATED STATEMENT OF TOTAL COMPREHENSIVE INCOME**

for the year ended 31st March 2016

	Notes	2016 £ million	2015 £ million
<b>Profit for the year</b>		<b>325.7</b>	427.3
<b>Other comprehensive income:</b>			
<b>Items that will not be reclassified to profit or loss:</b>			
Remeasurements of post-employment benefit assets and liabilities	15	<b>180.1</b>	(52.1)
Tax on above items taken directly to or transferred from equity	32	<b>(39.1)</b>	13.7
		<b>141.0</b>	(38.4)
<b>Items that may be reclassified subsequently to profit or loss:</b>			
Currency translation differences	33	<b>24.1</b>	(11.6)
Cash flow hedges	33	<b>5.6</b>	(16.2)
Fair value (losses) / gains on net investment hedges	33	<b>(1.2)</b>	26.5
Fair value (losses) / gains on available-for-sale investments		<b>(5.5)</b>	6.1
Tax on above items taken directly to or transferred from equity	32	<b>(4.7)</b>	2.3
		<b>18.3</b>	7.1
<b>Other comprehensive income / (expense) for the year</b>		<b>159.3</b>	(31.3)
<b>Total comprehensive income for the year</b>		<b>485.0</b>	396.0
<b>Attributable to:</b>			
<b>Owners of the parent company</b>		<b>492.8</b>	397.2
Non-controlling interests		<b>(7.8)</b>	(1.2)
		<b>485.0</b>	396.0

The notes on pages 143 to 181 form an integral part of the accounts.

# CONSOLIDATED AND PARENT COMPANY BALANCE SHEETS

as at 31st March 2016

	Notes	Group		Parent company	
		2016	2015 restated (note 40)	2016	2015
		£ million	£ million	£ million	£ million
<b>Assets</b>					
<b>Non-current assets</b>					
Property, plant and equipment	16	1,086.3	1,080.8	284.1	289.6
Goodwill	17	570.0	547.2	123.4	121.1
Other intangible assets	18	225.0	187.5	80.1	35.0
Investments in subsidiaries	19	—	—	2,050.0	1,881.2
Investments in joint venture and associate	20	20.1	3.9	—	—
Deferred income tax assets	30	22.2	21.6	—	—
Available-for-sale investments	21	56.6	62.8	7.1	—
Interest rate swaps	26	11.1	19.0	11.1	19.0
Other receivables	23	15.6	15.3	1,081.1	939.7
Post-employment benefit net assets	15	109.1	6.9	100.8	—
<b>Total non-current assets</b>		<b>2,116.0</b>	<b>1,945.0</b>	<b>3,737.7</b>	<b>3,285.6</b>
<b>Current assets</b>					
Inventories	22	653.7	858.8	123.4	224.0
Current income tax assets		21.9	20.6	—	—
Trade and other receivables	23	948.0	1,132.5	968.6	1,439.8
Cash and cash equivalents – cash and deposits	26	304.5	59.4	226.9	13.3
Interest rate swaps	26	4.6	—	4.6	—
Other financial assets	27	8.5	14.4	9.2	19.4
Assets classified as held for sale		—	149.0	—	—
<b>Total current assets</b>		<b>1,941.2</b>	<b>2,234.7</b>	<b>1,332.7</b>	<b>1,696.5</b>
<b>Total assets</b>		<b>4,057.2</b>	<b>4,179.7</b>	<b>5,070.4</b>	<b>4,982.1</b>
<b>Liabilities</b>					
<b>Current liabilities</b>					
Trade and other payables	24	(812.3)	(799.5)	(2,351.2)	(2,153.8)
Current income tax liabilities		(115.0)	(95.9)	(2.3)	(4.1)
Cash and cash equivalents – bank overdrafts	26	(20.7)	(55.5)	(13.4)	(40.1)
Other borrowings, finance leases and related swaps	26	(138.5)	(234.7)	(111.0)	(192.2)
Other financial liabilities	27	(17.9)	(25.5)	(19.0)	(29.2)
Provisions	29	(41.3)	(36.4)	(11.2)	(5.1)
Liabilities classified as held for sale		—	(49.8)	—	—
<b>Total current liabilities</b>		<b>(1,145.7)</b>	<b>(1,297.3)</b>	<b>(2,508.1)</b>	<b>(2,424.5)</b>
<b>Non-current liabilities</b>					
Borrowings, finance leases and related swaps	26	(835.9)	(782.6)	(835.3)	(780.7)
Deferred income tax liabilities	30	(99.4)	(70.0)	(35.2)	(9.8)
Employee benefit obligations	15	(115.1)	(203.4)	(10.6)	(88.4)
Provisions	29	(20.6)	(20.8)	(13.4)	(12.3)
Other payables	24	(5.9)	(5.5)	(481.1)	(278.4)
<b>Total non-current liabilities</b>		<b>(1,076.9)</b>	<b>(1,082.3)</b>	<b>(1,375.6)</b>	<b>(1,169.6)</b>
<b>Total liabilities</b>		<b>(2,222.6)</b>	<b>(2,379.6)</b>	<b>(3,883.7)</b>	<b>(3,594.1)</b>
<b>Net assets</b>		<b>1,834.6</b>	<b>1,800.1</b>	<b>1,186.7</b>	<b>1,388.0</b>
<b>Equity</b>					
Share capital	31	220.7	220.7	220.7	220.7
Share premium account		148.3	148.3	148.3	148.3
Shares held in employee share ownership trust (ESOT)		(54.9)	(54.7)	(54.9)	(54.7)
Other reserves	33	(2.3)	(21.0)	(1.6)	(8.9)
Retained earnings		1,541.3	1,517.3	874.2	1,082.6
<b>Total equity attributable to owners of the parent company</b>		<b>1,853.1</b>	<b>1,810.6</b>	<b>1,186.7</b>	<b>1,388.0</b>
Non-controlling interests		(18.5)	(10.5)	—	—
<b>Total equity</b>		<b>1,834.6</b>	<b>1,800.1</b>	<b>1,186.7</b>	<b>1,388.0</b>

The accounts were approved by the Board of Directors on 1st June 2016 and signed on its behalf by:

R J MacLeod  
D G Jones

Directors

The notes on pages 143 to 181 form an integral part of the accounts.

## 5. Accounts

**CONSOLIDATED AND PARENT COMPANY CASH FLOW STATEMENTS**

for the year ended 31st March 2016

	Notes	Group		Parent company	
		2016 £ million	2015 restated (note 40) £ million	2016 £ million	2015 restated (note 40) £ million
<b>Cash flows from operating activities</b>					
Profit before tax		386.3	495.8	113.2	296.9
Adjustments for:					
Share of profit of joint venture and associate		–	(0.5)	–	–
Profit on sale of continuing activities		(130.0)	(69.7)	–	–
Depreciation, amortisation, impairment losses and loss / (profit) on sale of non-current assets and investments		252.0	153.2	11.6	(60.6)
Share-based payments		(2.8)	7.7	(1.6)	4.8
Decrease / (increase) in inventories		211.6	(223.3)	100.7	(90.4)
Decrease / (increase) in receivables		153.2	(143.5)	331.4	(721.4)
Increase / (decrease) in payables		47.1	(25.3)	446.5	779.6
(Decrease) / increase in provisions		(0.7)	5.6	5.0	(3.2)
Contributions in excess of employee benefit obligations charge		(21.0)	(29.5)	(13.7)	(21.9)
Changes in fair value of financial instruments		4.0	(0.7)	4.9	(1.5)
Dividends received from subsidiaries		–	–	(141.1)	(47.9)
Net finance costs		32.6	37.5	(15.1)	(22.1)
Income tax paid		(65.8)	(81.5)	(12.1)	(8.3)
<b>Net cash inflow from operating activities</b>		<b>866.5</b>	<b>125.8</b>	<b>829.7</b>	<b>104.0</b>
<b>Cash flows from investing activities</b>					
Dividends received from joint venture		0.3	0.4	–	–
Dividends received from subsidiaries		–	–	141.1	47.9
Interest received		5.2	7.4	53.1	66.1
Purchases of non-current assets and investments	34	(253.5)	(212.1)	(331.6)	(359.1)
Proceeds from sale of non-current assets and investments		4.0	3.8	107.2	118.2
Purchase of interest in associate		(16.2)	–	–	–
Purchases of businesses	34	(16.6)	(67.4)	(3.0)	(16.7)
Net proceeds from sale of businesses	34	244.6	113.7	–	–
<b>Net cash outflow from investing activities</b>		<b>(32.2)</b>	<b>(154.2)</b>	<b>(33.2)</b>	<b>(143.6)</b>
<b>Cash flows from financing activities</b>					
Net cost of ESOT transactions in own shares	34	(3.1)	(17.1)	(3.1)	(17.1)
Purchase of non-controlling interests		–	(9.4)	–	–
(Repayment of) / proceeds from borrowings and finance leases	34	(77.2)	49.1	(64.6)	55.9
Dividends paid to equity holders of the parent company	12	(444.6)	(129.9)	(444.6)	(129.9)
Settlement of currency swaps for net investment hedging		(4.8)	2.8	(4.8)	2.8
Interest paid		(33.9)	(40.9)	(39.1)	(44.6)
<b>Net cash outflow from financing activities</b>		<b>(563.6)</b>	<b>(145.4)</b>	<b>(556.2)</b>	<b>(132.9)</b>
<b>Increase / (decrease) in cash and cash equivalents in the year</b>		<b>270.7</b>	<b>(173.8)</b>	<b>240.3</b>	<b>(172.5)</b>
Exchange differences on cash and cash equivalents		9.2	–	–	–
Cash and cash equivalents at beginning of year		3.9	182.6	(26.8)	145.7
Transferred to current assets classified as held for sale		–	(4.9)	–	–
<b>Cash and cash equivalents at end of year</b>	35	<b>283.8</b>	<b>3.9</b>	<b>213.5</b>	<b>(26.8)</b>
<b>Reconciliation to net debt</b>					
Increase / (decrease) in cash and cash equivalents in the year		270.7	(173.8)	240.3	(172.5)
Repayment of / (proceeds from) borrowings and finance leases		77.2	(49.1)	64.6	(55.9)
Change in net debt resulting from cash flows		347.9	(222.9)	304.9	(228.4)
Transferred to assets classified as held for sale		–	(4.9)	–	–
Exchange differences on net debt		(28.4)	(37.4)	(41.3)	(36.5)
Movement in net debt in year		319.5	(265.2)	263.6	(264.9)
Net debt at beginning of year		(994.4)	(729.2)	(980.7)	(715.8)
<b>Net debt at end of year</b>	26	<b>(674.9)</b>	<b>(994.4)</b>	<b>(717.1)</b>	<b>(980.7)</b>

The notes on pages 143 to 181 form an integral part of the accounts.

## CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

for the year ended 31st March 2016

	Share capital £ million	Share premium account £ million	Shares held in ESOT £ million	Other reserves (note 33) £ million	Retained earnings £ million	Total attributable to equity holders £ million	Non-controlling interests £ million	Total equity £ million
At 1st April 2014	220.7	148.3	(52.7)	(27.9)	1,271.1	1,559.5	(6.3)	1,553.2
Profit for the year	–	–	–	–	428.7	428.7	(1.4)	427.3
Remeasurements of post-employment benefit assets and liabilities	–	–	–	–	(52.1)	(52.1)	–	(52.1)
Cash flow hedges	–	–	–	(16.2)	–	(16.2)	–	(16.2)
Net investment hedges	–	–	–	26.5	–	26.5	–	26.5
Available-for-sale investments	–	–	–	6.1	–	6.1	–	6.1
Currency translation differences	–	–	–	(11.8)	–	(11.8)	0.2	(11.6)
Tax on other comprehensive income	–	–	–	2.3	13.7	16.0	–	16.0
Total comprehensive income	–	–	–	6.9	390.3	397.2	(1.2)	396.0
Dividends paid (note 12)	–	–	–	–	(129.9)	(129.9)	(0.2)	(130.1)
Purchase of non-controlling interests	–	–	–	–	(6.6)	(6.6)	(2.8)	(9.4)
Purchase of shares by ESOT	–	–	(17.1)	–	–	(17.1)	–	(17.1)
Share-based payments	–	–	–	–	14.6	14.6	–	14.6
Cost of shares transferred to employees	–	–	15.1	–	(22.2)	(7.1)	–	(7.1)
At 31st March 2015	220.7	148.3	(54.7)	(21.0)	1,517.3	1,810.6	(10.5)	1,800.1
Profit for the year	–	–	–	–	333.1	333.1	(7.4)	325.7
Remeasurements of post-employment benefit assets and liabilities	–	–	–	–	180.1	180.1	–	180.1
Cash flow hedges	–	–	–	5.6	–	5.6	–	5.6
Net investment hedges	–	–	–	(1.2)	–	(1.2)	–	(1.2)
Available-for-sale investments	–	–	–	(5.0)	–	(5.0)	(0.5)	(5.5)
Currency translation differences	–	–	–	24.0	–	24.0	0.1	24.1
Tax on other comprehensive income	–	–	–	(4.7)	(39.1)	(43.8)	–	(43.8)
Total comprehensive income	–	–	–	18.7	474.1	492.8	(7.8)	485.0
Dividends paid (note 12)	–	–	–	–	(444.6)	(444.6)	(0.2)	(444.8)
Purchase of shares by ESOT	–	–	(3.3)	–	–	(3.3)	–	(3.3)
Share-based payments	–	–	–	–	4.3	4.3	–	4.3
Cost of shares transferred to employees	–	–	3.1	–	(10.1)	(7.0)	–	(7.0)
Tax on share-based payments	–	–	–	–	0.3	0.3	–	0.3
At 31st March 2016	220.7	148.3	(54.9)	(2.3)	1,541.3	1,853.1	(18.5)	1,834.6

The notes on pages 143 to 181 form an integral part of the accounts.

## 5. Accounts

**PARENT COMPANY STATEMENT OF CHANGES IN EQUITY**

for the year ended 31st March 2016

	Share capital £ million	Share premium account £ million	Shares held in ESOT £ million	Other reserves (note 33) £ million	Retained earnings £ million	Total equity £ million
At 1st April 2014	220.7	148.3	(52.7)	1.6	953.9	1,271.8
Profit for the year	–	–	–	–	284.0	284.0
Remeasurements of post-employment benefit assets and liabilities	–	–	–	–	(22.2)	(22.2)
Cash flow hedges	–	–	–	(13.9)	–	(13.9)
Currency translation differences	–	–	–	0.6	–	0.6
Tax on other comprehensive income	–	–	–	2.8	4.3	7.1
Total comprehensive income	–	–	–	(10.5)	266.1	255.6
Dividends paid (note 12)	–	–	–	–	(129.9)	(129.9)
Purchase of shares by ESOT	–	–	(17.1)	–	–	(17.1)
Share-based payments	–	–	–	–	11.7	11.7
Cost of shares transferred to employees	–	–	15.1	–	(19.2)	(4.1)
At 31st March 2015	220.7	148.3	(54.7)	(8.9)	1,082.6	1,388.0
Profit for the year	–	–	–	–	112.9	112.9
Remeasurements of post-employment benefit assets and liabilities	–	–	–	–	164.9	164.9
Cash flow hedges	–	–	–	4.8	–	4.8
Available-for-sale investments	–	–	–	3.0	–	3.0
Currency translation differences	–	–	–	0.6	–	0.6
Tax on other comprehensive income	–	–	–	(1.1)	(34.2)	(35.3)
Total comprehensive income	–	–	–	7.3	243.6	250.9
Dividends paid (note 12)	–	–	–	–	(444.6)	(444.6)
Purchase of businesses from subsidiaries	–	–	–	–	(1.7)	(1.7)
Purchase of shares by ESOT	–	–	(3.3)	–	–	(3.3)
Share-based payments	–	–	–	–	1.6	1.6
Cost of shares transferred to employees	–	–	3.1	–	(7.3)	(4.2)
<b>At 31st March 2016</b>	<b>220.7</b>	<b>148.3</b>	<b>(54.9)</b>	<b>(1.6)</b>	<b>874.2</b>	<b>1,186.7</b>

The notes on pages 143 to 181 form an integral part of the accounts.

# ACCOUNTING POLICIES

for the year ended 31st March 2016

The group's and parent company's significant accounting policies, together with the judgments made by management in applying those policies which have the most significant effect on the amounts recognised in the accounts, are:

## 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.

## 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 incorporated 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 incorporated 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.

## 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 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 including 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 either:

- 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 they are made available to the customer and ownership transfers before despatch; or
- on notification that the product has been used when the goods 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 the proportion that costs incurred to date bear to the estimated total costs.

With royalties and licence income, revenue is recognised in accordance with the substance of the relevant agreement. Where they 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.

## 5. Accounts

**ACCOUNTING POLICIES**

for the year ended 31st March 2016

**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 the proportion that contract costs incurred to date bear to the 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 the 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 IFRS 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 are 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**

Goodwill arises on the acquisition of a business when the fair value of the consideration given 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 so 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**

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: 1 to 15 years for customer contracts and relationships; 3 to 10 years for capitalised computer software; 3 to 20 years for patents, trademarks and licences; 4 to 10 years for acquired research and technology; and 3 to 8 years for capitalised development currently being amortised.

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 then the investment in that subsidiary is assessed for an indication of impairment.

**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.

# ACCOUNTING POLICIES

for the year ended 31st March 2016

## 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. 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 under IFRS as held for trading, but are used to manage financial risk.

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.

## 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 financial 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 from equity to operating profit.
- All other financial assets and liabilities, including short term receivables and payables, are measured at amortised cost less any impairment provision.

## ACCOUNTING POLICIES

for the year ended 31st March 2016

### Taxation

Current and deferred tax are recognised in the income statement, except when they relate to items recognised directly in equity when 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 amount 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 restructurings. Otherwise, material contingent liabilities are disclosed unless 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 outstanding shares allocated to employees under the long term incentive plan 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 vesting 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.

### Pensions and other 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. Obligations are measured at present value using the projected unit credit method and a discount rate reflecting yields on high quality corporate bonds. Assets are measured at their fair value at the balance sheet date. 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 demographic and financial assumptions, are recognised in other comprehensive income.

### Standards and interpretations adopted in the year

Amendments to International Accounting Standard (IAS) 39 – 'Defined Benefit Plans: Employee Contributions', 'Annual Improvements to IFRSs 2010-2012 Cycle' and 'Annual Improvements to IFRSs 2011-2013 Cycle' were adopted during the year. There was no material impact on the reported results or financial position of the group and parent company.

### Standards and interpretations issued but not yet applied

IFRS 9 – 'Financial Instruments' and IFRS 15 – 'Revenue from Contracts with Customers' are expected to be adopted from 1st April 2018 and IFRS 16 – 'Leases' from 1st April 2019. Their effects on the reported results and financial position of the group and parent company are still being evaluated.

The effects of any standards and interpretations amended or issued after 30th April 2016 have not yet been evaluated.

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.

# NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 1 Segmental information

For management purposes, the group is organised into five operating divisions – Emission Control Technologies, Process Technologies, Precious Metal Products, Fine Chemicals and New Businesses. Each division is represented by a director on the Board of Directors. These operating divisions represent the group's segments. Their principal activities are described on pages 42 to 57. The performance of the divisions is assessed by the Board of Directors on underlying operating profit, which is before amortisation of acquired intangibles, major impairment and restructuring charges and profit or loss on sale or liquidation of businesses. Each division is also assessed on sales excluding the value of precious metals including inter-segment sales (referred to as sales excluding precious metals below). Sales between segments are made at market prices, taking into account the volumes involved.

### Year ended 31st March 2016

	Emission Control Technologies £ million	Process Technologies £ million	Precious Metal Products £ million	Fine Chemicals £ million	New Businesses £ million	Eliminations £ million	Total £ million
Revenue from external customers	3,262.8	519.4	6,454.1	318.5	159.1	–	10,713.9
Inter-segment revenue	221.0	31.3	1,213.3	6.4	1.6	(1,473.6)	–
Total revenue	3,483.8	550.7	7,667.4	324.9	160.7	(1,473.6)	10,713.9
External sales excluding precious metals	1,912.7	510.0	307.9	291.4	155.0	–	3,177.0
Inter-segment sales	0.4	31.2	34.6	4.8	1.5	(72.5)	–
<b>Sales excluding precious metals</b>	<b>1,913.1</b>	<b>541.2</b>	<b>342.5</b>	<b>296.2</b>	<b>156.5</b>	<b>(72.5)</b>	<b>3,177.0</b>
Segmental underlying operating profit / (loss)	272.2	73.6	66.3	82.3	(17.9)	–	476.5
Unallocated corporate expenses							(25.7)
<b>Underlying operating profit</b>							<b>450.8</b>
Profit on sale or liquidation of businesses (note 3)							130.0
Amortisation of acquired intangibles (note 4)							(20.9)
Major impairment and restructuring charges (note 5)							(141.0)
Operating profit							418.9
Net finance costs							(32.6)
<b>Profit before tax</b>							<b>386.3</b>
Segmental net assets	903.2	756.2	313.5	457.3	100.8	–	2,531.0
Net debt							(674.9)
Post-employment benefit net assets and liabilities							(6.0)
Deferred income tax assets and liabilities							(77.2)
Provisions and non-current other payables							(67.8)
Investments in joint venture and associate							20.1
Unallocated corporate net assets							109.4
Net assets							1,834.6
Segmental capital expenditure	68.9	37.0	39.8	54.5	7.4	–	207.6
Other additions to non-current assets (excluding financial, deferred tax and post-employment benefit net assets)	2.0	16.2	16.2	2.6	17.3	–	54.3
Segmental total additions to non-current assets	70.9	53.2	56.0	57.1	24.7	–	261.9
Corporate capital expenditure							49.4
Total additions to non-current assets							311.3
Segment depreciation and amortisation	61.3	29.0	17.8	18.7	7.9	–	134.7
Corporate depreciation							4.6
Amortisation of acquired intangibles (note 4)							18.3
Total depreciation and amortisation							157.6

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 1 Segmental information (continued)

Year ended 31st March 2015

	Emission Control Technologies £ million	Process Technologies £ million	Precious Metal Products £ million	Fine Chemicals £ million	New Businesses £ million	Eliminations £ million	Total £ million
Revenue from external customers	3,321.4	593.3	5,690.2	362.6	92.2	–	10,059.7
Inter-segment revenue	256.3	6.3	1,487.8	7.7	1.1	(1,759.2)	–
Total revenue	3,577.7	599.6	7,178.0	370.3	93.3	(1,759.2)	10,059.7
External sales excluding precious metals	1,781.2	585.1	384.6	323.5	89.6	–	3,164.0
Inter-segment sales	0.7	6.1	32.5	4.6	0.9	(44.8)	–
<b>Sales excluding precious metals (adjusted)</b>	1,781.9	591.2	417.1	328.1	90.5	(44.8)	3,164.0
Segmental underlying operating profit / (loss)	236.9	106.0	101.5	88.8	(22.1)	–	511.1
Unallocated corporate expenses							(34.0)
<b>Underlying operating profit</b>							477.1
Profit on sale or liquidation of businesses							73.0
Amortisation of acquired intangibles (note 4)							(17.3)
Operating profit							532.8
Net finance costs							(37.5)
Share of profit of joint venture							0.5
<b>Profit before tax</b>							495.8
Segmental net assets	1,033.8	778.3	554.2	509.5	134.0	–	3,009.8
Net debt							(994.4)
Post-employment benefit net assets and liabilities							(196.5)
Deferred income tax assets and liabilities							(48.4)
Provisions and non-current other payables							(62.7)
Investment in joint venture							3.9
Non-segmental assets and liabilities classified as held for sale							4.0
Unallocated corporate net assets							84.4
Net assets							1,800.1
Segmental capital expenditure	69.2	49.7	31.6	35.7	6.5	–	192.7
Other additions to non-current assets (excluding financial, deferred tax and post-employment benefit net assets) (restated note 40)	–	10.0	1.4	–	59.8	–	71.2
Segmental total additions to non-current assets	69.2	59.7	33.0	35.7	66.3	–	263.9
Corporate capital expenditure							19.1
Total additions to non-current assets							283.0
Segment depreciation and amortisation	57.8	29.7	20.3	18.4	4.0	–	130.2
Corporate depreciation							4.5
Amortisation of acquired intangibles (note 4)							17.3
Total depreciation and amortisation							152.0

Sales excluding precious metals have been adjusted to include certain non pass through precious metal items.

The group received £1,685.0 million of revenue from one external customer (2015 £1,258.0 million) which is 16% (2015 13%) of the group's revenue from external customers. The revenue is reported in Precious Metal Products as it is generated by the group's precious metal management activities and so has a very low return on sales.

# NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 1 Segmental information (continued)

The group's country of domicile is the UK. Revenue from external customers is based on the customer's location. Non-current assets are based on the location of the assets and exclude financial assets, deferred tax assets and post-employment benefit net assets.

	Revenue from external customers		Non-current assets	
	2016	2015	2016	2015 restated (note 40)
	£ million	£ million	£ million	£ million
UK	3,511.5	2,421.7	775.4	772.1
Germany	983.5	1,176.9	211.8	190.7
Rest of Europe	1,302.2	1,137.5	221.7	216.4
USA	2,044.5	2,492.9	413.9	388.6
Rest of North America	171.4	226.6	28.8	31.1
China (including Hong Kong)	1,024.8	1,145.9	137.7	107.1
Rest of Asia	1,199.1	952.2	110.6	107.9
Rest of World	476.9	506.0	17.0	20.7
Total	10,713.9	10,059.7	1,916.9	1,834.6

## 2 Revenue

	2016 £ million	2015 £ million
Sale of goods	10,547.5	9,846.8
Rendering of services	126.3	172.0
Royalties and licence income	40.1	40.9
<b>Total revenue</b>	<b>10,713.9</b>	<b>10,059.7</b>

## 3 Profit on sale or liquidation of businesses

On 30th September 2015 the group sold its Fine Chemicals' Research Chemicals business to Thermo Fisher Scientific Inc, a world leader in providing services to the scientific community, for £255.5 million resulting in a profit of £130.5 million. The sale of the Research Chemicals business is a further step in delivering the group's long term strategy to focus on areas where it can use its expertise in complex chemistry and its applications to deliver value adding sustainable technologies for its customers.

The net assets disposed of were:

	£ million
Property, plant and equipment	28.1
Goodwill	21.8
Intangible assets	3.7
Deferred income tax assets	0.2
Post-employment benefit net assets	0.1
Inventories	53.9
Trade and other receivables	15.8
Cash and cash equivalents	2.3
Trade and other payables	(9.4)
Current income tax assets	0.3
Employee benefit obligations	(0.7)
<b>Total net assets</b>	<b>116.1</b>

On 5th March 2015 the group sold its Precious Metals Products' Gold and Silver Refining business. The completion accounts were finalised during the year which led to a charge this year of £0.5 million adjusting the profit on sale of £69.7 million recognised in the year ended 31st March 2015.

These are excluded from underlying operating profit.

## 4 Amortisation of acquired intangibles

The amortisation of intangible assets which arise on the acquisition of businesses, together with any subsequent impairment of these intangible assets (£2.6 million), is shown separately on the face of the income statement. It is excluded from underlying operating profit.

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 5 Major impairment and restructuring charges

Due to challenging conditions in a number of its markets the group conducted restructuring programmes in a number of its businesses. These resulted in a major impairment and restructuring charge of £141.0 million which is excluded from underlying operating profit.

	Impairment of property, plant and equipment £ million	Impairment of computer software £ million	Impairment of development expenditure £ million	Termination benefits £ million	Inventories write-downs £ million	Other £ million	Total £ million
Emission Control Technologies	10.7	0.2	–	5.9	0.4	2.9	20.1
Process Technologies	36.1	–	–	22.1	2.1	1.4	61.7
Precious Metal Products	1.2	–	–	5.2	–	3.5	9.9
New Businesses	26.8	0.2	11.9	2.1	1.1	0.3	42.4
Unallocated corporate expenses	3.5	–	–	2.4	–	1.0	6.9
Total	78.3	0.4	11.9	37.7	3.6	9.1	141.0

The impairment in Emission Control Technologies (ECT) is as a result of the decision to cease manufacturing in Korea in order to optimise the division's supply chain and ECT Korea's recoverable amount is £ nil using its value in use with a discount rate of 11.4%.

The impairments in Process Technologies are individual assets, mainly plant and machinery, and have been calculated by estimating their values in use using a discount rate of 12.8% for assets in India, 10.5% for the UK and 13.2% for USA. The recoverable amount of the individual assets is £8.3 million.

The impairment in New Businesses is as a result of a change in anticipated market demand for its Fuel Cells business' products. The Fuel Cells business' recoverable amount is £14.0 million using its estimated value in use with a discount rate of 9.6%.

## 6 Operating profit

	2016 £ million	2015 £ million
Operating profit is arrived at after charging / (crediting):		
Total research and development expenditure	188.0	169.9
less development expenditure capitalised	(13.2)	(8.5)
Research and development charged	174.8	161.4
less external funding received – from government grants	(8.7)	(8.1)
– from other organisations	(5.5)	(4.3)
Net research and development	160.6	149.0
Other government grants	(0.1)	–
Inventories recognised as an expense	9,117.4	8,430.4
Write-down of inventories recognised as an expense	15.6	5.8
Reversal of write-down of inventories arising from increases in net realisable value	(2.4)	(1.7)
Net losses / (gains) on foreign exchange	3.1	(0.7)
Net (gains) / losses on foreign currency forwards held for trading	(5.3)	0.2
Cash flow hedges transferred from equity – revenue	1.4	(1.2)
– cost of sales	8.2	(15.1)
– finance costs	0.4	0.4
– total	10.0	(15.9)
Depreciation of property, plant and equipment	127.9	122.3
Amortisation of internally generated intangible assets included in cost of sales	6.7	4.9
Amortisation of other intangible assets included in – cost of sales	2.1	4.3
– administrative expenses	2.6	3.2
– amortisation of acquired intangibles (note 4)	18.3	17.3
Operating lease rentals payable – minimum lease payments	18.1	17.1
– sublease payments received	–	(0.1)

# NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 7 Fees payable to auditors

	2016 £ million	2015 £ million
Fees payable to the company's auditor and its associates for:		
The audit of these accounts	0.6	0.6
The audit of the accounts of the company's subsidiaries	1.4	1.3
Total audit	2.0	1.9
Audit-related assurance services	0.1	0.2
Total audit and audit-related services	2.1	2.1
Taxation compliance services	0.1	0.1
Taxation advisory services	0.1	0.1
All other assurance services	0.3	–
All other services	0.1	–
<b>Total fees payable to the company's auditor and its associates</b>	<b>2.7</b>	<b>2.3</b>

Audit fees paid to other auditors were £ nil (2015 £0.1 million).

## 8 Finance costs

	2016 £ million	2015 £ million
Net loss on remeasurement of foreign currency swaps held for trading	0.1	0.1
Net losses on financial assets and liabilities classified as held for trading	0.1	0.1
Interest payable on financial liabilities measured at amortised cost	33.3	39.3
Interest on post-employment benefits	6.6	7.3
Unwinding of discount on provisions	0.2	0.3
<b>Total finance costs</b>	<b>40.2</b>	<b>47.0</b>

## 9 Finance income

	2016 £ million	2015 £ million
Interest receivable on interest rate swaps	2.1	5.1
Net gains on financial assets and liabilities classified as held for trading	2.1	5.1
Net gain on remeasurement of fair value hedges and related hedged items to fair value	0.5	0.5
Interest receivable on available-for-sale investments, loans and receivables	5.0	3.9
<b>Total finance income</b>	<b>7.6</b>	<b>9.5</b>

## 10 Taxation

	2016 £ million	2015 £ million
<b>Current tax</b>		
Corporation tax on profits for the year	104.0	77.7
Benefit from previously unrecognised tax losses, tax credits or temporary differences	(5.1)	–
Adjustment for prior years	(21.1)	(21.1)
Total current tax	77.8	56.6
<b>Deferred tax</b>		
Origination and reversal of temporary differences	(15.1)	13.9
Changes in tax rates and laws	(5.6)	(1.0)
Write-downs, or reversal of previous write-downs, of deferred tax assets	1.5	–
Adjustment for prior years	2.0	(1.0)
Total deferred tax	(17.2)	11.9
<b>Income tax expense</b>	<b>60.6</b>	<b>68.5</b>

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 10 Taxation (continued)

The tax charge for the year can be reconciled to the profit per the income statement as follows:

	2016 £ million	2015 £ million
Profit before tax	386.3	495.8
Tax expense at UK corporation tax rate of 20% (2015 21%)	77.3	104.1
Effects of:		
Overseas tax rates	9.4	15.3
Expenses not deductible for tax purposes	12.3	3.9
Unutilised losses	6.9	2.4
Utilisation of tax losses and tax holidays	(14.0)	(7.1)
Adjustments for prior years	(19.1)	(22.1)
Innovation – tax incentives	(11.1)	(10.4)
Reduction in deferred tax resulting from decrease in UK tax rates	(5.6)	(1.0)
Disposals	(8.1)	(14.1)
Irrecoverable withholding tax	8.8	–
Other	3.8	(2.5)
Tax expense for the year	60.6	68.5

Expenses not deductible for tax purposes in 2016 include certain non-deductible costs related to the group's restructuring activities. Utilisation of tax losses and tax holidays is mainly the benefit of the tax holidays in Macedonia. Adjustments for prior years include the impact of successful resolution of overseas tax audits and the expiry of relevant statute of limitations. Other includes the tax effect of funding overseas operations and the movement on certain global tax provisions whose ultimate outcome cannot be ascertained with certainty.

In October 2015 the UK government substantively enacted changes in the UK corporation tax rate from 20% to 19% from 1st April 2017 and to 18% from 1st April 2020 and so the UK deferred tax balances at 31st March 2016 have been recalculated at the new rates.

## 11 Earnings per ordinary share

	2016 pence	2015 pence
Basic	166.2	211.2
Diluted	165.9	210.7

Earnings per ordinary share have been calculated by dividing the profit attributable to owners of the parent company by the weighted average number of shares in issue during the period.

	2016	2015
<b>Weighted average number of shares in issue</b>		
Basic	200,470,481	202,993,386
Dilution for share options and long term incentive plans	274,966	500,635
Diluted	200,745,447	203,494,021

Underlying earnings per ordinary share are calculated as follows:

	2016 £ million	2015 £ million
Profit for the year attributable to equity holders of the parent company	333.1	428.7
Profit on sale or liquidation of businesses (note 3)	(130.0)	(73.0)
Amortisation of acquired intangibles (note 4)	20.9	17.3
Major impairment and restructuring charges (note 5)	141.0	–
Tax thereon	(6.8)	(6.4)
Underlying profit for the year	358.2	366.6
	pence	pence
Underlying earnings per share		
Basic	178.7	180.6
Diluted	178.4	180.2

# NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 12 Dividends

	2016 £ million	2015 £ million
2013/14 final ordinary dividend paid – 45.5 pence per share	–	92.3
2014/15 interim ordinary dividend paid – 18.5 pence per share	–	37.6
2014/15 final ordinary dividend paid – 49.5 pence per share	100.5	–
Special dividend paid – 150.0 pence per share	304.5	–
2015/16 interim ordinary dividend paid – 19.5 pence per share	39.6	–
<b>Total dividends</b>	<b>444.6</b>	<b>129.9</b>

A final dividend of 52.0 pence per ordinary share has been proposed by the board which will be paid on 2nd August 2016 to shareholders on the register at the close of business on 10th June 2016, subject to shareholders' approval. The estimated amount to be paid is £99.7 million and has not been recognised in these accounts.

## 13 Employee and key management personnel costs

### 13a Employee numbers

	2016	2015
The average monthly number of employees during the year was:		
Emission Control Technologies	4,929	4,574
Process Technologies	2,377	2,230
Precious Metal Products	2,195	2,577
Fine Chemicals	1,367	1,450
New Businesses	993	733
Corporate and Central Research	633	584
<b>Average number of employees</b>	<b>12,494</b>	<b>12,148</b>
<b>Actual number of employees at 31st March</b>	<b>12,325</b>	<b>12,266</b>

The number of temporary employees included above at 31st March 2016 was 627 (2015 617).

The actual number of staff was:

	At 31st March 2016			At 31st March 2015		
	Actual employees	Agency staff	Total headcount	Actual employees	Agency staff	Total headcount
Emission Control Technologies	4,963	483	5,446	4,683	499	5,182
Process Technologies	2,226	46	2,272	2,331	278	2,609
Precious Metal Products	2,180	127	2,307	2,244	118	2,362
Fine Chemicals	1,238	6	1,244	1,489	25	1,514
New Businesses	1,047	248	1,295	898	138	1,036
Corporate and Central Research	671	56	727	621	35	656
<b>Total</b>	<b>12,325</b>	<b>966</b>	<b>13,291</b>	<b>12,266</b>	<b>1,093</b>	<b>13,359</b>

### 13b Employee benefits expense

	2016 £ million	2015 £ million
Wages and salaries	478.0	469.9
Social security costs	50.7	50.6
Pension and other post-employment costs	70.5	56.4
Termination benefits	37.9	0.9
Share-based payments	4.3	14.6
<b>Total employee benefits expense</b>	<b>641.4</b>	<b>592.4</b>

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 13 Employee and key management personnel costs (continued)

## 13c 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 2016 the GMC had an average of 10 members (2015 10 members). Their compensation charged in the year was:

	2016 £ million	2015 £ million
Short term employee benefits	5.6	6.4
Pension and other post-employment costs	0.2	0.3
Share-based payments	(0.3)	2.5
Termination benefits	0.6	–
Non-Executive Directors' fees and benefits	0.7	0.6
<b>Total compensation of key management personnel</b>	<b>6.8</b>	<b>9.8</b>

Other than the compensation above, there were no transactions with any key management personnel. Balances outstanding at the year end were termination benefits of £0.5 million. Information on the directors' remuneration is given in the Remuneration Report on pages 108 to 126.

## 14 Share-based payments

## Long Term Incentive Plan (LTIP)

Under the LTIP, shares are allocated to approximately 1,300 of the group's executive directors, senior managers and middle managers based on a percentage of salary and are subject to performance targets over a three year period. At 31st March 2016, shares allocated in 2013, 2014 and 2015 (at 31st March 2015, shares allocated in 2012, 2013 and 2014) were outstanding in respect of which the performance period has not expired. The minimum release of 15% of the allocation is subject to the achievement of underlying earnings per share (EPS) growth of 6% compound per annum over the three year period. For shares allocated in 2015 onwards, the maximum release of 100% of the allocation is subject to EPS growing by at least 12% compound per annum and for shares allocated prior to 2015, the maximum release is subject to EPS growing by at least 15% compound per annum. The number of allocated shares released will vary on a straight line basis between these points. Allocations will lapse if the EPS growth is less than 6% compound per annum over the three year performance period. Shares allocated in 2014 onwards to the executive directors only are also subject to a deferred release whereby a third is released on the third anniversary of the date of the allocation and the remaining vested shares are released in equal instalments on the fourth and fifth anniversaries of the date of the allocation; plus the Remuneration Committee is entitled to claw back the allocations in cases of misstatement or misconduct. Of the shares allocated in 2012, 15.64% were released during the year.

## Share options

Prior to 31st March 2007, equity settled share options were granted to employees at the average of the market value of the company's shares over the three days prior to the date of grant and have a maximum life of ten years. The number of shares over which options were granted was based on a percentage of the employee's salary and approximately 800 employees were granted options each year. Options granted in 2004 to 2006 were subject to a minimum three year performance target of EPS growth of UK RPI plus 3% per annum. Other performance targets were EPS growth of UK RPI plus 4% per annum and EPS growth of UK RPI plus 5% per annum. If the performance targets were not met at the end of the three year performance period, the options would lapse. The targets for options granted in 2004, 2005 and the 3% and 4% targets for options granted in 2006 have been met and so these options are exercisable. The 5% target for options granted in 2006 was not met and so these options have lapsed. Gains are capped at 100% of the grant price.

## 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.

## 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 allocated to the employee. In the UK SIP, if the employee sells or transfers partnership shares within three years from the date of allocation, 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.

## 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 shares 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.

Further details of the directors' remuneration under share-based payment plans are given in the Remuneration Report on pages 108 to 126.

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

### 14 Share-based payments (continued)

Share options were exercised on a regular basis throughout the year. The average share price during the year was 2,801.1 pence (2015 3,196.8 pence). Activity relating to share options was:

	2016 Number of options	2016 Weighted average exercise price pence	2015 Number of options	2015 Weighted average exercise price pence
Outstanding at the start of the year	19,967	1,246.5	32,303	1,213.6
Forfeited during the year	(2,240)	1,129.3	(7,493)	1,151.7
Exercised during the year	(11,882)	1,251.1	(4,843)	1,173.8
Outstanding at the end of the year	5,845	1,282.0	19,967	1,246.5
Exercisable at the end of the year	5,845	1,282.0	19,967	1,246.5

Details of share options outstanding at the end of the year are:

	2016 Number of options	2016 Weighted average remaining life years	2015 Number of options	2015 Weighted average remaining life years
<b>Range of exercise price</b>				
1,000 pence to 1,100 pence	–	–	3,344	0.3
1,200 pence to 1,300 pence	5,845	0.3	16,623	1.3
	5,845	0.3	19,967	1.2

The fair value of the shares allocated during the year under the LTIP was 2,718.8 pence per share allocation (2015 2,683.7 pence per share allocation). The fair value was based on the share price at the date of allocation of 2,915.0 pence (2015 2,884.0 pence) adjusted for the present value of the expected dividends that will not be received at an expected dividend rate of 2.33% (2015 2.17%).

Activity relating to the LTIP was:

	2016 Number of allocated shares	2015 Number of allocated shares
Outstanding at the start of the year	2,262,365	2,513,341
Allocated during the year	807,172	728,488
Forfeited during the year	(124,364)	(131,463)
Released during the year	(105,881)	(700,852)
Expired during the year	(700,567)	(147,149)
Outstanding at the end of the year	2,138,725	2,262,365

The fair value of the shares awarded during the year under the deferred bonus was 2,656.3 pence per share award (2015 2,644.8 pence per share award), based on the share price at the date of award of 2,915.0 pence (2015 2,884.0 pence) adjusted for the present value of the expected dividends that will not be received at an expected dividend rate of 2.33% (2015 2.17%).

Activity relating to the deferred bonus was:

	2016 Number of awarded shares	2015 Number of awarded shares
Outstanding at the start of the year	57,844	33,764
Awarded during the year	43,868	24,080
Released during the year	(32,475)	–
Outstanding at the end of the year	69,237	57,844

227,014 (2015 186,180) matching shares under the SIP and 34,684 (2015 31,394) shares under the 401k plans were allocated to employees during the year. They are nil cost awards on which performance conditions are substantially completed at the date of grant. Consequently the fair value of these awards is based on the market value of the shares at that date.

The total expense recognised during the year in respect of equity settled share-based payments, taking into account expected lapses due to leavers and the probability that EPS performance conditions will not be met, was £4.3 million (2015 £14.6 million).

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

### 15 Post-employment benefits

#### 15a Group

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 now closed to new entrants but remain open to ongoing accrual for current members.

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.

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.

#### Regulatory framework and governance

The UK pension plan, the Johnson Matthey Employees Pension Scheme (JMEPS), is a registered arrangement and 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 interest 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: <http://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.

#### 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 parent 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.

#### Funding

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 the 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.

# NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 15 Post-employment benefits (continued)

### 15a Group (continued)

#### Funding (continued)

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. To address the deficit, the parent company agreed to continue to make deficit contributions of £23.1 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 £50.0 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 21) 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'.

The last annual review of the US defined benefit pension plans was carried out by a qualified actuary as at 1st July 2015 which showed a surplus of US \$4.2 million. The assumptions used for funding valuations may differ to the actuarial assumptions used for IAS 19 accounting purposes.

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
<b>Market (investment) risk</b> 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 also implement partial currency hedging on their overseas assets to mitigate currency risk.</p>
<b>Interest rate (discount rate) risk</b> 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. The swaps are held with several banks to reduce counterparty risk.</p>
<b>Inflation risk</b> 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 rate swaps. The swaps are held with several banks to reduce counterparty risk.</p>
<b>Longevity risk</b> 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 to minimise the risk of using an inappropriate assumption.</p>

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 15 Post-employment benefits (continued)

## 15a Group (continued)

## Financial assumptions

Qualified independent actuaries have updated the funding valuations under IAS 19 of the group's major defined benefit plans to 31st March 2016. 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. The main financial assumptions used were:

	2016 UK plans %	2016 US plans %	2016 Other plans %	2015 UK plans %	2015 US plans %	2015 Other plans %
First 2 (2015 first) years' rate of increase in salaries	3.00	3.00	2.50	3.10	3.30	2.69
Ultimate rate of increase in salaries	3.75	3.00	2.50	3.85	3.30	2.69
Rate of increase in pensions in payment	2.90	–	1.05	3.00	–	1.70
Discount rate	3.70	4.00	2.43	3.40	3.80	1.82
Inflation		2.20	1.53		2.20	1.75
– UK RPI	3.00			3.10		
– UK CPI	2.20			2.30		
Current medical benefits cost trend rate	5.40	6.90	–	5.50	7.18	–
Ultimate medical benefits cost trend rate	5.40	4.50	–	5.50	4.50	–

## 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 future 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 age 65		Age 65 in 25 years	
	UK plan	US plans	UK plan	US plans
Male	22.4	21.8	25.1	23.9
Female	25.5	24.0	28.3	26.1

## Sensitivities

The calculations of the defined benefit obligations are sensitive to the assumptions used. The following summarises the estimated impact of a change in the assumption on the group's main plans 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.

A 0.1% change in the discount rate and rate of increase in salaries would have the following increases / (decreases) on the pension plans' defined benefit obligations at 31st March 2016:

	0.1% increase		0.1% decrease	
	UK plan £ million	US plans £ million	UK plan £ million	US plans £ million
Effect of discount rate	(27.4)	(3.7)	28.2	3.8
Effect of inflation	26.7	–	(25.9)	–
Effect of rate of increase in salaries	2.1	1.2	(2.1)	(0.9)

A one year increase in life expectancy would have the following increase on:

	UK plan £ million	US plans £ million
Pension defined benefit obligation	40.2	4.6

A 1% point change in the assumed medical cost trend rates would have the following increase / (decrease) on:

	1% point increase		1% point decrease	
	UK plan £ million	US plan £ million	UK plan £ million	US plan £ million
Post-retirement medical plan defined benefit obligation	1.8	10.1	(1.4)	(7.9)

# NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 15 Post-employment benefits (continued)

### 15a Group (continued)

#### Estimated effect on future cash flows

It is estimated that the group will contribute about £66 million to the post-employment defined benefits plans during the year ending 31st March 2017.

The maturity profile of the defined benefit obligations will also affect future cash flows. The estimated weighted average durations of the defined benefit obligations of the main plans at 31st March 2016 are:

	UK pension years	UK post-retirement medical benefits years	US pensions years	US post-retirement medical benefits years
Weighted average duration	18.7	13.4	13.6	17.7

#### Financial information

Movements in the fair value of the 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 2014	1,216.4	—	193.8	—	45.8	1,456.0
Interest income	56.3	—	9.2	—	1.8	67.3
Settlement gains	—	—	(0.7)	—	(0.1)	(0.8)
Return on plan assets excluding interest	250.0	—	19.4	—	13.3	282.7
Employee contributions	3.8	—	0.8	0.2	0.3	5.1
Company contributions	52.7	0.3	10.3	0.7	3.1	67.1
Benefits paid	(40.3)	(0.3)	(10.3)	(0.9)	(2.4)	(54.2)
Sale of business	—	—	—	—	(17.2)	(17.2)
Exchange adjustments	—	—	27.4	—	(4.1)	23.3
At 31st March 2015	1,538.9	—	249.9	—	40.5	1,829.3
Interest income	52.6	—	9.3	—	0.8	62.7
Return on plan assets excluding interest	(27.6)	—	(8.6)	—	(5.0)	(41.2)
Employee contributions	4.1	—	0.8	0.3	0.2	5.4
Company contributions	59.9	0.4	8.2	1.0	1.6	71.1
Benefits paid	(47.1)	(0.4)	(12.1)	(1.3)	(1.2)	(62.1)
Exchange adjustments	—	—	7.4	—	2.5	9.9
<b>At 31st March 2016</b>	<b>1,580.8</b>	<b>—</b>	<b>254.9</b>	<b>—</b>	<b>39.4</b>	<b>1,875.1</b>

The fair values of plan assets were:

	2016 UK pension £ million	2016 US pensions £ million	2016 Other £ million	2015 UK pension £ million	2015 US pensions £ million	2015 Other £ million
Quoted corporate bonds	896.9	124.8	4.3	864.3	115.8	3.7
Inflation and interest rate swaps	31.2	—	—	17.1	—	—
Quoted government bonds	14.5	82.2	—	15.8	69.0	—
Cash and cash equivalents	34.3	1.1	0.4	33.2	0.6	0.9
Quoted equity	535.5	46.8	1.7	547.6	64.5	1.5
Unquoted equity	10.9	—	—	6.6	—	—
Property	57.5	—	0.2	54.3	—	0.2
Insurance policies	—	—	32.8	—	—	34.2
	<b>1,580.8</b>	<b>254.9</b>	<b>39.4</b>	1,538.9	249.9	40.5

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 2016 the defined benefit obligation related to the contributory cash balance section was £16.4 million and the fair value of the plan assets was £20.6 million.

Past service costs in the UK pension plan were pension enhancements for eligible employees who have been made redundant. A curtailment gain and past service costs arose in the US pension salaried plan during the year due to the sale of a business (note 3). A past service cost arose in the US hourly pension plan as a result of an update to the collective bargaining agreement that increased the benefit multiplier. A past service credit arose in the US post-retirement medical benefits plan due to plan amendments including an increase in the eligibility age and increased retiree premiums, deductibles and co-pays but lower out of pocket maximums.

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 15 Post-employment benefits (continued)

## 15a Group (continued)

## Financial information (continued)

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 2014	(1,295.0)	(9.4)	(207.9)	(42.4)	(69.9)	(1,624.6)
Current service cost – in operating profit	(26.5)	(0.1)	(7.8)	(1.2)	(2.4)	(38.0)
Current service cost – capitalised	(0.3)	–	–	–	–	(0.3)
Past service costs	–	–	(0.2)	(0.7)	0.6	(0.3)
Interest cost	(60.0)	(0.4)	(9.9)	(2.0)	(2.5)	(74.8)
Curtailment gains	–	–	1.6	1.0	–	2.6
Settlement gains	–	–	1.3	–	0.3	1.6
Employee contributions	(3.8)	–	(0.8)	(0.2)	(0.3)	(5.1)
Remeasurements due to changes in:						
Demographic assumptions	6.1	–	(4.0)	(2.2)	(0.9)	(1.0)
Financial assumptions	(276.9)	(1.4)	(29.0)	(0.2)	(26.7)	(334.2)
Benefits paid	40.3	0.3	10.3	0.9	2.4	54.2
Transferred to liabilities classified as held for sale	–	–	–	–	2.2	2.2
Sale of business	–	–	–	–	16.5	16.5
Exchange adjustments	–	–	(30.1)	(5.7)	7.9	(27.9)
At 31st March 2015	(1,616.1)	(11.0)	(276.5)	(52.7)	(72.8)	(2,029.1)
Current service cost – in operating profit	(37.4)	–	(9.8)	(1.3)	(2.4)	(50.9)
Current service cost – capitalised	(0.6)	–	–	–	–	(0.6)
Past service costs	(5.4)	–	(0.5)	7.1	–	1.2
Interest cost	(55.5)	(0.4)	(10.4)	(1.9)	(1.3)	(69.5)
Curtailment gains	–	–	1.2	–	–	1.2
Employee contributions	(4.1)	–	(0.8)	(0.3)	(0.2)	(5.4)
Remeasurements due to changes in:						
Demographic assumptions	73.4	(0.2)	1.5	2.3	0.2	77.2
Financial assumptions	118.6	0.7	14.8	(1.8)	11.5	143.8
Benefits paid	47.1	0.4	12.1	1.3	1.2	62.1
Transferred from liabilities classified as held for sale	–	–	–	–	(0.7)	(0.7)
Exchange adjustments	–	–	(7.9)	(1.3)	(5.0)	(14.2)
<b>At 31st March 2016</b>	<b>(1,480.0)</b>	<b>(10.5)</b>	<b>(276.3)</b>	<b>(48.6)</b>	<b>(69.5)</b>	<b>(1,884.9)</b>

Under the US Medicare legislation, a government subsidy is receivable as the US post-retirement medical benefits plan is actuarially equivalent to the Medicare Prescription Drug Act. Also, there is an insurance policy taken out to reinsure the pension commitments of one of the other 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 benefits 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 2014	–	–	–	4.8	1.0	5.8
Interest income	–	–	–	0.2	–	0.2
Return on assets excluding interest	–	–	–	0.4	–	0.4
Company contributions	–	–	–	–	0.1	0.1
Transferred to assets classified as held for sale	–	–	–	–	(1.0)	(1.0)
Exchange adjustments	–	–	–	0.7	(0.1)	0.6
At 31st March 2015	–	–	–	6.1	–	6.1
Interest income	–	–	–	0.2	–	0.2
Return on assets excluding interest	–	–	–	0.3	–	0.3
Reimbursement to company	–	–	–	(0.1)	–	(0.1)
Transferred from assets classified as held for sale	–	–	–	–	0.5	0.5
Exchange adjustments	–	–	–	0.2	–	0.2
<b>At 31st March 2016</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>6.7</b>	<b>0.5</b>	<b>7.2</b>

# NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 15 Post-employment benefits (continued)

### 15a Group (continued)

#### Financial information (continued)

The net post-employment benefit assets and liabilities were:

	UK pension £ million	UK post- retirement medical benefits £ million	US pensions £ million	US post- retirement medical benefits £ million	Other £ million	Total £ million
<b>At 31st March 2016</b>						
Defined benefit obligation	(1,480.0)	(10.5)	(276.3)	(48.6)	(69.5)	(1,884.9)
Fair value of plan assets	1,580.8	–	254.9	–	39.4	1,875.1
Reimbursement rights	–	–	–	6.7	0.5	7.2
Net post-employment benefit assets and liabilities	100.8	(10.5)	(21.4)	(41.9)	(29.6)	(2.6)
<b>At 31st March 2015</b>						
Defined benefit obligation	(1,616.1)	(11.0)	(276.5)	(52.7)	(72.8)	(2,029.1)
Fair value of plan assets	1,538.9	–	249.9	–	40.5	1,829.3
Reimbursement rights	–	–	–	6.1	–	6.1
Net post-employment benefit assets and liabilities	(77.2)	(11.0)	(26.6)	(46.6)	(32.3)	(193.7)

These are included in the balance sheet as:

	2016 Post- employment benefit net assets £ million	2016 Employee benefit obligations £ million	2016 Total £ million	2015 Post- employment benefit net assets £ million	2015 Employee benefit obligations £ million	2015 Total £ million
UK pension plan	100.8	–	100.8	–	(77.2)	(77.2)
UK post-retirement medical benefits plan	–	(10.5)	(10.5)	–	(11.0)	(11.0)
US pension plans	–	(21.4)	(21.4)	–	(26.6)	(26.6)
US post-retirement medical benefits plan	6.7	(48.6)	(41.9)	6.1	(52.7)	(46.6)
Other plans	1.6	(31.2)	(29.6)	0.8	(33.1)	(32.3)
Total post-employment plans	109.1	(111.7)	(2.6)	6.9	(200.6)	(193.7)
Other long term employee benefits		(3.4)			(2.8)	
<b>Total long term employee benefit obligations</b>		<b>(115.1)</b>			<b>(203.4)</b>	

Amounts recognised in the income statement for long term employment benefits were:

	2016 £ million	2015 £ million
<b>Operating profit</b>		
Current service cost	(50.9)	(38.0)
Past service costs	1.2	(0.3)
Curtailment gains	1.2	2.6
Settlement gains	–	0.8
Defined benefit post-employment costs charged to operating profit	(48.5)	(34.9)
Defined contribution plans' expense	(14.9)	(13.5)
Other long term employee benefits	(0.5)	(0.7)
Charge to operating profit	(63.9)	(49.1)
<b>Finance costs</b>		
Interest on plan liabilities	(69.5)	(74.8)
Interest income on plan assets	62.7	67.3
Interest income on reimbursement rights	0.2	0.2
Charge to finance costs	(6.6)	(7.3)
<b>Charge to consolidated income statement</b>	<b>(70.5)</b>	<b>(56.4)</b>

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 15 Post-employment benefits (continued)

## 15b 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 15a.

## 16 Property, plant and equipment

## 16a Group

	Freehold land and buildings £ million	Long and short leasehold £ million	Plant and machinery £ million	Assets in the course of construction £ million	Total £ million
<b>Cost</b>					
At 1st April 2014	482.7	12.9	1,392.3	104.1	1,992.0
Additions	26.6	1.9	62.4	93.8	184.7
Acquisitions (restated note 40)	10.0	0.5	28.6	0.2	39.3
Reclassifications	11.2	1.7	78.0	(90.9)	–
Transferred to assets classified as held for sale	(18.8)	(0.3)	(24.1)	(0.3)	(43.5)
Disposals	(0.4)	(0.5)	(13.2)	–	(14.1)
Sale of business	(25.0)	–	(35.3)	(0.3)	(60.6)
Exchange adjustments	5.9	1.2	40.9	3.9	51.9
At 31st March 2015 (restated)	492.2	17.4	1,529.6	110.5	2,149.7
Additions	3.6	3.0	58.8	125.1	190.5
Acquisitions (note 39)	–	0.1	2.7	–	2.8
Reclassifications	14.0	1.7	68.2	(83.9)	–
Disposals	(0.8)	–	(25.0)	(0.1)	(25.9)
Sale of business (note 3)	–	–	–	(0.2)	(0.2)
Exchange adjustments	14.7	0.6	25.9	2.8	44.0
At 31st March 2016	523.7	22.8	1,660.2	154.2	2,360.9
<b>Accumulated depreciation and impairment</b>					
At 1st April 2014	158.7	6.5	802.2	1.2	968.6
Charge for the year	17.5	1.1	103.7	–	122.3
Impairment losses	–	–	0.2	–	0.2
Transferred to assets classified as held for sale	(2.8)	(0.2)	(12.4)	–	(15.4)
Disposals	(0.1)	(0.5)	(11.7)	–	(12.3)
Sale of business	(10.1)	–	(17.2)	–	(27.3)
Exchange adjustments	4.5	0.7	27.5	0.1	32.8
At 31st March 2015	167.7	7.6	892.3	1.3	1,068.9
Charge for the year	16.7	1.4	109.8	–	127.9
Impairment losses	16.6	2.3	56.2	3.6	78.7
Disposals	(0.8)	–	(24.1)	–	(24.9)
Sale of business (note 3)	–	0.1	0.7	–	0.8
Exchange adjustments	6.3	0.4	16.4	0.1	23.2
At 31st March 2016	206.5	11.8	1,051.3	5.0	1,274.6
<b>Carrying amount at 31st March 2016</b>	<b>317.2</b>	<b>11.0</b>	<b>608.9</b>	<b>149.2</b>	<b>1,086.3</b>
Carrying amount at 31st March 2015 (restated)	324.5	9.8	637.3	109.2	1,080.8
Carrying amount at 1st April 2014	324.0	6.4	590.1	102.9	1,023.4

The carrying amount of plant and machinery includes £0.5 million (2015 £0.8 million) in respect of assets held under finance leases.

Compensation received for impaired or lost property, plant and equipment was £0.2 million (2015 £ nil).

Finance costs capitalised were £2.2 million (2015 £1.5 million) and the capitalisation rate used to determine the amount of finance costs eligible for capitalisation was 4.0% (2015 4.1%).

All the impairment losses have been included in major impairment and restructuring charges (note 5), except for £0.1 million of plant and equipment and £0.3 million of assets in the course of construction that were impaired as a result of the sale of Fine Chemicals' Research Chemicals business and so have been included in profit on sale or liquidation of businesses (note 3) (2015 £0.2 million in cost of sales in Emission Control Technologies).

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

### 16 Property, plant and equipment (continued)

#### 16b 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
<b>Cost</b>					
At 1st April 2014	104.3	1.4	439.0	15.6	560.3
Additions	9.2	–	33.9	16.8	59.9
Reclassifications	8.1	–	7.7	(15.8)	–
Disposals	(0.3)	–	(7.4)	–	(7.7)
At 31st March 2015	121.3	1.4	473.2	16.6	612.5
Additions	1.2	–	36.7	13.2	51.1
Acquisitions	–	–	0.4	–	0.4
Reclassifications	1.5	0.2	10.7	(12.4)	–
Disposals	–	–	(6.5)	–	(6.5)
At 31st March 2016	124.0	1.6	514.5	17.4	657.5
<b>Accumulated depreciation and impairment</b>					
At 1st April 2014	42.5	0.4	251.1	–	294.0
Charge for the year	3.8	0.1	30.9	–	34.8
Disposals	–	–	(5.9)	–	(5.9)
At 31st March 2015	46.3	0.5	276.1	–	322.9
Charge for the year	3.5	0.2	31.6	–	35.3
Impairment losses	–	–	20.5	0.6	21.1
Disposals	–	–	(5.9)	–	(5.9)
At 31st March 2016	49.8	0.7	322.3	0.6	373.4
<b>Carrying amount at 31st March 2016</b>	<b>74.2</b>	<b>0.9</b>	<b>192.2</b>	<b>16.8</b>	<b>284.1</b>
Carrying amount at 31st March 2015	75.0	0.9	197.1	16.6	289.6
Carrying amount at 1st April 2014	61.8	1.0	187.9	15.6	266.3

The carrying amount of plant and machinery includes £0.4 million (2015 £0.7 million) in respect of assets held under finance leases.

Finance costs capitalised were £1.8 million (2015 £0.7 million) and the capitalisation rate used to determine the amount of finance costs eligible for capitalisation was 4.0% (2015 4.1%).

### 17 Goodwill

	Group £ million	Parent company £ million
<b>Cost</b>		
At 1st April 2014	571.0	113.3
Acquisitions	8.0	7.8
Adjustments to prior year acquisitions (note 40)	(0.8)	–
Transferred to assets classified as held for sale	(21.8)	–
Exchange adjustments	(9.2)	–
At 31st March 2015 (restated)	547.2	121.1
Acquisitions (note 39)	8.4	2.3
Exchange adjustments	14.4	–
At 31st March 2016	570.0	123.4
<b>Impairment</b>		
At 1st April 2014, 31st March 2015 and 31st March 2016	–	–
<b>Carrying amount at 31st March 2016</b>	<b>570.0</b>	<b>123.4</b>
Carrying amount at 31st March 2015 (restated)	547.2	121.1
Carrying amount at 1st April 2014	571.0	113.3

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 17 Goodwill (continued)

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:

	Group		Parent company	
	2016	2015 restated (note 40) £ million	2016	2015
	£ million	£ million	£ million	£ million
Emission Control Technologies – Non-light Duty Catalysts	77.5	71.9	–	–
Process Technologies	309.3	302.4	112.6	112.6
Precious Metal Products	8.2	7.9	–	–
Fine Chemicals				
Macfarlan Smith	117.1	117.1	–	–
Pharmaceutical Materials and Services	25.1	22.7	1.7	–
Other	1.3	1.3	0.6	–
New Businesses				
Battery Technologies	21.5	21.3	8.2	8.2
Other	10.0	2.6	0.3	0.3
	570.0	547.2	123.4	121.1

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 approved by management, covering a three year period. 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.

The key assumptions were:

	Discount rate		Long term growth rate	
	2016	2015	2016	2015
Emission Control Technologies – Non-light Duty Catalysts	9.2%	9.7%	3.0%	3.0%
Process Technologies	9.3%	10.0%	2.9%	2.9%
Fine Chemicals				
Macfarlan Smith	7.5%	5.6%	3.2%	3.0%
Pharmaceutical Materials and Services	9.1%	6.6%	3.2%	3.0%
New Businesses – Battery Technologies	11.6%	11.0%	5.0%	5.0%

For the Battery Technologies CGU the long term growth rate above is used for year eleven onwards. Over the next decade, management expects the business to grow rapidly as its portfolio of battery materials is developed and so the cash flow projections for years four to ten have been extrapolated using a 15.0% (2015 15.0%) growth rate.

All the impairment tests result in headroom of more than 50% over the carrying value of the relevant CGU's net assets and so it is unlikely that a reasonably possible change in a key assumption would result in an impairment of goodwill.

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

### 18 Other intangible assets

#### 18a Group

	Customer contracts and relationships £ million	Computer software £ million	Patents, trademarks and licences £ million	Acquired research and technology £ million	Development expenditure £ million	Total £ million
<b>Cost</b>						
At 1st April 2014	141.9	58.2	29.1	56.3	110.4	395.9
Additions	–	18.6	–	–	8.5	27.1
Acquisitions	3.1	–	10.3	5.9	–	19.3
Transferred to assets classified as held for sale	(0.7)	(8.3)	–	(0.5)	–	(9.5)
Disposals	–	(0.1)	–	–	–	(0.1)
Exchange adjustments	(11.1)	0.5	0.4	(3.8)	4.8	(9.2)
At 31st March 2015	133.2	68.9	39.8	57.9	123.7	423.5
Additions	–	53.2	0.1	–	13.2	66.5
Acquisitions (note 39)	7.9	(0.3)	–	0.8	–	8.4
Disposals	–	(6.5)	–	(0.5)	–	(7.0)
Exchange adjustments	8.8	0.6	1.1	2.5	4.6	17.6
At 31st March 2016	149.9	115.9	41.0	60.7	141.5	509.0
<b>Accumulated amortisation and impairment</b>						
At 1st April 2014	66.7	46.8	18.2	10.8	70.1	212.6
Charge for the year	9.4	5.2	2.4	7.9	4.8	29.7
Transferred to assets classified as held for sale	(0.2)	(5.8)	–	–	–	(6.0)
Disposals	–	(0.1)	–	–	–	(0.1)
Exchange adjustments	(3.1)	0.3	(0.3)	(0.8)	3.7	(0.2)
At 31st March 2015	72.8	46.4	20.3	17.9	78.6	236.0
Charge for the year	9.0	4.0	3.2	6.8	6.7	29.7
Impairment losses	2.1	0.9	–	0.5	11.9	15.4
Disposals	–	(6.4)	–	(0.5)	–	(6.9)
Exchange adjustments	4.6	0.3	0.9	1.1	2.9	9.8
At 31st March 2016	88.5	45.2	24.4	25.8	100.1	284.0
<b>Carrying amount at 31st March 2016</b>	<b>61.4</b>	<b>70.7</b>	<b>16.6</b>	<b>34.9</b>	<b>41.4</b>	<b>225.0</b>
Carrying amount at 31st March 2015	60.4	22.5	19.5	40.0	45.1	187.5
Carrying amount at 1st April 2014	75.2	11.4	10.9	45.5	40.3	183.3

The impairment losses for New Businesses' customer contracts and relationships of £2.1 million and Process Technologies' acquired research and technology of £0.5 million have been included in amortisation of acquired intangibles (note 4). The impairment losses for development expenditure of £11.9 million and £0.4 million of computer software have been included in major impairment and restructuring charges (note 5). The remaining impairment loss of £0.5 million for Emission Control Technologies' computer software has been included in administrative expenses.

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 18 Other intangible assets (continued)

## 18b Parent company

	Customer contracts and relationships £ million	Computer software £ million	Patents, trademarks and licences £ million	Acquired research and technology £ million	Development expenditure £ million	Total £ million
<b>Cost</b>						
At 1st April 2014	–	19.0	0.9	6.0	9.0	34.9
Additions	–	13.7	0.1	–	1.1	14.9
Acquisitions	–	–	5.9	5.4	–	11.3
At 31st March 2015	–	32.7	6.9	11.4	10.1	61.1
Additions	–	47.6	0.1	–	1.1	48.8
Acquisitions	0.4	–	–	–	–	0.4
Disposals	–	(0.9)	–	–	–	(0.9)
At 31st March 2016	0.4	79.4	7.0	11.4	11.2	109.4
<b>Accumulated amortisation and impairment</b>						
At 1st April 2014	–	15.6	0.1	–	7.2	22.9
Charge for the year	–	2.1	0.3	0.4	0.4	3.2
At 31st March 2015	–	17.7	0.4	0.4	7.6	26.1
Charge for the year	–	1.5	0.6	1.0	0.5	3.6
Impairment losses	–	0.5	–	–	–	0.5
Disposals	–	(0.9)	–	–	–	(0.9)
At 31st March 2016	–	18.8	1.0	1.4	8.1	29.3
<b>Carrying amount at 31st March 2016</b>	<b>0.4</b>	<b>60.6</b>	<b>6.0</b>	<b>10.0</b>	<b>3.1</b>	<b>80.1</b>
Carrying amount at 31st March 2015	–	15.0	6.5	11.0	2.5	35.0
Carrying amount at 1st April 2014	–	3.4	0.8	6.0	1.8	12.0

## 19 Investments in subsidiaries

	Cost of investments in subsidiaries £ million	Accumulated impairment £ million	Carrying amount £ million
At 1st April 2014	1,797.5	(186.2)	1,611.3
Additions	279.5	–	279.5
Purchase of non-controlling interest	6.0	–	6.0
Disposals	(15.6)	–	(15.6)
At 31st March 2015	2,067.4	(186.2)	1,881.2
Additions	225.7	–	225.7
Impairment loss	–	(6.2)	(6.2)
Disposals	(50.7)	–	(50.7)
<b>At 31st March 2016</b>	<b>2,242.4</b>	<b>(192.4)</b>	<b>2,050.0</b>

The subsidiaries are shown in note 42.

As a result of the impairment of the Fuel Cells business' assets, the parent company has also impaired its investment in Johnson Matthey Fuel Cells Limited.

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

### 20 Investments in joint venture and associate

	2016 £ million	2015 £ million
Investment in joint venture	4.2	3.9
Investment in associate	15.9	–
At end of year	20.1	3.9

The movements in the year were:

	Joint venture £ million	Associate £ million	Total £ million
At 1st April 2014	3.3	–	3.3
Group's share of profit for the year	0.5	–	0.5
Group's share of other comprehensive income – currency translation differences	0.5	–	0.5
Group's share of total comprehensive income	1.0	–	1.0
Dividends	(0.4)	–	(0.4)
At 31st March 2015	3.9	–	3.9
Group's share of profit / (loss) for the year	0.6	(0.6)	–
Group's share of other comprehensive income – currency translation differences	–	0.3	0.3
Group's share of total comprehensive income	0.6	(0.3)	0.3
Dividends	(0.3)	–	(0.3)
Additions	–	16.2	16.2
At 31st March 2016	4.2	15.9	20.1

The group acquired an 11.1% interest in the ordinary share capital of Shanghai Bi Ke Clean Energy Technology Co Ltd (CECC) on 10th July 2015. In addition, a revenue share agreement was entered into by Johnson Matthey Plc. This agreement and the requirement for unanimous board decisions ensure that the group has a significant influence in CECC and so it is accounted for as an investment in associate. In the parent company, the revenue share agreement is accounted for as a non-current available-for-sale investment.

### 21 Non-current available-for-sale investments

	Group		Parent company	
	2016 £ million	2015 £ million	2016 £ million	2015 £ million
Quoted bonds purchased to fund pension deficit	49.9	54.4	–	–
Other quoted investments	0.8	–	–	–
Unquoted investments	5.9	8.4	7.1	–
	56.6	62.8	7.1	–

The quoted bonds and other quoted investments are measured at fair value using level 1 inputs (note 27). 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 27). The investment vehicles now hold some investments in quoted companies and so the fair value technique has now changed from cost to being based on the percentage ownership of the value of the underlying assets. Movements in the unquoted investments in the year are shown below but, given their size, it would be overly onerous to provide additional detail.

	Group £ million	Parent company £ million
At 1st April 2014 and 31st March 2015	8.4	–
Purchases (note 20)	–	4.1
Fair value loss recognised in other comprehensive income	(2.5)	3.0
At 31st March 2016	5.9	7.1

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 22 Inventories

	Group		Parent company	
	2016	2015 restated (note 40)	2016	2015
	£ million	£ million	£ million	£ million
Raw materials and consumables	195.1	188.8	27.2	25.2
Work in progress	203.7	426.3	33.5	139.1
Finished goods and goods for resale	254.9	243.7	62.7	59.7
	653.7	858.8	123.4	224.0

The group also holds customers' materials in the process of refining and fabrication and for other reasons.

## 23 Trade and other receivables

	Group		Parent company	
	2016	2015 restated (note 40)	2016	2015
	£ million	£ million	£ million	£ million
<b>Current</b>				
Trade receivables	774.1	805.4	147.2	176.2
Amounts receivable from long term contract customers	17.3	15.2	–	–
Amounts receivable from subsidiaries classified as held for sale	–	40.1	–	–
Amounts receivable from subsidiaries	–	–	706.0	1,184.7
Prepayments and accrued income	69.3	75.8	25.3	20.4
Value added tax and other sales tax receivable	44.2	41.0	10.5	7.2
Other receivables	43.1	155.0	79.6	51.3
<b>Current trade and other receivables</b>	<b>948.0</b>	<b>1,132.5</b>	<b>968.6</b>	<b>1,439.8</b>
<b>Non-current</b>				
Amounts receivable from subsidiaries	–	–	1,040.2	897.9
Prepayments and accrued income	15.4	15.1	40.9	41.8
Other receivables	0.2	0.2	–	–
<b>Non-current trade and other receivables</b>	<b>15.6</b>	<b>15.3</b>	<b>1,081.1</b>	<b>939.7</b>

Other receivables include bank acceptance drafts received from Emission Control Technologies' customers in China as payment. These reduced to £14.0 million at 31st March 2016 from £96.6 million at 31st March 2015.

## 24 Trade and other payables

	Group		Parent company	
	2016	2015	2016	2015
	£ million	£ million	£ million	£ million
<b>Current</b>				
Trade payables	454.2	384.2	144.1	134.6
Amounts payable to long term contract customers	40.7	64.0	–	–
Amounts payable to subsidiaries classified as held for sale	–	17.2	–	–
Amounts payable to subsidiaries	–	–	2,095.0	1,902.4
Accruals and deferred income	254.9	279.7	88.5	95.1
Other payables	62.5	54.4	23.6	21.7
<b>Current trade and other payables</b>	<b>812.3</b>	<b>799.5</b>	<b>2,351.2</b>	<b>2,153.8</b>
<b>Non-current</b>				
Amounts payable to subsidiaries	–	–	478.1	275.4
Accruals and deferred income	0.2	0.2	–	–
Other payables	5.7	5.3	3.0	3.0
<b>Non-current trade and other payables</b>	<b>5.9</b>	<b>5.5</b>	<b>481.1</b>	<b>278.4</b>

# NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 25 Long term contracts

	2016 £ million	2015 £ million
Contract revenue recognised	79.4	91.8
Contracts in progress at the year end:		
Costs incurred plus recognised profits less recognised losses to date	337.7	311.5
Amount of advances received	42.8	61.7

## 26 Net debt

	Group		Parent company	
	2016 £ million	2015 £ million	2016 £ million	2015 £ million
<b>Non-current borrowings, finance leases and related swaps</b>				
Bank, other loans and related swaps				
3.39% US Dollar Bonds 2028	125.1	121.4	125.1	121.4
3.14% US Dollar Bonds 2025	90.6	88.0	90.6	88.0
3.57% Sterling Bonds 2024	65.0	65.0	65.0	65.0
2.44% Euro Bonds 2023	15.8	14.6	15.8	14.6
2.99% US Dollar Bonds 2023	115.0	111.6	115.0	111.6
3.26% US Dollar Bonds 2022	110.9	106.0	110.9	106.0
Euro European Investment Bank (EIB) loan 2022	130.8	–	130.8	–
4.66% Euro Bonds 2021	79.0	72.8	79.0	72.8
1.945% Euro EIB loan 2019	97.9	90.3	97.9	90.3
5.67% US Dollar Bonds 2016	–	109.9	–	109.9
Cross currency interest rate swaps designated as net investment hedges	1.4	–	1.4	–
Other interest rate swaps classified as held for trading	–	0.5	–	0.5
Other repayable from two to three years	1.8	1.9	1.8	–
Other repayable from one to two years	2.4	–	1.8	–
Finance leases repayable				
From two to three years	–	0.2	–	0.2
From one to two years	0.2	0.4	0.2	0.4
Non-current borrowings, finance leases and related swaps	835.9	782.6	835.3	780.7
<b>Current borrowings, finance leases and related swaps</b>				
5.67% USD Bonds 2016	108.3	–	108.3	–
Other bank and other loans	29.6	234.3	2.1	191.8
Other interest rate swaps held for trading	0.2	–	0.2	–
Finance leases	0.4	0.4	0.4	0.4
Current borrowings, finance leases and related swaps excluding bank overdrafts	138.5	234.7	111.0	192.2
Bank overdrafts	20.7	55.5	13.4	40.1
Current borrowings, finance leases and related swaps	159.2	290.2	124.4	232.3
<b>Total borrowings and finance leases</b>	<b>995.1</b>	<b>1,072.8</b>	<b>959.7</b>	<b>1,013.0</b>
Less interest rate swaps designated as fair value hedges	7.5	9.8	7.5	9.8
Less interest rate swaps designated as fair value hedges – short term	2.3	–	2.3	–
Less cross currency interest rate swaps designated as cash flow hedges	3.6	0.2	3.6	0.2
Less cross currency interest rate swaps designated as net investment hedges	–	4.4	–	4.4
Less other interest rate swaps classified as held for trading – short term	2.3	–	2.3	–
Less other interest rate swaps classified as held for trading	–	4.6	–	4.6
Less cash and deposits	304.5	59.4	226.9	13.3
<b>Net debt</b>	<b>674.9</b>	<b>994.4</b>	<b>717.1</b>	<b>980.7</b>

US \$75.0 million of the 5.67% US Dollar Bonds 2016 have been swapped into floating rate US dollars and the balance has effectively been swapped into fixed rate US dollars at 1.55%. The 3.26% US Dollar Bonds 2022 have been swapped into floating rate US dollars. US \$100.0 million of the 3.14% US Dollar Bonds 2025 have been swapped into sterling at 2.83%. The interest rate implicit in the finance leases is 5.9% and the lease term ends in 2017. Apart from the bonds, the 2019 EIB loan and finance leases shown separately above, plus two loans with a book value of £6.4 million and an average interest rate of 5.7%, all the loans, overdrafts and bank deposits are denominated in various currencies and bear interest at commercial floating rates.

The cross currency and interest rate swaps are measured at fair value using level 2 inputs (note 27). 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.

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 27 Other financial assets and liabilities

	Group		Parent company	
	2016 £ million	2015 £ million	2016 £ million	2015 £ million
<b>Other financial assets</b>				
Forward foreign exchange contracts and options designated as cash flow hedges	2.7	11.9	3.5	17.1
Forward precious metal price contracts designated as cash flow hedges	3.1	–	3.1	–
Forward foreign exchange contracts and currency swaps held for trading	2.6	2.3	2.6	2.3
Foreign exchange swaps designated as hedges of a net investment in foreign operations	–	0.2	–	–
Embedded derivatives	0.1	–	–	–
<b>Other financial assets</b>	<b>8.5</b>	<b>14.4</b>	<b>9.2</b>	<b>19.4</b>
<b>Other financial liabilities</b>				
Forward foreign exchange contracts and options designated as cash flow hedges	(11.6)	(10.0)	(12.4)	(13.6)
Forward precious metal price contracts designated as cash flow hedges	–	(12.3)	–	(12.3)
Forward foreign exchange contracts and currency swaps held for trading	(5.8)	(3.0)	(6.6)	(3.3)
Foreign exchange swaps designated as hedges of a net investment in foreign operations	(0.5)	(0.2)	–	–
<b>Other financial liabilities</b>	<b>(17.9)</b>	<b>(25.5)</b>	<b>(19.0)</b>	<b>(29.2)</b>

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 by discounting the future contractual cash flows using appropriate market sourced data at the balance sheet date.

## 28 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 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 foreign currency risk, interest rate risk, liquidity risk and credit 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 so are classified as 'held for trading'. The group and parent company do not undertake any speculative trading activity in financial instruments.

## 28a 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 business and division 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 2016 trade receivables for the group amounted to £774.1 million (2015 restated £805.4 million) (parent company £147.2 million (2015 £176.2 million)). £561.7 million (2015 £550.9 million) of these receivables at group level (£102.9 million (2015 £107.7 million) at parent company level) arose in Emission Control Technologies (ECT) which mainly supplies the automotive industry including car and truck manufacturers and component suppliers. Although ECT has a wide spread of the 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. As at 31st March 2016 (and at 31st March 2015) for the group as a whole, no single outstanding balance exceeded 2% of the group's 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 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.

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

### 28 Financial risk management (continued)

#### 28a Credit risk (continued)

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:

	Group		Parent company	
	2016	2015 restated (note 40)	2016	2015
	£ million	£ million	£ million	£ million
Amounts neither past due nor impaired	<b>711.9</b>	719.9	<b>132.1</b>	162.3
Amounts past due but not impaired				
less than 30 days	<b>45.9</b>	61.7	<b>10.4</b>	10.2
30 – 90 days	<b>9.6</b>	16.4	<b>3.5</b>	2.1
more than 90 days	<b>7.4</b>	7.7	<b>1.2</b>	1.6
Total past due but not impaired	<b>62.9</b>	85.8	<b>15.1</b>	13.9
Amounts impaired	<b>6.6</b>	4.6	<b>1.2</b>	1.0
Specific allowances for bad and doubtful debts	<b>(6.6)</b>	(3.8)	<b>(1.2)</b>	(1.0)
Carrying amount of impaired receivables	–	0.8	–	–
Other allowances for bad and doubtful debts	<b>(0.7)</b>	(1.1)	–	–
Trade receivables net of allowances	<b>774.1</b>	805.4	<b>147.2</b>	176.2

Movements in the allowances for impairments were:

	Group		Parent company	
	2016	2015	2016	2015
	£ million	£ million	£ million	£ million
At beginning of year	<b>4.9</b>	6.8	<b>1.0</b>	2.0
Charge for year	<b>4.9</b>	1.2	<b>0.4</b>	0.5
Released	<b>(1.2)</b>	(1.6)	<b>(0.2)</b>	(0.5)
Utilised	<b>(1.4)</b>	(1.6)	–	(1.0)
Exchange adjustments	<b>0.1</b>	0.1	–	–
<b>At end of year</b>	<b>7.3</b>	4.9	<b>1.2</b>	1.0

The group's financial assets included in sundry receivables are all current and not impaired. As a result of the impairments (note 5), the parent company's amounts receivable from subsidiaries have been impaired by £127.7 million.

The credit risk on cash and deposits and derivative financial instruments is limited because the counterparties with significant balances are banks with high 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 2016, the maximum exposure with a single bank for deposits was £45.9 million (2015 £15.2 million) for the group and £12.0 million (2015 £7.7 million) for the parent company, whilst the largest mark to market exposure for derivative financial instruments to a single bank was £7.9 million (2015 £9.3 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 2016 the group's and parent company's exposure to these funds was £210.8 million (2015 £ nil). 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 2016 was £27.5 million (2015 £33.8 million).

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 28 Financial risk management (continued)

## 28b 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 USA 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 a euro loan (fair value of the loans was £58.7 million (2015 a US dollar loan and some euro loans with a fair value of £230.6 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 main currencies of the net debt after taking into account the effect of the currency swaps were:

	Group		Group		Parent company		Parent company	
	Borrowings 2016 £ million	Borrowings 2015 £ million	Cash 2016 £ million	Cash 2015 £ million	Borrowings 2016 £ million	Borrowings 2015 £ million	Cash 2016 £ million	Cash 2015 £ million
Sterling	156.2	169.1	737.0	261.5	142.6	160.6	745.5	260.4
US dollar	764.3	704.7	79.4	96.2	766.1	699.2	72.9	79.2
Euro	609.2	356.5	5.8	1.4	609.2	358.3	—	—
Swedish krona	—	69.4	63.8	3.4	—	69.3	63.7	2.9
Hong Kong dollar	62.8	—	—	54.4	65.4	—	—	52.2
Chinese renminbi	38.0	59.5	60.4	14.6	37.7	44.3	19.2	3.1
Japanese yen	2.7	19.7	7.6	0.2	2.6	19.7	5.3	0.2
Malaysian ringgit	0.5	—	19.5	5.1	—	—	18.1	—
South African rand	18.3	13.4	9.4	0.6	18.3	11.0	0.1	0.5
Canadian dollar	0.1	17.6	8.6	0.2	—	17.7	8.5	—
Indian rupee	6.2	17.3	10.9	1.6	—	—	—	—
Brazilian real	7.0	14.7	9.9	0.9	—	9.8	8.3	—
Argentinian peso	10.4	5.5	0.1	0.7	—	—	—	—
Swiss franc	10.3	—	0.5	9.9	10.3	—	—	8.8
Polish zloty	5.3	—	—	3.7	5.3	—	—	3.6
Other currencies	5.1	6.2	8.6	4.8	3.6	3.9	2.4	2.2
	1,696.4	1,453.6	1,021.5	459.2	1,661.1	1,393.8	944.0	413.1

The group and parent company use forward exchange contracts, and occasionally purchased currency options, 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 and the hedge effect realised in the income statement in the year ending 31st March 2017.

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% (7.6 cent (2015 8.1 cent)) movement in the average exchange rate for the US dollar against sterling would have had a £9.8 million (2015 £9.7 million) impact on operating profit. The group is also exposed to the euro and a 5% (6.8 cent (2015 6.4 cent)) movement in the average exchange rate for the euro against sterling would have had a £6.8 million (2015 £5.1 million) impact on 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 the group operates.

For financial instruments the main exposures are to the US dollar and euro and are due to loans, swaps and cash flow hedges on forecast receipts and payments. A 5% (7.2 cent (2015 7.4 cent)) movement in the closing exchange rate for the US dollar against sterling would have had a £4.5 million (2015 £3.1 million) impact on operating profit and a £36.6 million (2015 £36.6 million) impact on equity for these instruments. A 5% (6.3 cent (2015 6.9 cent)) movement in the closing exchange rate for the euro against sterling would have had a £6.0 million (2015 £4.7 million) impact on operating profit and a £36.9 million (2015 £22.4 million) impact on equity for these instruments. However, the impact on operating profit relates primarily to the cash flow hedging instruments hedging the forecast receipts and payments whose cash flows have occurred in the year and so would be offset by similar movements in the hedged items. Similarly, the impact on equity relates primarily to foreign exchange positions used to hedge the subsidiaries' net assets and so would be offset by an equal and opposite movement in the value of the relevant subsidiaries' net assets. The remaining impact on equity of £2.1 million (2015 £6.0 million) for the US dollar and £6.8 million (2015 £4.5 million) for the euro relates to cash flow hedging instruments hedging the forecast receipts and payments whose cash flows have yet to occur.

# NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 28 Financial risk management (continued)

### 28c 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 three (2015 three) US dollar fixed rate to US dollar floating rate swaps as fair value hedges as they hedge the changes in fair value of bonds attributable to changes in interest rates. The losses on the interest rate swaps in the year ended 31st March 2016 were £0.2 million (2015 £0.8 million) and the gains on the bonds attributable to the hedged risk were £0.6 million (2015 £1.2 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 so 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 2016, 96% (2015 62%) of the group's net debt and 90% (2015 63%) of the parent company's net debt were at fixed rates with an average interest rate of 2.99% (2015 3.23%). 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 a £0.2 million (2015 £3.8 million) impact on the group's profit before tax. This is within the range the board regards as acceptable.

### 28d Fair value of financial instruments

The fair value of financial instruments is approximately equal to book value except for:

	2016		2015	
	Carrying amount £ million	Fair value £ million	Carrying amount £ million	Fair value £ million
<b>Group</b>				
US Dollar Bonds 2016, 2022, 2023, 2025 and 2028	(549.9)	(550.8)	(536.9)	(536.7)
Euro Bonds 2021 and 2023	(94.8)	(111.8)	(87.4)	(104.0)
Euro EIB loan 2019	(97.9)	(103.1)	(90.3)	(94.6)
Sterling Bonds 2024	(65.0)	(69.4)	(65.0)	(69.8)
Other	(6.4)	(6.1)	(1.9)	(1.3)
	2016		2015	
	Carrying amount £ million	Fair value £ million	Carrying amount £ million	Fair value £ million
<b>Parent company</b>				
Amounts receivable from subsidiaries	1,746.2	1,835.2	2,082.6	2,178.1
US Dollar Bonds 2016, 2022, 2023, 2025 and 2028	(549.9)	(550.8)	(536.9)	(536.7)
Euro Bonds 2021 and 2023	(94.8)	(111.8)	(87.4)	(104.0)
Euro EIB loan 2019	(97.9)	(103.1)	(90.3)	(94.6)
Sterling Bonds 2024	(65.0)	(69.4)	(65.0)	(69.8)
Other	(5.7)	(5.7)	—	—

The fair values are calculated using level 2 inputs (note 27) 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 27) during the year.

### 28e 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 2016 the group and parent company had borrowings under committed bank facilities of £ nil (2015 £192.0 million). The group and parent company also have a number of uncommitted facilities, including metal leases, and overdraft lines at their disposal.

	Group		Parent company	
	2016 £ million	2015 £ million	2016 £ million	2015 £ million
<b>Undrawn committed bank facilities</b>				
Expiring within one year	—	50.0	—	50.0
Expiring in more than one year but not more than two years	372.1	126.4	372.1	126.4
Expiring in more than two years	100.0	4.2	100.0	4.2
	472.1	180.6	472.1	180.6

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 28 Financial risk management (continued)

## 28e Liquidity risk (continued)

The maturity analyses for financial liabilities showing the remaining contractual undiscounted cash flows, including future interest payments but excluding unamortised transaction costs, were:

## Group as at 31st March 2016

	Within 1 year £ million	1 to 2 years £ million	2 to 5 years £ million	After 5 years £ million	Total £ million
Bank overdrafts	20.7	–	–	–	20.7
Bank and other loans – principal	134.4	1.9	178.8	644.3	959.4
Bank and other loans – interest payments	29.8	22.0	62.7	61.6	176.1
Finance lease obligations	0.4	0.2	–	–	0.6
Financial liabilities in trade and other payables	736.4	0.4	1.2	1.2	739.2
Total non-derivative financial liabilities	921.7	24.5	242.7	707.1	1,896.0
Foreign exchange forwards, options and swaps – payments	793.3	–	–	–	793.3
Foreign exchange forwards, options and swaps – receipts	(773.0)	–	–	–	(773.0)
Total derivative financial liabilities	20.3	–	–	–	20.3

## Group as at 31st March 2015

	Within 1 year £ million	1 to 2 years £ million	2 to 5 years £ million	After 5 years £ million	Total £ million
Bank overdrafts	55.5	–	–	–	55.5
Bank and other loans – principal	233.8	101.0	92.2	569.8	996.8
Bank and other loans – interest payments	29.8	26.6	61.3	77.8	195.5
Finance lease obligations	0.4	0.4	0.2	–	1.0
Financial liabilities in trade and other payables	687.8	0.2	0.5	1.8	690.3
Total non-derivative financial liabilities	1,007.3	128.2	154.2	649.4	1,939.1
Foreign exchange forwards, options and swaps – payments	382.1	4.4	–	–	386.5
Foreign exchange forwards, options and swaps – receipts	(369.4)	(3.7)	–	–	(373.1)
Total derivative financial liabilities	12.7	0.7	–	–	13.4

## Parent company as at 31st March 2016

	Within 1 year £ million	1 to 2 years £ million	2 to 5 years £ million	After 5 years £ million	Total £ million
Bank overdrafts	13.4	–	–	–	13.4
Bank and other loans – principal	106.7	1.8	178.8	644.3	931.6
Bank and other loans – interest payments	26.2	22.0	62.7	61.6	172.5
Finance lease obligations	0.4	0.2	–	–	0.6
Financial liabilities in trade and other payables	2,342.9	0.1	1.0	479.1	2,823.1
Total non-derivative financial liabilities	2,489.6	24.1	242.5	1,185.0	3,941.2
Foreign exchange forwards, options and swaps – payments	825.9	–	–	–	825.9
Foreign exchange forwards, options and swaps – receipts	(809.7)	–	–	–	(809.7)
Total derivative financial liabilities	16.2	–	–	–	16.2

## Parent company as at 31st March 2015

	Within 1 year £ million	1 to 2 years £ million	2 to 5 years £ million	After 5 years £ million	Total £ million
Bank overdrafts	40.1	–	–	–	40.1
Bank and other loans – principal	191.9	101.0	90.3	569.8	953.0
Bank and other loans – interest payments	26.6	26.6	60.7	77.8	191.7
Finance lease obligations	0.4	0.4	0.2	–	1.0
Financial liabilities in trade and other payables	2,147.6	0.1	0.3	277.1	2,425.1
Total non-derivative financial liabilities	2,406.6	128.1	151.5	924.7	3,610.9
Foreign exchange forwards, options and swaps – payments	415.3	4.6	–	–	419.9
Foreign exchange forwards, options and swaps – receipts	(407.7)	(3.8)	–	–	(411.5)
Total derivative financial liabilities	7.6	0.8	–	–	8.4

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

### 28 Financial risk management (continued)

#### 28f 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:

	Gross financial assets / (liabilities) £ million	Amounts set off £ million	Net amounts in balance sheet £ million	Related amounts not set off £ million	Net £ million
<b>Group as at 31st March 2016</b>					
Cash and cash equivalents – cash and deposits	362.6	(58.1)	304.5	–	304.5
Other financial assets	8.5	–	8.5	(4.9)	3.6
Cash and cash equivalents – bank overdrafts	(78.8)	58.1	(20.7)	–	(20.7)
Other financial liabilities	(17.9)	–	(17.9)	4.9	(13.0)
<b>Group as at 31st March 2015</b>					
Cash and cash equivalents – cash and deposits	122.5	(63.1)	59.4	–	59.4
Other financial assets	14.4	–	14.4	(10.5)	3.9
Cash and cash equivalents – bank overdrafts	(118.6)	63.1	(55.5)	–	(55.5)
Other financial liabilities	(25.5)	–	(25.5)	10.5	(15.0)
<b>Parent company as at 31st March 2016</b>					
Cash and cash equivalents – cash and deposits	243.1	(16.2)	226.9	–	226.9
Other financial assets	9.2	–	9.2	(5.1)	4.1
Cash and cash equivalents – bank overdrafts	(29.6)	16.2	(13.4)	–	(13.4)
Other financial liabilities	(19.0)	–	(19.0)	5.1	(13.9)
<b>Parent company as at 31st March 2015</b>					
Cash and cash equivalents – cash and deposits	41.9	(28.6)	13.3	–	13.3
Other financial assets	19.4	–	19.4	(9.9)	9.5
Cash and cash equivalents – bank overdrafts	(68.7)	28.6	(40.1)	–	(40.1)
Other financial liabilities	(29.2)	–	(29.2)	9.9	(19.3)

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 28 Financial risk management (continued)

## 28g 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) 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 on page 60 for more information. 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 on page 62 for more information.

	Group	
	2016 £ million	2015 £ million
Average net debt	691.0	861.8
Average equity	1,909.2	1,676.7
<b>Average capital employed</b>	<b>2,600.2</b>	<b>2,538.5</b>
Net debt	674.9	994.4
Pension deficits	52.6	136.9
Bonds purchased to fund pensions	(49.9)	(54.4)
Related deferred taxation	(20.9)	(39.3)
<b>Net debt (including post tax pension deficits)</b>	<b>656.7</b>	<b>1,037.6</b>
EBITDA	590.1	611.8
Return on invested capital	17.3%	18.8%
Net debt (including post tax pension deficits) to EBITDA	1.1 times	1.7 times

## 29 Provisions and contingent liabilities

## 29a Group

	Restructuring provisions £ million	Warranty and technology provisions £ million	Other provisions £ million	Total £ million
At 1st April 2015	9.2	25.6	22.4	57.2
Charge for year	42.6	1.2	7.4	51.2
Acquisitions (note 39)	—	—	1.0	1.0
Utilised	(24.6)	(2.5)	(7.8)	(34.9)
Released	(1.5)	(7.4)	(5.2)	(14.1)
Unwinding of discount	—	—	0.2	0.2
Exchange adjustments	0.7	0.3	0.3	1.3
<b>At 31st March 2016</b>	<b>26.4</b>	<b>17.2</b>	<b>18.3</b>	<b>61.9</b>

	2016 £ million	2015 £ million
Current	41.3	36.4
Non-current	20.6	20.8
<b>Total provisions</b>	<b>61.9</b>	<b>57.2</b>

The restructuring provisions arise across the group and are expected to be fully spent by 31st March 2018.

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 Emission Control Technologies, Process Technologies and New Businesses. Warranties generally cover a period of up to three years.

The other provisions include environmental, onerous contracts 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 spent over the next eight years.

# NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 29 Provisions and contingent liabilities (continued)

### 29b Parent company

	Restructuring provisions £ million	Other provisions £ million	Total £ million
At 1st April 2015	2.7	14.7	17.4
Charge for year	21.8	5.3	27.1
Utilised	(15.9)	(1.5)	(17.4)
Released	(0.5)	(2.0)	(2.5)
<b>At 31st March 2016</b>	<b>8.1</b>	<b>16.5</b>	<b>24.6</b>

	2016 £ million	2015 £ million
Current	11.2	5.1
Non-current	13.4	12.3
<b>Total provisions</b>	<b>24.6</b>	<b>17.4</b>

The restructuring provisions arise across the company and are expected to be fully spent by 31st March 2017.

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 28a.

## 30 Deferred taxation

### 30a 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 2014	64.2	(28.6)	(18.2)	(20.7)	44.6	15.9	57.2
Charge / (credit) to income	6.2	4.9	(2.2)	4.4	(5.4)	4.0	11.9
Acquisitions	(1.0)	—	—	—	1.4	0.1	0.5
Sale of business	(4.7)	(0.2)	0.2	0.3	—	—	(4.4)
Transferred to assets / liabilities classified as held for sale	(1.2)	0.4	0.1	1.1	—	0.1	0.5
Tax on items taken directly to or transferred from equity	—	(13.7)	—	—	—	(2.4)	(16.1)
Exchange adjustments	4.1	(2.1)	(1.7)	(0.7)	(1.0)	0.2	(1.2)
<b>At 31st March 2015</b>	<b>67.6</b>	<b>(39.3)</b>	<b>(21.8)</b>	<b>(15.6)</b>	<b>39.6</b>	<b>17.9</b>	<b>48.4</b>
(Credit) / charge to income	(15.8)	(1.3)	4.4	2.9	(5.1)	(2.3)	(17.2)
Acquisitions (note 39)	—	—	—	—	1.4	0.8	2.2
Tax on items taken directly to or transferred from equity	—	39.1	—	—	—	2.0	41.1
Exchange adjustments	0.6	(1.1)	0.3	0.2	2.1	0.6	2.7
<b>At 31st March 2016</b>	<b>52.4</b>	<b>(2.6)</b>	<b>(17.1)</b>	<b>(12.5)</b>	<b>38.0</b>	<b>19.0</b>	<b>77.2</b>

	2016 £ million	2015 £ million
Deferred tax assets	(22.2)	(21.6)
Deferred tax liabilities	99.4	70.0
	<b>77.2</b>	<b>48.4</b>

Deductible temporary differences, unused tax losses and unused tax credits not recognised on the balance sheet are £113.9 million (2015 £99.5 million) of which £18.7 million is expected to expire within 5 years, £3.3 million within 5 to 10 years and £91.9 million carry no expiry date.

Deferred tax liabilities have not been recognised on temporary differences of £936.5 million (2015 £919.0 million) associated with investments in subsidiaries.

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 30 Deferred taxation (continued)

## 30b Parent company

	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 2014	18.4	(7.0)	(0.9)	(14.7)	0.3	7.8	3.9
Charge / (credit) to income	1.6	4.4	0.5	4.2	0.1	1.3	12.1
Tax on items taken directly to or transferred from equity	–	(4.4)	–	–	–	(1.8)	(6.2)
At 31st March 2015	20.0	(7.0)	(0.4)	(10.5)	0.4	7.3	9.8
(Credit) / charge to income	(11.9)	(1.6)	–	3.4	0.1	0.1	(9.9)
Tax on items taken directly to or transferred from equity	–	34.2	–	–	–	1.1	35.3
<b>At 31st March 2016</b>	<b>8.1</b>	<b>25.6</b>	<b>(0.4)</b>	<b>(7.1)</b>	<b>0.5</b>	<b>8.5</b>	<b>35.2</b>

Deductible temporary differences, unused tax losses and unused tax credits not recognised on the balance sheet are £3.0 million (2015 £3.0 million) and have no expiry date.

## 31 Share capital

	Number	£ million
<b>Issued and fully paid ordinary shares</b>		
At 1st April 2014 and 31st March 2015	210,642,995	220.7
Effect of share consolidation	(11,702,389)	–
<b>At 31st March 2016</b>	<b>198,940,606</b>	<b>220.7</b>

Details of outstanding share options, allocations under the company's long term incentive plan and awards under the deferred bonus which have yet to mature are disclosed in note 14.

Following approval at the general meeting held on 16th December 2015 and in connection with the special dividend also approved (note 12), a share consolidation under which shareholders received 17 new ordinary shares of 110<sup>49</sup>/<sub>32</sub> for every 18 existing ordinary shares of 104<sup>16</sup>/<sub>21</sub> pence each, became effective on 11th January 2016.

At the general meeting on 16th December 2015, 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 110<sup>49</sup>/<sub>32</sub> 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 share option schemes and long term incentive plan. At 31st March 2016 the ESOT held 1,789,390 shares (2015 1,930,562 shares) which had not yet vested unconditionally in 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 (2015 5,725,246) at a total cost of £91.7 million (2015 £91.7 million).

## 32 Tax effects relating to other comprehensive income

	Before tax £ million	2016 Tax £ million	Net of tax £ million	Before tax £ million	2015 Tax £ million	Net of tax £ million
Currency translation differences	24.1	–	24.1	(11.6)	(0.2)	(11.8)
Cash flow hedges	5.6	(2.0)	3.6	(16.2)	4.4	(11.8)
Fair value (losses) / gains on net investment hedges	(1.2)	(2.7)	(3.9)	26.5	(1.9)	24.6
Fair value (losses) / gains on available-for-sale investments	(5.5)	–	(5.5)	6.1	–	6.1
Remeasurements of post-employment benefit assets and liabilities	180.1	(39.1)	141.0	(52.1)	13.7	(38.4)
<b>Total other comprehensive income / (expense)</b>	<b>203.1</b>	<b>(43.8)</b>	<b>159.3</b>	<b>(47.3)</b>	<b>16.0</b>	<b>(31.3)</b>

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

### 33 Other reserves

#### 33a Group

	Capital redemption reserve £ million	Foreign currency translation £ million	Available- for-sale reserve £ million	Hedging reserve £ million	Total other reserves £ million
At 1st April 2014	6.5	(32.9)	(0.7)	(0.8)	(27.9)
Cash flow hedges – losses taken to equity	–	–	–	(0.4)	(0.4)
Cash flow hedges – transferred to income statement	–	–	–	(15.8)	(15.8)
Fair value gains on net investment hedges taken to equity	–	20.7	–	–	20.7
Fair value losses on net investment hedges transferred to profit on sale or liquidation of businesses	–	5.8	–	–	5.8
Fair value gains on available-for-sale investments	–	–	6.1	–	6.1
Currency translation differences on foreign currency net investments and related loans taken to equity	–	2.8	–	–	2.8
Currency translation differences transferred to profit on sale or liquidation of businesses	–	(14.6)	–	–	(14.6)
Tax on items taken directly to or transferred from equity	–	(2.1)	–	4.4	2.3
At 31st March 2015	6.5	(20.3)	5.4	(12.6)	(21.0)
Cash flow hedges – losses taken to equity	–	–	–	(4.0)	(4.0)
Cash flow hedges – transferred to income statement	–	–	–	9.6	9.6
Fair value losses on net investment hedges taken to equity	–	(11.7)	–	–	(11.7)
Fair value losses on net investment hedges transferred to income statement	–	10.5	–	–	10.5
Fair value losses on available-for-sale investments	–	–	(5.0)	–	(5.0)
Currency translation differences on foreign currency net investments and related loans taken to equity	–	32.5	–	–	32.5
Currency translation differences transferred to income statement	–	(8.5)	–	–	(8.5)
Tax on items taken directly to or transferred from equity	–	(2.7)	–	(2.0)	(4.7)
<b>At 31st March 2016</b>	<b>6.5</b>	<b>(0.2)</b>	<b>0.4</b>	<b>(9.0)</b>	<b>(2.3)</b>

#### 33b 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 2014	6.5	(4.0)	–	(0.9)	1.6
Cash flow hedges – gains taken to equity	–	–	–	(1.6)	(1.6)
Cash flow hedges – transferred to income statement	–	–	–	(12.3)	(12.3)
Currency translation differences on foreign operations taken to equity	–	0.6	–	–	0.6
Tax on items taken directly to or transferred from equity	–	–	–	2.8	2.8
At 31st March 2015	6.5	(3.4)	–	(12.0)	(8.9)
Cash flow hedges – losses taken to equity	–	–	–	(0.5)	(0.5)
Cash flow hedges – transferred to income statement	–	–	–	5.3	5.3
Fair value gains on available for sale investments	–	–	3.0	–	3.0
Currency translation differences on foreign operations taken to equity	–	0.6	–	–	0.6
Tax on items taken directly to or transferred from equity	–	–	–	(1.1)	(1.1)
<b>At 31st March 2016</b>	<b>6.5</b>	<b>(2.8)</b>	<b>3.0</b>	<b>(8.3)</b>	<b>(1.6)</b>

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 34 Gross cash flows

## 34a Purchases of non-current assets and investments

	Group		Parent company	
	2016 £ million	2015 £ million	2016 £ million	2015 £ million
Purchases of property, plant and equipment	191.0	185.0	50.1	58.6
Purchases of intangible assets	62.5	27.1	48.7	15.0
Investment in subsidiaries	–	–	225.7	285.5
Purchases of available-for-sale investments	–	–	7.1	–
	253.5	212.1	331.6	359.1

## 34b Purchases of businesses

	Group		Parent company	
	2016 £ million	2015 £ million	2016 £ million	2015 £ million
Purchases of businesses	22.8	68.9	2.6	16.1
Cash acquired with businesses	(4.9)	(2.6)	–	–
Consideration refunded for prior years' acquisitions	(1.8)	–	–	–
Consideration paid for prior years' acquisitions	0.5	1.1	0.4	0.6
	16.6	67.4	3.0	16.7

## 34c Net proceeds from sale of businesses

	Group		Parent company	
	2016 £ million	2015 £ million	2016 £ million	2015 £ million
Sale of businesses	246.9	122.1	–	–
Cash disposed of with businesses	(2.3)	(8.4)	–	–
	244.6	113.7	–	–

## 34d Net cost of ESOT transactions in own shares

	Group		Parent company	
	2016 £ million	2015 £ million	2016 £ million	2015 £ million
Purchase of own shares by ESOT	(3.3)	(17.1)	(3.3)	(17.1)
Release of own shares by ESOT	0.2	–	0.2	–
	(3.1)	(17.1)	(3.1)	(17.1)

## 34e Proceeds from borrowings and finance leases

	Group		Parent company	
	2016 £ million	2015 £ million	2016 £ million	2015 £ million
Proceeds from borrowings falling due within one year	9.7	200.8	2.1	191.4
Repayment of borrowings falling due within one year	(211.2)	(153.2)	(191.0)	(135.1)
Proceeds from borrowings falling due after more than one year	124.7	1.9	124.7	–
Capital element of finance lease rental payments	(0.4)	(0.4)	(0.4)	(0.4)
	(77.2)	49.1	(64.6)	55.9

## 35 Cash and cash equivalents

	Group		Parent company	
	2016 £ million	2015 £ million	2016 £ million	2015 £ million
Cash and deposits	304.5	59.4	226.9	13.3
Bank overdrafts	(20.7)	(55.5)	(13.4)	(40.1)
Cash and cash equivalents	283.8	3.9	213.5	(26.8)

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

### 36 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 2016 precious metal leases were £70.3 million (2015 £18.7 million).

### 37 Commitments

	Group		Parent company	
	2016 £ million	2015 £ million	2016 £ million	2015 £ million
Future capital expenditure contracted but not provided	39.6	28.8	12.8	16.7
Future minimum amounts payable under non-cancellable operating leases				
Within one year	19.3	16.9	2.6	2.0
From one to five years	30.6	31.7	8.1	4.0
After five years	42.8	34.5	13.1	11.1
	92.7	83.1	23.8	17.1
Future minimum amounts payable under finance leases				
Within one year	0.4	0.4	0.4	0.4
From one to five years	0.2	0.6	0.2	0.6
	0.6	1.0	0.6	1.0
Less future finance charges	–	(0.1)	–	(0.1)
Present value of finance lease obligations	0.6	0.9	0.6	0.9

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.

### 38 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 28a.

	Group		Parent company	
	2016 £ million	2015 £ million	2016 £ million	2015 £ million
<b>Trading transactions with joint venture</b>				
Purchases of goods	3.2	–	1.5	–
<b>Trading transactions with associate</b>				
Rendering of services	1.8	–	–	–
Amounts receivable from long term contract customers	1.8	–	–	–
Trade payables	(0.3)	–	(0.3)	–
<b>Trading transactions with subsidiaries</b>				
Sale of goods	–	–	1,645.0	1,828.0
Purchases of goods	–	–	375.5	418.8
Income from service charges	–	–	37.7	29.3
Amounts receivable from subsidiaries	–	–	152.4	208.4
Amounts payable to subsidiaries	–	–	35.0	30.3
Loans to subsidiaries	–	–	1,593.8	1,874.2
Loans from subsidiaries	–	–	2,538.1	2,147.5

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 15.

The transactions with key management personnel are described in note 13c.

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 39 Acquisitions

If all the acquisitions in the year had been completed on 1st April 2015, the revenue for the group would have been £10,717.4 million and its profit for the year £325.9 million.

The group's long term strategy is to establish new businesses in adjacent markets with strong growth potential that align to the group's technology competences. One of these new businesses the group is establishing is its Atmosphere Control Technologies business and the first acquisition for this process was made during the year. On 18th May 2015, the group acquired 100% of Stepac L.A. Ltd and its subsidiaries plus related assets from DS Smith International Limited. Stepac is a provider of modified atmosphere packaging and the goodwill arising is attributable to opportunities to access expertise in this area and anticipated future synergies.

In addition, on 1st October 2015, the group acquired the Pharmorphix solid form research business from Sigma Aldrich. The acquisition brings world leading material science capabilities to the group's expanding European Active Pharmaceutical Ingredient business. The goodwill arising is attributable to its expertise in the solid state and crystallised development area along with anticipated future synergies.

The fair value of the net assets acquired, consideration paid, goodwill arising on these transactions, acquisition-related expenses and contribution to the group's results since acquisition were:

	Stepac £ million	Pharmorphix £ million
<b>Net assets acquired</b>		
Property, plant and equipment	2.4	0.4
Intangible assets	8.0	0.4
Inventories	1.8	–
Trade and other receivables	3.2	0.1
Cash and cash equivalents	4.9	–
Trade and other payables	(3.3)	(0.1)
Current income tax assets	0.1	–
Deferred income tax liabilities	(2.2)	–
Provisions	(1.0)	–
Non-current other payables	(0.3)	–
Total net assets acquired	13.6	0.8
Goodwill on acquisition	6.6	1.8
	20.2	2.6
<b>Satisfied by</b>		
Purchase consideration – cash	20.2	2.6
Acquisition-related costs charged to administrative expenses	0.2	0.3
Revenue since acquisition	15.7	1.6
Profit since acquisition	3.5	–
Trade and other receivables – gross contractual amounts receivable	3.2	0.1

None of the goodwill arising on acquisitions completed during the year is expected to be deductible for tax purposes.

On 1st April 2016, the group acquired MIOX Corporation, a developer and supplier of advanced water disinfectant technology for £19.9 million. Water purification technology is a relatively new business area for the group which it believes is a growing market for high value technologies and can be developed using the group's existing chemistry and applications expertise. The initial accounting for the acquisition is incomplete and the fair value of the consideration and net assets are not finalised as the completion accounts are yet to be prepared and agreed with the vendors.

## 40 Effect of restatements

During the year the fair value calculations for the acquisition of the battery materials business of Clariant AG were finalised and the balance sheet at 31st March 2015 restated. Consideration of £1.4 million was refunded in addition to that already estimated. The effect is to reduce goodwill by £0.8 million, reduce inventories by £0.6 million, reduce property, plant and equipment by £0.2 million and increase trade and other receivables by £0.2 million.

The cash flow statement for 31st March 2015 has been represented to move interest received of £7.4 million (parent company £66.1 million) from financing activities to investing activities and purchases of non-controlling interests of £9.4 million from investing activities to financing activities.

# NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 41 Key sources of estimation uncertainty

Determining the carrying amounts of some assets and liabilities requires estimation of the effects of uncertain future events on those assets and liabilities at the balance sheet date. The group and parent company have made appropriate estimates when applying the accounting policies, but the actual outcome may differ from those calculated.

The key sources of estimation uncertainty at the balance sheet date which have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are:

### Post-employment benefits

The group's and parent company's defined benefit plans are assessed annually by qualified independent actuaries. The details of the plans and assumptions used are described in note 15.

### Goodwill, other intangible assets and other assets

Annual impairment reviews of goodwill of £570.0 million (parent company £123.4 million) are performed which require various assumptions (note 17). Other intangible assets which are not yet being amortised are also subject to annual impairment reviews. Other assets are assessed for impairment when there is a triggering event that provides evidence that an asset may be impaired. Impairment reviews are based on discounted cash flow projections. Actual outcomes could vary significantly from such estimates. Factors such as changes in discount rates, long term growth rates, presence of competition, technical obsolescence and lower than anticipated sales could lead to shorter lives or impairment.

### Taxation

The tax payable on profits is determined based on tax laws and regulations that apply in each of the numerous jurisdictions in which the group operates. Where the precise impact of these laws and regulations is unclear then reasonable estimates may be used to determine the tax charge and associated tax provisions included in the accounts. It can take some time to settle these tax positions and if the tax eventually payable or reclaimable differs then the difference will be charged or credited in the accounts for the year in which it is determined.

### Refining process and stock takes

The group's and parent company's refining and fabrication businesses process significant quantities of precious metal and, similar to many industrial activities, losses may arise during processing. The refining businesses alone process over four million oz of platinum group metals each year. The extent of process losses depends on many factors, including the nature of material being refined, the specific refining processes applied and the processes' efficiency. Judgment is therefore required in estimating the amount of such losses when setting process loss provisions. Also stock takes, particularly at the refining businesses, involve estimation of volumes in the refining system and the subsequent sampling and assaying of material to assess the precious metal content. In addition, the results of sampling and assaying and therefore the stock take itself are only available some time after the date of the stock take. In setting process loss provisions and assessing the stock take results, management takes account of the complexity of the stock take process, past experience, the ability to extract precious metals from the refining process and other factors when estimating losses and gains.

## 5. Accounts

## NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 42 Related undertakings

A full list of related undertakings at 31st March 2016 (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 undertaking comprises ordinary shares only.

	Country of incorporation		Country of incorporation
* Johnson Matthey Argentina S.A.	Argentina	Johnson Matthey Davy Technologies International Limited	England
Johnson Matthey (Aust) Ltd	Australia	* Johnson Matthey Davy Technologies Limited	England
Johnson Matthey Holdings Limited	Australia	* Johnson Matthey Fuel Cells Limited (82.5%)	England
Johnson Matthey Belgium	Belgium	Johnson Matthey Investments Limited	England
Tracerco Europe SPRL	Belgium	* Johnson Matthey (Nominees) Limited	England
The Argent Insurance Co. Limited	Bermuda	* Johnson Matthey Precious Metals Limited	England
Johnson Matthey Brasil Ltda	Brazil	Johnson Matthey South Africa Holdings Limited	England
Stepac Brazil LTDA	Brazil	Johnson Matthey Tianjin Holdings Limited	England
Tracerco do Brasil - Diagnosticos de Processos Industriais Ltda	Brazil	* Katalco Limited	England
Johnson Matthey Battery Materials Ltd.	Canada	Matthey Finance Limited	England
Tracerco Radioactive Diagnostic Services Canada Inc.	Canada	* Matthey Holdings Limited	England
Johnson Matthey Argillon (Shanghai) Emission Control Technologies Ltd.	China	* Synetix Limited	England
Johnson Matthey Battery Materials (Changzhou) Co., Ltd.	China	* Tracerco Limited	England
Johnson Matthey Chemical Process Technologies (Shanghai) Company Limited	China	Johnson Matthey Finland Oy	Finland
Johnson Matthey Formox (Beijing) Trading Ltd	China	Johnson Matthey SAS	France
Johnson Matthey Process Technologies (Beijing) Co., Ltd.	China	Johnson Matthey Battery Materials GmbH	Germany
Johnson Matthey Research & Development (Yantai) Co., Ltd.	China	Johnson Matthey Catalysts (Germany) GmbH	Germany
Johnson Matthey (Shanghai) Catalyst Co., Ltd	China	Johnson Matthey Chemicals GmbH	Germany
Johnson Matthey (Shanghai) Chemicals Limited	China	Johnson Matthey GmbH & Co. KG <sup>2</sup>	Germany
Johnson Matthey (Shanghai) Trading Limited	China	Johnson Matthey Holding GmbH	Germany
Johnson Matthey (Tianjin) Chemical Co., Ltd.	China	Johnson Matthey Management GmbH	Germany
Johnson Matthey (Zhangjiagang) Precious Metal Technology Co., Ltd.	China	Johnson Matthey Piezo Products GmbH	Germany
Qingdao Johnson Matthey Hero Catalyst Company Limited (51.0%)	China	Johnson Matthey Redwitz Real Estate (Germany) B.V. & Co. KG <sup>2</sup>	Germany
Shanghai Bi Ke Clean Energy Technology Co Ltd (11.1%)	China	X-Zyme GmbH	Germany
Shanghai Johnson Matthey Applied Materials Technologies Co., Ltd	China	Johnson Matthey Argillon Power Plant Catalysts Holdings (Hong Kong) Limited	Hong Kong
Tracerco China Process Diagnostics & Instrumentation (Shanghai) Co., Ltd.	China	Johnson Matthey Hong Kong Limited	Hong Kong
Johnson Matthey A/S	Denmark	Johnson Matthey Pacific Limited <sup>3</sup>	Hong Kong
* AG Holding Ltd	England	Johnson Matthey Process Technologies Holdings Hong Kong Limited	Hong Kong
* Cascade Biochem Limited <sup>1</sup>	England	Johnson Matthey Tracerco Holdings Hong Kong Limited	Hong Kong
* Fuel Cell Today Limited	England	Johnson Matthey Yantai Holdings (Hong Kong) Limited	Hong Kong
Illumink Limited	England	Macfarlan Smith (Hong Kong) Limited	Hong Kong
* JMEPS Trustees Limited	England	Intercat Equipment (Mumbai) Private Limited	India
Johnson Matthey Battery Systems Engineering Limited	England	Johnson Matthey Chemicals India Private Limited	India
* Johnson Matthey (CM) Limited	England	Johnson Matthey India Private Limited	India
		Johnson Matthey Limited	Ireland
		Stepac L.A. Ltd.	Israel
		Johnson Matthey Italia S.r.l.	Italy
		Johnson Matthey Fuel Cells Japan Limited (82.5%)	Japan
		Johnson Matthey Japan Godo Kaisha	Japan
		Johnson Matthey DOOEL Skopje	Macedonia
		* Johnson Matthey Sdn. Bhd.	Malaysia

# NOTES ON THE ACCOUNTS

for the year ended 31st March 2016

## 42 Related undertakings (continued)

	Country of incorporation		Country of incorporation
Tracerco Asia Sdn. Bhd.	Malaysia	JM Holdings UK LLC	USA
Tracerco Asia Services Sdn. Bhd.	Malaysia	JM Holdings US LLC	USA
Johnson Matthey de Mexico, S. de R.L. de C.V.	Mexico	Johnson Matthey Fuel Cells, Inc. (82.5%)	USA
Johnson Matthey Servicios, S. de R.L. de C.V.	Mexico	Johnson Matthey Holdings, Inc.	USA
Intercat Europe B.V.	Netherlands	Johnson Matthey Inc. <sup>4</sup>	USA
Johnson Matthey Advanced Glass Technologies B.V.	Netherlands	Johnson Matthey Japan, Inc.	USA
Johnson Matthey B.V.	Netherlands	Johnson Matthey Materials, Inc.	USA
Johnson Matthey Holdings B.V.	Netherlands	Johnson Matthey North America, Inc.	USA
Johnson Matthey Netherlands B.V.	Netherlands	Johnson Matthey Overseas Holdings Inc.	USA
Johnson Matthey Netherlands 2 B.V.	Netherlands	Johnson Matthey Pharmaceutical Materials, Inc.	USA
Matthey Finance B.V. <sup>1</sup>	Netherlands	Johnson Matthey Process Technologies, Inc.	USA
Tracerco Norge AS	Norway	Johnson Matthey Stationary Emissions Control LLC	USA
Johnson Matthey Battery Systems Spółka z ograniczoną odpowiedzialnością	Poland	Johnson Matthey US 2 LLC	USA
Macfarlan Smith Portugal, Lda	Portugal	Johnson Matthey Vehicle Testing & Development, LLC	USA
Johnson Matthey Catalysts LLC	Russia	Matthey Pharmaceutical Alkaloids, LLC (50.0%)	USA
* Anipel Limited	Scotland	Red Maple LLC (50.0%)	USA
* Bitrex Limited	Scotland		
Johnson Matthey Battery Systems Limited	Scotland		
* Johnson Matthey General Partner (Scotland) Limited	Scotland		
* Johnson Matthey (Scotland) Limited Partnership <sup>2</sup>	Scotland		
Macfarlan Smith Limited	Scotland		
* Meconic Limited	Scotland		
Johnson Matthey Singapore Private Limited	Singapore		
Johnson Matthey (Proprietary) Limited	South Africa		
Johnson Matthey Research South Africa (Proprietary) Limited	South Africa		
Johnson Matthey Salts (Proprietary) Limited	South Africa		
Johnson Matthey Catalysts Korea Limited	South Korea		
Johnson Matthey Korea Limited	South Korea		
Johnson Matthey AB	Sweden		
Johnson Matthey Formox AB	Sweden		
Johnson Matthey & Brandenberger A.G.	Switzerland		
Johnson Matthey Finance GmbH	Switzerland		
LiFePO <sub>4</sub> +C Licensing AG	Switzerland		
Johnson Matthey Holdings (Thailand) Limited	Thailand		
Johnson Matthey (Thailand) Limited	Thailand		
Johnson Matthey Services (Trinidad and Tobago) Limited	Trinidad and Tobago		
Stepac Ambalaj Malzemeleri Sanayi Ve Ticaret Anonim Sirketi	Turkey		

In some jurisdictions in which we operate, share classes are not defined and in these instances, for the purpose of disclosure, we have classified these holdings as ordinary shares.

<sup>1</sup> Ordinary and preference shares.

<sup>2</sup> Limited partnership, no share capital.

<sup>3</sup> Ordinary and non-cumulative redeemable preference shares.

<sup>4</sup> Ordinary and series A preferred stock.

# INDEPENDENT AUDITOR'S REPORT

to the members of Johnson Matthey Plc only

## Opinions and conclusions arising from our audit

**1 Our opinion on the accounts is unmodified**

We have audited the accounts of Johnson Matthey Plc for the year ended 31st March 2016 set out on pages 134 to 181.

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 2016 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.

**2 Our assessment of risks of material misstatement**

We summarise below the risks of material misstatement (unchanged from 2015) that had the greatest effect on our audit (in decreasing order of audit significance), our key audit procedures to address those risks and our findings from those procedures in order that the company's members as a body may better understand the process by which we arrived at our audit opinion. Our findings are the result of procedures undertaken in the context of and solely for the purpose of our statutory audit opinion on the accounts as a whole and consequently are incidental to that opinion, and we do not express discrete opinions on separate elements of the accounts.

**Refinery process and stock takes**

Refer to page 103 (Audit Committee Report) and page 179 (financial disclosures).

The risk	Our response and conclusions
<p>The group refines a significant amount of metal as set out in note 41. The year end metal inventory quantity is determined from: assay estimates of the metal contained in the carrier material entering and refined metal leaving the refining process; and estimates of process losses, rolled forward from 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. Further, in the main 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 recoveries reduce or increase the group's own metal inventory.</p> <p>The group's inventory quantities are subject to a significant degree of estimation across both its own inventory and the material being processed for third parties, such that a small variation in estimates could have a material effect on the accounts.</p>	<p>We assessed through observation, interview and reperformance on a sample basis the adequacy of group controls over metal processing and inventory including physical security, metal receipt / dispatch, metal recording, assaying and stock takes.</p> <p>We attended physical stock takes to verify adherence to stock take processes. We sought to understand and corroborate the reasons for significant or unusual movements in inventory quantities between the accounting records and the physical stock takes. We evaluated the roll forward of inventory from the point of stock take to the year end to assess the potential for misstatement.</p> <p>We assessed 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.</p> <p>We also considered the adequacy of the group's disclosures about the degree of estimation involved in arriving at the measured inventory.</p> <p>As a result, we satisfied ourselves that the valuation of inventory is appropriately stated.</p>

# INDEPENDENT AUDITOR'S REPORT

to the members of Johnson Matthey Plc only

## Opinions and conclusions arising from our audit (continued)

### 2 Our assessment of risks of material misstatement (continued)

#### *Carrying value of goodwill and other intangible assets*

Refer to page 63 (Audit Committee Report), page 140 (accounting policies) and pages 146, 159 to 162 and 179 (financial disclosures).

The risk	Our response and conclusions
<p>The group has significant intangible assets 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. The group has also experienced challenging conditions in certain markets including Process Technologies and Fuel Cells which have resulted in significant restructuring activities.</p> <p>Recoverability of these assets is based on forecasting and discounting future cash flows, which are inherently judgmental.</p>	<p>Our audit procedures included detailed testing of the directors' impairment assessment for each area of the business to which goodwill has been allocated and other major assets for which impairment triggers were identified. We obtained the discounted cash flow models and assessed the principles and integrity of each model.</p> <p>We challenged the group's valuation assumptions for its cash flow projections, with reference to internally and externally derived sources and taking into account the group's historical forecasting accuracy. We assessed the inputs based on our own insights and experience and challenged the appropriateness of the discount rate by using our own valuation specialists.</p> <p>We considered 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> <p>As a result of our work we determined that the quantum of impairment recognised in the year ended 31st March 2016 was appropriate. For those intangible assets, where management determined no impairment was required, we found these judgments were supported by reasonable assumptions.</p>

#### *Post-employment benefits*

Refer to page 103 (Audit Committee Report), page 142 (accounting policy) and pages 152 to 158 (financial disclosures).

The risk	Our response and conclusions
<p>Significant estimates are made in valuing the group's post-employment benefit plans. Small changes in assumptions and estimates used to value the group's net post-employment benefit liabilities would have a significant effect on the group's financial position.</p>	<p>Our procedures included challenging the key assumptions, being the discount rates; inflation rates and mortality / life expectancies supporting the group's post-employment benefit obligations valuations, with the support of our own actuarial specialists. This included a comparison of these key assumptions used against externally derived data. We have also assessed the adequacy of the group's disclosures in respect of post-employment benefits.</p> <p>As a result of our testing we concluded that the net post-employment benefit liability was appropriately stated.</p>

#### *Taxation accounting*

Refer to page 103 (Audit Committee Report), page 142 (accounting policy) and page 179 (financial disclosures).

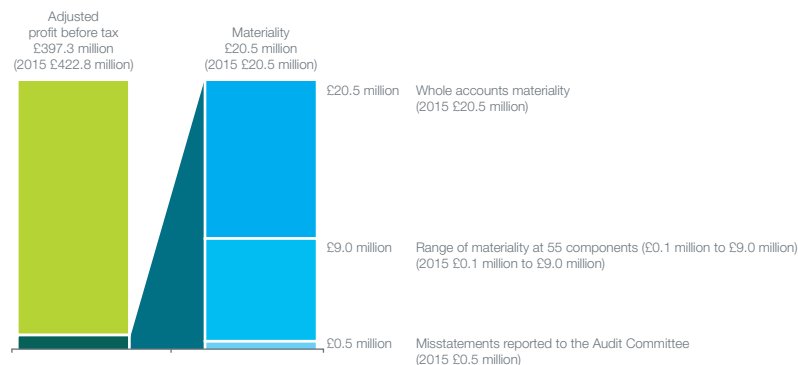
The risk	Our response and conclusions
<p>The group operates in multiple jurisdictions governed by national tax laws and regulations and is required to estimate the tax effect of cross border transactions including transfer pricing arrangements. Where the precise impact of these laws and regulations on 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>In this area our audit procedures included assessment of correspondence with the relevant tax authorities and the use of our own local and international tax specialists, who have knowledge of the relevant indirect and direct tax regimes and experience in their application, to analyse and challenge the assumptions used to determine the tax charge. We also assessed the adequacy of the group's disclosures in this regard.</p> <p>From the evidence obtained, we considered the level of tax provisioning to be appropriate.</p>

## INDEPENDENT AUDITOR'S REPORT

to the members of Johnson Matthey Plc only

### Opinions and conclusions arising from our audit (continued)

#### 3 Our application of materiality and an overview of the scope of our audit



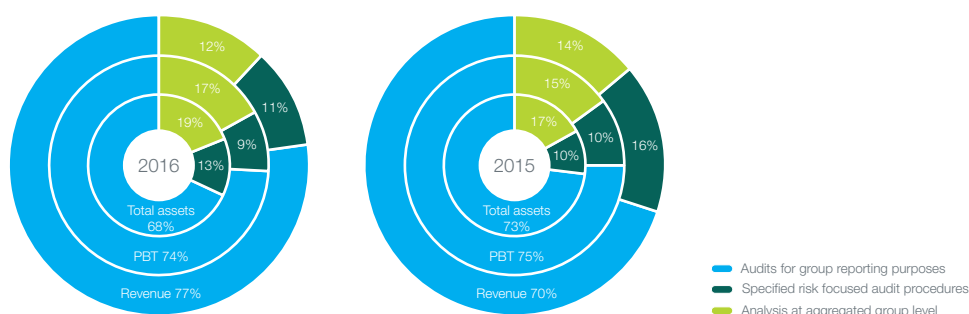
Materiality for the group accounts as a whole was set at £20.5 million (2015 £20.5 million), determined with reference to a benchmark of group profit before tax, excluding the profit on sale or liquidation of businesses of £130.0 million and major impairment and restructuring charges of £141.0 million as disclosed on the face of the Consolidated Income Statement, of which it represents 5% of the adjusted benchmark (2015 5%). Our procedures in relation to impairments are described above, and we also carried out audit procedures to assess the accuracy of the profit on sale of the Research Chemicals business and the accuracy and appropriateness of the allocation of expense to the restructuring charges.

We reported to the Audit Committee any corrected and uncorrected identified misstatements exceeding £0.5 million (2015 £0.5 million), in addition to other identified misstatements that warranted reporting on qualitative grounds.

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 reporting components, we subjected 43 (2015 43) to audits for group reporting purposes and 12 (2015 13) to specified risk focused audit procedures, the most significant of which were in China, Germany, India, Macedonia, South Africa, Sweden, UK and USA. 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 88% of group revenue, 83% of group profit before tax (PBT); and 81% of group total assets.

KPMG is the local statutory auditor to many of the company's subsidiaries around the world performing work in addition to that required for group reporting purposes. These local statutory audits are performed to local audit standards and sometimes to a different reporting period to the group. At businesses where KPMG does not perform audit work for group purposes we receive reports from local auditors on the results of their statutory audit work. This enables us to consider whether there is a risk of significant misstatement to the group's results that could arise from these businesses. In total these statutory audits comprise 11% of group revenue; 7% of group profit before tax and 8% 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 audit team approved the component materialities, which ranged from £0.1 million to £9.0 million (2015 £0.1 million to £9.0 million), having regard to the mix of size and risk profile of the group across the components. The work on 42 of the 55 components (2015 43 of the 56 components) was performed by the component auditors and the rest by the group audit team.

The group audit team visited 7 component locations (2015 6) in Argentina, China, Macedonia, Mexico, the Netherlands, UK and USA, to assess the audit risk and strategy. Telephone conference meetings were also held with these component auditors and 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.

# INDEPENDENT AUDITOR'S REPORT

to the members of Johnson Matthey Plc only

## Opinions and conclusions arising from our audit (continued)

### 4 Our opinion on other matters prescribed by the Companies Act 2006 is unmodified

The part of the director's Remuneration Report to be audited extends from the Single Figure Table of Remuneration on page 119 to, and including, the Statement of Directors' Shareholding on page 125; and in addition comprises the Explanation of Figures on page 120, the Variable Pay – Additional Disclosures, Including Bases of Calculation and Outcomes on pages 120 to 123, LTIP Outcomes on page 122, the Pension Entitlements on page 123 and the Payments for Loss of Office on page 124.

In our opinion:

- the part of the directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006; and
- the information given in the Strategic Report and Directors' Report for the financial year for which the accounts are prepared is consistent with the accounts.

### 5. We have nothing to report on the disclosures of principal risks

Based on the knowledge we acquired during our audit, we have nothing material to add or draw attention to in relation to:

- the directors' statement of longer term viability on page 63, concerning the principal risks, their management, and, based on that, the directors' assessment and expectations of the group's continuing in operation over the three years to 31st March 2019.

### 6. We have nothing to report in respect of matters on which we are required to report by exception

Under International Standards on Auditing (ISAs) (UK and Ireland) we are required to report to you if, based on the knowledge we acquired during our audit, we have identified other information in the annual report that contains a material inconsistency with either that knowledge or the accounts, a material misstatement of fact, or that is otherwise misleading.

In particular, we are required to report to you if:

- we have identified material inconsistencies between the knowledge we acquired during our audit and the directors' statement that they consider that the Annual Report and Accounts 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 Audit Committee Report does not appropriately address matters communicated by us to the Audit Committee.

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- adequate accounting records have not been kept by the parent company, or returns adequate for our audit have not been received from branches not visited by us; or
- the parent company accounts 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.

Under the Listing Rules we are required to review:

- the directors' statement, set out on page 63, in relation to going concern and longer term viability; and
- the part of the Corporate Governance Statement in the Corporate Governance Report on page 86 relating to the company's compliance with the eleven provisions of the 2014 UK Corporate Governance Code specified for our review.

We have nothing to report in respect of the above responsibilities.

## Scope of report and responsibilities

As explained more fully in the directors' responsibilities statement on page 131, the directors are responsible for the preparation of the accounts and for being satisfied that they give a true and fair view. A description of the scope of an audit of accounts is provided on the Financial Reporting Council's website at [www.frc.org.uk/auditscopeukprivate](http://www.frc.org.uk/auditscopeukprivate). This report is made solely to the company's members as a body and subject to important explanations and disclaimers regarding our responsibilities, published on our website at [www.kpmg.com/uk/auditscopeukco2014a](http://www.kpmg.com/uk/auditscopeukco2014a), which are incorporated into this report as if set out in full and should be read to provide an understanding of the purpose of this report, the work we have undertaken and the basis of our opinions.

**Stephen Oxley (Senior Statutory Auditor)**  
for and on behalf of KPMG LLP, Statutory Auditor

Chartered Accountants  
15 Canada Square  
London E14 5GL

1st June 2016

# OTHER INFORM



# ATION

6

**THE FOLLOWING SECTION COVERS FIVE YEAR PERFORMANCE DATA FOR THE GROUP, FURTHER INFORMATION FOR SHAREHOLDERS, A GLOSSARY OF TERMS AND AN INDEX.**

## CONTENTS

- 188 Five Year Record – Financial Data
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- 199 Financial Calendar 2016/17
- 200 Company Details

Tristan and Ufuc carry out a visual inspection of a calcination oven at our Process Technologies' site in Oberhausen, Germany. Process Technologies offers a wide range of products and processes for the petrochemical, syngas, oil refining and gas processing industries.

## 6. Other Information

## FIVE YEAR RECORD – FINANCIAL DATA

	2012 £ million	2013 £ million	2014 £ million	2015 £ million	2016 £ million
<b>Revenue</b>	12,023.2	10,728.8	11,155.2	10,059.7	<b>10,713.9</b>
<b>Sales excluding the value of precious metals (adjusted)</b>	2,709.0	2,695.4	3,017.8	3,164.0	<b>3,177.0</b>
<b>EBITDA</b>	576.2	542.7	596.3	611.8	<b>590.1</b>
Depreciation	(108.5)	(111.2)	(115.1)	(122.3)	<b>(127.9)</b>
Amortisation	(17.6)	(15.4)	(12.3)	(12.4)	<b>(11.4)</b>
<b>Underlying operating profit</b>	450.1	416.1	468.9	477.1	<b>450.8</b>
Net finance costs	(24.1)	(33.2)	(42.1)	(37.5)	<b>(32.6)</b>
Share of profit of joint venture and associate	–	–	0.5	0.5	<b>–</b>
<b>Underlying profit before tax</b>	426.0	382.9	427.3	440.1	<b>418.2</b>
Amortisation of acquired intangibles	(16.7)	(16.9)	(20.7)	(17.3)	<b>(20.9)</b>
Profit on sale or liquidation of businesses, major impairment and restructuring charges	–	(17.4)	–	73.0	<b>(11.0)</b>
<b>Profit before tax</b>	409.3	348.6	406.6	495.8	<b>386.3</b>
Income tax expense	(93.9)	(77.5)	(67.9)	(68.5)	<b>(60.6)</b>
<b>Profit after taxation</b>	315.4	271.1	338.7	427.3	<b>325.7</b>
Non-controlling interests	0.5	0.7	1.5	1.4	<b>7.4</b>
<b>Profit attributable to owners of the parent company</b>	315.9	271.8	340.2	428.7	<b>333.1</b>
<b>Underlying earnings per ordinary share</b>	153.7p	147.7p	170.6p	180.6p	<b>178.7p</b>
<b>Earnings per ordinary share</b>	148.7p	132.3p	167.7p	211.2p	<b>166.2p</b>
<b>Dividend per ordinary share</b>	55.0p	57.0p	62.5p	68.0p	<b>71.5p</b>
<b>Summary Balance Sheet</b>					
<b>Assets employed:</b>					
Goodwill	519.3	584.6	571.0	547.2	<b>570.0</b>
Property, plant and equipment / other intangible assets	1,036.7	1,205.3	1,206.7	1,268.3	<b>1,311.3</b>
Non-current investments / associates / joint venture	10.8	61.0	60.8	66.7	<b>76.7</b>
Inventories	629.5	664.3	672.5	858.8	<b>653.7</b>
Receivables / current investments / tax assets / financial assets	895.3	915.6	1,032.2	1,353.4	<b>1,016.2</b>
Payables / provisions / tax liabilities / financial liabilities	(938.5)	(960.4)	(1,095.5)	(1,103.4)	<b>(1,112.4)</b>
Post-employment benefit net assets / employee benefit obligations	(167.1)	(243.9)	(165.3)	(196.5)	<b>(6.0)</b>
	1,986.0	2,226.5	2,282.4	2,794.5	<b>2,509.5</b>
<b>Financed by:</b>					
Net debt	455.4	835.6	729.2	994.4	<b>674.9</b>
Retained earnings	1,171.0	1,029.7	1,271.1	1,517.3	<b>1,541.3</b>
Share capital, share premium, shares held in ESOTs and other reserves	361.8	365.5	288.4	293.3	<b>311.8</b>
Non-controlling interests	(2.2)	(4.3)	(6.3)	(10.5)	<b>(18.5)</b>
<b>Capital employed</b>	1,986.0	2,226.5	2,282.4	2,794.5	<b>2,509.5</b>
<b>Return on invested capital</b>	22.3%	19.8%	20.8%	18.8%	<b>17.3%</b>
(Underlying operating profit / average monthly capital employed)					

Sales excluding the value of precious metals have been adjusted to include certain non pass through precious metal items.

In 2014, 2013 and the balance sheet for 2012 were restated for the adoption of IFRS 10 – ‘Consolidated Financial Statements’, IFRS 11 – ‘Joint Arrangements’, IFRS 12 – ‘Disclosure of Interests in Other Entities’ and the revisions to IAS 19 – ‘Employee Benefits’, IAS 27 – ‘Separate Financial Statements’ and IAS 28 – ‘Investments in Associates and Joint Ventures’. In 2016, 2015 was restated for changes to the fair values of the battery materials business of Clariant AG at acquisition.

## FIVE YEAR RECORD – NON-FINANCIAL DATA

		2012	2013	2014	2015	2016
<b>Social</b>						
Average employee numbers		9,914	10,498	11,331	12,148	<b>12,494</b>
Total employee turnover <sup>1</sup>	%	11.7	9.1	9.0	8.7	<b>12.1</b>
Voluntary employee turnover <sup>1</sup>	%	6.4	6.5	5.6	6.0	<b>6.9</b>
Employee gender (female)	%	22	25	24	25	<b>25</b>
New recruits gender (female)	%	25	25	27	30	<b>28</b>
Trade union representation	%	35	31	29	28	<b>24</b>
Internal promotions	% of all recruitment in year	35	36	26	33	<b>30</b>
Attendance	days lost per employee	5.0	5.2	5.3	4.9	<b>5.6</b>
Sickness absence rate	%	2.0	2.2	2.0	1.9	<b>2.2</b>
Charitable donations	£ thousands	645	615	626	612	<b>679</b>
<b>Health and Safety</b>						
Lost time injury and illness rate		— <sup>2</sup>	0.58	0.65	0.50 <sup>3</sup>	<b>0.37</b>
Total recordable injury and illness rate		— <sup>2</sup>	1.41	1.77	1.13 <sup>4</sup>	<b>0.85</b>
Occupational illness cases	per 1,000 employees	2.7	2.5	2.2	1.03 <sup>5</sup>	<b>0.90</b>
<b>Environment</b>						
Energy consumption	thousands GJ	4,726	4,648	5,015	5,366 <sup>6</sup>	<b>5,064</b>
Total global warming potential	thousands tonnes CO <sub>2</sub> equivalent	417	413	463	510 <sup>7</sup>	<b>480</b>
Electricity consumption	('000 GJ)	1,677	1,679	1,817	1,885	<b>1,801</b>
Natural gas consumption	('000 GJ)	2,710	2,644	2,805	3,052	<b>2,948</b>
Waste to landfill	tonnes	10,708	3,218	3,819	3,482	<b>1,953</b>
Water consumption	thousands m <sup>3</sup>	2,201	2,444	2,564	2,529	<b>2,605</b>

<sup>1</sup> 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. Does not include agency workers not directly employed by Johnson Matthey.

<sup>2</sup> Not measured.

<sup>3</sup> Restated to include accidents that occurred during 2014/15 but that were not declared as having resulted in lost time.

<sup>4</sup> Restated for incidents reclassified after the year end.

<sup>5</sup> Restated due to initial diagnosis being changed. See page 72.

<sup>6</sup> Restated to account for a change in calorific value of gas purchased in South Africa.

<sup>7</sup> Restated using national carbon intensity figure for Macedonia, in previous years an average for European non-OECD countries had been used.

## BASIS OF REPORTING – NON-FINANCIAL DATA

This year for the first time, Johnson Matthey is reporting in accordance with the GRI G4 core reporting guidelines. The company has applied these in an appropriate context to the group by examination of the definition, explanatory notes and self diagnosis tests to ensure a fair, balanced and understandable description when assessed against the reporting criteria. This report covers the period from 1st April 2015 to 31st March 2016. Our last annual report was published in June 2015.

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 Sustainability 2017 goals. Understanding the relevance of local, national, regional and global issues, regulation and legislation is taken into account when considering reporting. The principles of inclusivity, materiality and responsiveness help to shape the structure of the report and in setting priorities for reporting.

Environmental performance data covers manufacturing, research and warehousing operations of the parent company and its subsidiaries. Data from new facilities is included from the point at which the facility becomes fully operational. 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.

Data measurement techniques, including calculations for social, environmental and health and safety performance, have applied internationally recognised protocols such as the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (Revised Edition) and the GRI indicator protocols as appropriate. Any exceptions are noted.

All non-financial performance data is reported on a financial year basis unless otherwise stated. Where necessary data has been restated, for example to reflect changes in the business (e.g. divestments and site closures), to take account of changes in best practice methodologies for reporting and changes in calculating emissions. For employee data, percentage calculations are made in relation to the number of permanent and temporary employees in the group but does not include agency workers not directly employed by Johnson Matthey (unless otherwise stated).

During 2015/16 we reduced the number of environmental indicators that we report on whilst we develop our new EHS data tracking software.

Global warming potential in tonnes of carbon dioxide (CO<sub>2</sub>) equivalent includes Scope 1 and Scope 2 emissions and Scope 3 electricity transmission and distribution losses. For the first time this year, we are reporting our Scope 2 emissions according to the Greenhouse Gas (GHG) Protocol corporate standard 2015 revision, <http://ghgprotocol.org>.

We report GHG emissions from processes and energy use and convert the total group energy use to tonnes CO<sub>2</sub> equivalent using conversion factors for each emissions source as published by Defra.

For the location based method of Scope 2 accounting we use national carbon intensity factors related to the consumption of grid electricity published by Defra in June 2015, [www.ukconversionfactorscarbonsmart.co.uk](http://www.ukconversionfactorscarbonsmart.co.uk) for all facilities outside of the US. For US facilities we use regional carbon factors published by the EPA in August 2015, eGRID data 2012, [www.epa.gov](http://www.epa.gov). 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 guidance. We have successfully obtained carbon intensity factors directly from our grid electricity suppliers in the EU, US and Australia. However, it has not been possible to obtain any market information from our grid electricity suppliers in China, India, South Africa and non-OECD Europe. For sites in these countries, we have continued to use the Defra factors, with the exception of Macedonia where a carbon factor supplied directly by the national government has been used.

Under the UK mandatory GHG reporting requirements we are required to ensure that the quantification of GHG emissions and data reliability is sufficient to meet our obligation under the UK Companies Act 2006 (Strategic and Directors' Reports) Regulations 2013. The data we have presented for our global warming potential 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 77.

Certain employee data is included in the accounts which is subject to external audit. The group's other social, health and safety and environmental data is collected annually at a group level. It is completed by businesses and signed off by the general manager for each global operation. The reported site level data is a combination of actual measurement and estimates. The processes in place to internally verify the reported data are described in the Verification section on page 191.

### Injury and Illness Calculation Definitions

The following metrics are used in this report. 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 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 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.

200,000 is the base for 100 full time equivalent workers working 40 hours per week for 50 weeks per year.

### LTIIR by Event Type Definitions

Slip, trip or fall: Injury occurring where there is too little friction or traction between an individual's footwear and the walking surface. 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: Injury occurring as a result of coming into contact with a surface or object in which the action was initiated by the person (for example when a screwdriver slips).

### Calculation of Occupational Illness Rates

Incidence rate for occupational illnesses in the year = (number of new occupational illnesses diagnosed in the year) x 1,000 ÷ (average number of employees in the year).

## VERIFICATION OF NON-FINANCIAL DATA

For a number of years the group has sought to collect and present certain non-financial data in respect of human resources, health and safety and environmental metrics as a means to demonstrate internally and externally our performance as a responsible business. We have continued to consider the metrics we present, the basis of measurement and the processes of collection and consolidation with a view to standardising and improving the relevance and quality of the metrics presented, and to further improve our processes in this area.

Certain human resources data forms part of Johnson Matthey's accounts which are subject to external audit. Other human resources data, community investment data and information relating to charitable donations is reviewed and verified by internal experts.

Health and safety data is reviewed by group health and safety experts and as part of the group environment, health and safety (EHS) audit programme. Environmental data is reviewed by group environmental experts and as part of the group EHS audit programme.

All data is reviewed by internal sustainability experts and at appropriate levels of management up to and including the Group Management Committee.

Johnson Matthey uses external specialists on specific sustainability issues. Over the past year this has included external audits or reviews of people management systems, health and safety (OHSAS 18001), environmental management systems (such as ISO 14001, ISO 50001 and RC 14001) and environmental compliance (ESOS).

The board reviews corporate social responsibility (CSR), and broader sustainability, issues as part of its risk management process.

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);
- 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;
- to demonstrate to other stakeholders that Johnson Matthey conducts its business in an appropriate manner; and
- to benchmark our corporate performance against peer group companies.

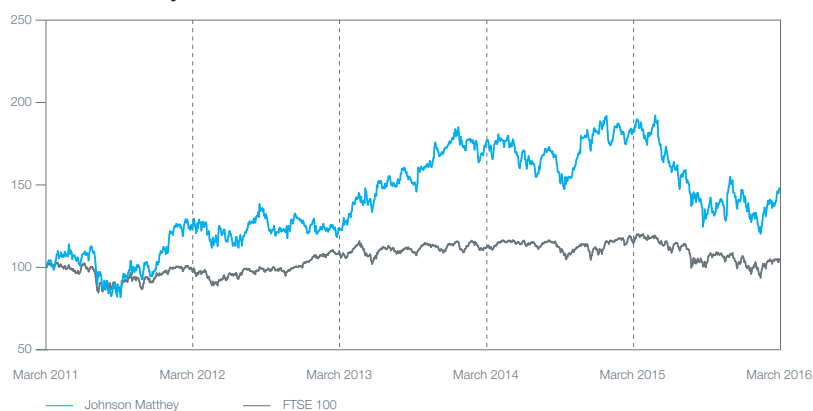
Our information disclosures take many forms including investor interviews, customer questionnaires, independent CSR / sustainability / assurance surveys and the non-financial data and other information described within our annual report.

Since 2007/08 our annual non-financial reports have been subject to periodic third party assurance / assessment provided by independent consultants / auditors.

In 2014/15 we commissioned external verification of our carbon emissions and water consumption data. We have not sought external verification of our 2015/16 environment, health and safety data.

## SHAREHOLDER INFORMATION

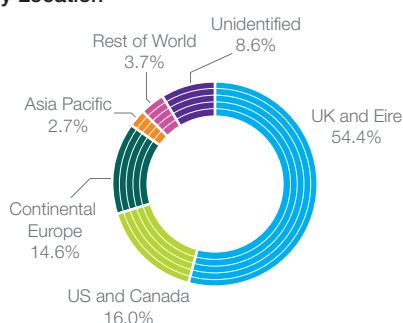
Johnson Matthey Share Price Five Year Performance versus FTSE 100



Johnson Matthey Share Price as at 31st March

	2011	2012	2013	2014	2015	2016
	1,860p	2,359p	2,300p	3,271p	3,386p	2,744p

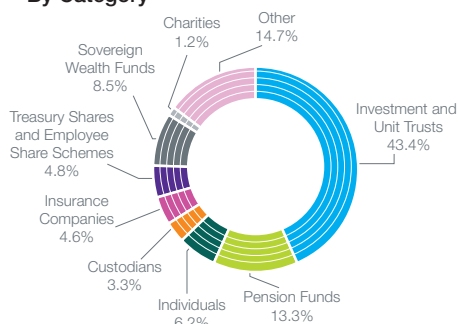
By Location



Analysis of Ordinary Shareholders as at 29th April 2016

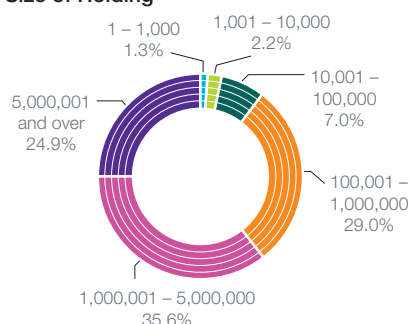
By location	Number of shares	Percentage
UK and Eire	108,281,644	54.4
US and Canada	31,910,068	16.0
Continental Europe	28,949,987	14.6
Asia Pacific	5,260,802	2.7
Rest of World	7,392,662	3.7
Unidentified	17,145,443	8.6
Total	198,940,606	100.0

By Category



By category	Number of shares	Percentage
Investment and Unit Trusts	86,242,086	43.4
Pension Funds	26,556,318	13.3
Individuals	12,368,378	6.2
Custodians	6,508,605	3.3
Insurance Companies	9,164,172	4.6
Treasury Shares and Employee Share Schemes	9,542,831	4.8
Sovereign Wealth Funds	16,962,505	8.5
Charities	2,373,990	1.2
Other	29,221,721	14.7
Total	198,940,606	100.0

By Size of Holding



By size of holding	Number of holdings	Percentage	Number of shares	Percentage
1 - 1,000	7,760	77.1	2,509,564	1.3
1,001 - 10,000	1,695	16.8	4,405,671	2.2
10,001 - 100,000	393	3.9	13,992,368	7.0
100,001 - 1,000,000	182	1.8	57,688,609	29.0
1,000,001 - 5,000,000	31	0.3	70,734,479	35.6
5,000,001 and over	7	0.1	49,609,915	24.9
	10,068	100.0	198,940,606	100.0

## 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](http://www.shareview.co.uk/dealing) or call 03456 037 037.

## Dividend History – Pence per Share

	2012	2013	2014	2015	2016
Interim	15.0	15.5	17.0	18.5	19.5
Final	40.0	41.5	45.5	49.5	52.0
Total ordinary	55.0	57.0	62.5	68.0	71.5
Special	100.0	–	–	–	150.0

## Dividend Policy

It is Johnson Matthey's policy to grow ordinary dividends over time, broadly in line with underlying earnings per share while maintaining dividend cover at about two and a half times to ensure sufficient funds are retained to support organic growth. Over the last five years from 2011/12, underlying earnings per share have grown at a compound annual growth rate of 3.8% p.a. The board is proposing a final dividend for 2015/16 of 52.0 pence to take the total for the year to 71.5 pence, which is 5% up. The dividend will be covered 2.5 times by underlying earnings.

## 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\*. They can also be contacted via their website at [www.shareview.co.uk](http://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 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. 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](mailto:shrrelations@cpushareownerservices.com) or via their website at [www.adrbnymellon.com](http://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](http://www.matthey.com).

The website's Investor Relations 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 registrar, Equiniti, Aspect House, Spencer Road, Lancing, West Sussex BN99 6DA. Telephone 0371 384 2344\* or via their website [www.shareview.co.uk](http://www.shareview.co.uk).

Shareholders may also telephone the company on 020 7269 8400 or write to:

The Company Secretary  
Johnson Matthey Plc  
5th Floor  
25 Farringdon Street  
London  
EC4A 4AB

For other enquiries shareholders may contact the Director, Investor Relations and Corporate Communications at the above address and telephone number.

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

## 6. Other Information

## GLOBAL REPORTING INITIATIVE (GRI) G4 SUMMARY

## Core Disclosures in Accordance with GRI G4

Core issue	GRI G4 indicator	Page
<b>Strategy and Analysis</b>		
CEO statement on sustainability	G4-1	8-11
Key Risks and opportunities	G4-2	24-35
<b>Organisational Profile</b>		
Company name	G4-3	200
Primary products and services	G4-4	15, 40-57
Company headquarters	G4-5	200
Company registration	G4-3, G4-5, G4-7	200
Countries of operation	G4-6	14, 180-181
Company ownership and legal form	G4-7	129, 200
Markets served	G4-8	13, 16-18
Company size and capitalisation	G4-9	12-15, 127
Workforce statistics	G4-10	67-68
Freedom of association	G4-11	68
Primary products and markets served	G4-4, G4-8	13, 15, 16-18, 40-57
Supply chain description	G4-12	19, 69
Key changes during year	G4-13	6-11, 40-57, 68
Commitments to external initiatives	G4-14 to G4-16	27, 69, 71, 79
<b>Identified Material Issues and Boundaries</b>		
List of legal entities	G4-17	180-181
Materiality assessment process	G4-18 to G4-21	26
Changes in material aspects this year	G4-22 to G4-23	n/a
<b>Stakeholder Engagement</b>		
Stakeholder identification and communication	G4-24 to G4-26	26, 70-71, 96-97
Key stakeholder concerns raised in year	G4-27	–
<b>Report Profile</b>		
Reporting dates	G4-28 to G4-30	2, 190
Company contact details	G4-31	193
GRI-G4 declaration	G4-32	190
External assurance	G4-33	182-185, 191
<b>Governance</b>		
Governance framework	G4-34	86-87
<b>Ethics and Integrity</b>		
Code of ethics	G4-56	69-70

In addition to the core disclosures above we have identified a number of specific indicators as detailed on page 195. We have grouped these according to the five elements of our sustainable business below:

 Health and Safety
  Governance
  Social
  Environment
  Financial



Read more about the five elements of our sustainable business on page 24.



Read more on our materiality assessment on page 26.

## Specific Disclosures for Johnson Matthey's Material Issues

Material issue	GRI G4 indicator	Page	Omissions
 <b>Health and Safety</b>			
Occupational health and safety	LA6	37, 68, 72-74	
 <b>Product Stewardship</b>			
Product health and safety assessments	PR1	75	
Product and service labelling requirements	PR3	75	
Sales of banned or disputed products	PR6	75	
 <b>Sustainable Supply Chains</b>			
Freedom of association and collective bargaining	HR4	68	Disclosures covers Emission Control Technologies Division which represents 60% of the group's underlying operating profit.
Child labour	HR5	69	
Forced labour	HR6	69	
Supplier human rights assessment	HR10,HR11	69	
Supplier assessment for labour practices	LA14,LA15	69	
Supplier environmental assessment	EN32,EN33	69	
Grievance reports in supply chain	EN24, HR12, LA16, SO11	69	
 <b>Ethical Business Practices</b>			
Anti-corruption	SO3, SO4	35, 69-70	
Political contributions	SO6	71, 129	
Human rights screening of investment contracts	HR1	69	
Employee training in human rights policy	HR2	69	
 <b>Complaints and Legal Sanctions for Non-Compliance</b>			
Human rights grievance mechanisms	HR12	69-70	
Labour practices grievances mechanisms	LA16	69-70	
Corruption and anti-competitive behaviour	SO5, SO7	69-70	
Fines and sanctions for non-compliance	SO8	70	
Environmental spills, fines and grievance reports	EN24, EN29, EN34	70, 75, 79	
Customer health and safety issues	PR2	75	
Product labelling violations	PR4	75	
 <b>Employee Recruitment, Retention and Development</b>			
Employee turnover	LA1	37, 67-68	We plan to broaden the scope of the data disclosed in our 2017 report.
Employee training and education	LA10	66-67	
 <b>Diversity and Inclusion</b>			
 Diversity and equal opportunity	LA12	70, 83, 92	
Equal pay	LA13	68	
Non-discrimination	HR3	68	
 <b>Greenhouse Gas Emissions</b>			
Greenhouse gas emissions (Scope 1 and 2)	EN15, EN16	37, 77	
Greenhouse gas emissions intensity	EN18	25, 77	
Projects to reduce greenhouse gas emissions	EN19	76-79	
Energy use	EN3	76-77	
Energy intensity	EN5	25, 76-77	
 <b>Climate Risks and Opportunities</b>			
Risks and opportunities due to climate change	EC2	78	
 <b>Environmental Impact of the Group's Products</b>			
% materials used from recycled sources	EN2	–	Not reported – work underway to define potential scope of disclosure.
Environmental impacts of Johnson Matthey products	EN27	12, 76-79	Work underway to include more waste categories.
Waste to landfill	EN23	76, 78	
 <b>Water Consumption, Recycling and Discharge</b>			
Water	EN8	77-78	
Effluent	EN22	77-78	
 <b>Economic Performance</b>			
Direct economic generated and distributed	EC1	36-37, 40-62, 134-181	
Coverage of benefit plan obligations	EC3	152-158	

## 6. Other Information

## GLOSSARY OF TERMS

2006 Act	The Companies Act 2006	Fuel cell	Technology which converts hydrogen or other fuels (methanol, natural gas) into clean electricity
ACT	Atmosphere Control Technologies		
Adjusted operating cash flow	Net cash flow from operating activities before tax and pension deficit funding contributions and after net purchases of non-current assets and investments	GHG	Greenhouse gas
		GMC	Group Management Committee
ADHD	Attention Deficit Hyperactivity Disorder	GRI	Global Reporting Initiative
ADR	American Depositary Receipt	Group Control Manual	The group's compendium of policies, procedures and rules which is distributed to all group operations
AGM	Annual general meeting		
AGT	Advanced Glass Technologies	GTL	Gas to liquids, multi stage catalytic process used to convert, for example, stranded natural gas into sulphur free hydrocarbons, including diesel fuel
ALM	Additive layer manufacturing		
ANDA	Abbreviated new drug application	GWP	Global warming potential
APB	Auditing Practices Board	HDD	Heavy duty diesel
API	Active pharmaceutical ingredient	HR	Human resources
BEPS	Base Erosion Profit Shifting	HSRG	Health Science Research Group
CAFE	Corporate average fuel economy – an emissions standard in the USA	IAS	International Accounting Standard
		IASB	International Accounting Standards Board
CAGR	Compound annual growth rate	IFRIC	International Financial Reporting Interpretations Committee
Cash flow conversion	Adjusted operating cash flow as a percentage of underlying operating profit	IFRS	International Financial Reporting Standards
CCT	Catalysis and Chiral Technologies	Incoterms®	The International Chamber of Commerce's International Commercial Terms
CDP	Carbon Disclosure Project		
CGU	Cash-generating unit	IP	Intellectual Property
CHP	Combined heat and power	IPA	International Platinum Group Metals Association
CO	Carbon monoxide		
CO <sub>2</sub>	Carbon dioxide	IPMI	International Precious Metals Institute
CPI	Consumer price index	ISA	International Standards on Auditing
CSR	Corporate social responsibility	ISO 9000	Internationally recognised series of standards which specify the requirements for a quality management system
dCSC™	diesel Cold Start Concept – an emission control technology		
DRIP	Dividend Reinvestment Plan	ISO 14000	Internationally recognised series of standards which specify the requirements for an environmental management system
EBITDA	Earnings before interest, tax, depreciation and amortisation		
		ISO 50001	International standard giving guidelines on an energy management system
ECHA	European Chemicals Agency	JMEPS	Johnson Matthey Employees Pension Scheme
ECT	Emission Control Technologies		
EHS	Environment, health and safety	KPI	Key performance indicator
EIB	European Investment Bank	LBG	London Benchmarking Group
EPS	Earnings per share	LDV	Light duty vehicle
ESOS	The UK's Energy Savings Opportunities Scheme	LFP	Lithium iron phosphate, a cathode material
		Li-ion	Lithium-ion, a battery technology
ESOT	Employee Share Ownership Trust	LTiIR	Lost time injury and illness rate
EU	European Union	LTIP	Long term incentive plan
EU EED	EU Energy Efficiency Directive	NOx	Oxides of nitrogen
FCA	Financial Conduct Authority	NPI	New product introduction
FCC	Fluid catalytic cracking	OEM	Original equipment manufacturer
FDA	Food and Drug Administration	OHSAS 18001	Internationally recognised standard on occupational health and safety management
FRC	Financial Reporting Council		
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	OSHA	Occupational Safety and Health Administration

OTC	Over-the-counter
PBT	Profit before tax
Pgm	Platinum group metal
PILON	Payments in lieu of notice
PMM	Precious Metals Management
PMP	Precious Metal Products
PPE	Personal protective equipment
PT	Process Technologies
R&D	Research and development
RDE	Real world driving emissions standards
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation. EU chemical control legislation which came into force in June 2007
RC 14001	An internationally recognised standard, an expansion of ISO 14001
ROIC	Return on invested capital
RPI	Retail price index
SAICM	Strategic Approach to International Chemicals Management
Sales	Sales excluding the value of precious metals
SCR	Selective catalytic reduction
SIC	Standing Interpretations Committee
SIP	Share incentive plan
SNG	Substitute natural gas
SPV	Special purpose vehicle
STEM	Science, technology, engineering and maths
SUV	Sports utility vehicle
Syngas, synthesis gas	A mixture of hydrogen and carbon oxides
TRIIR	Total recordable injury and illness rate
The Code	The UK Corporate Governance Code, issued by the FRC
UN	United Nations
UN SDG	United Nations Sustainable Development Goals
Working capital days	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

## 6. Other Information

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## FINANCIAL CALENDAR 2016/17

### 2016

#### 9th June

Ex dividend date

#### 10th June

Final dividend record date

#### 20th July

125th Annual General Meeting (AGM)

#### 2nd August

Payment of final dividend subject to declaration at the AGM

#### 17th November

Announcement of results for the six months ending 30th September 2016

#### 24th November

Ex dividend date

#### 25th November

Interim dividend record date

### 2017 (PROVISIONAL)

#### 7th February

Payment of interim dividend

#### 1st June

Announcement of results for year ending 31st March 2017

#### 8th June

Ex dividend date

#### 9th June

Final dividend record date

#### 19th July

126th AGM

#### 1st August

Payment of final dividend subject to declaration at the AGM

6. Other Information

## COMPANY DETAILS

### Registered Office

**Johnson Matthey Plc**

5th Floor  
25 Farringdon Street  
London EC4A 4AB  
Telephone: +44 (0)20 7269 8400  
Fax: +44 (0)20 7269 8433  
www.matthey.com  
E-mail: jmprr@matthey.com

Registered in England – Number 33774

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London EC1A 1HQ

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London E14 5JP

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**Registrar**

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

Front cover photo: Maria Elena is a Senior Scientist at the Johnson Matthey Technology Centre in the UK. In 2015/16 Johnson Matthey increased its gross investment in R&D by 11% to £188 million.

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