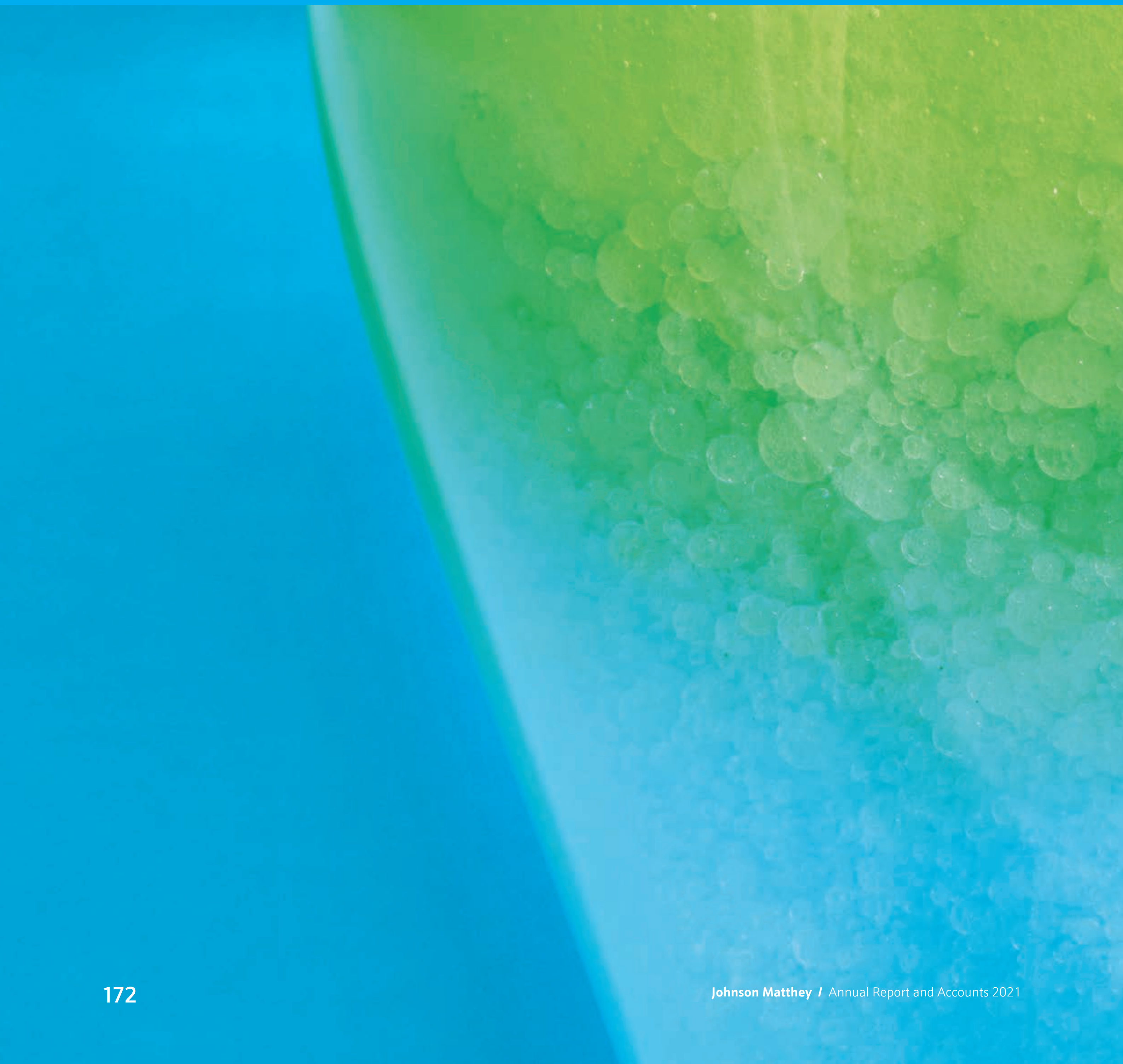
Accounts



Contents

Case study

Turning waste industrial gases into valuable chemicals to drive down CO_2 emissions

Reaching EU climate targets will be challenging, especially for producers of iron and steel where the processes need high temperatures to proceed and use carbon, in the form of coke, as a raw material. As producers look to reduce their CO_2 emissions by up to 90% by 2050, they need to find creative, cost effective ways to reduce their environmental impact.

We've recently joined a new consortium, called INITIATE, that's taking an innovative approach to this challenge. We know that steel and iron production processes create lots of carbon-rich gases. So we are investigating how to take those gases and use them as a feedstock for producing chemicals. In simple terms – turning redundant gases into valuable chemicals.

Together with our project partners, we will demonstrate how to combine a gas stream containing nitrogen and hydrogen with one containing CO_2 to produce a precursor to the chemical, urea.

Urea has important uses as a fertiliser, as AdBlue® fluid which helps reduce NOx emissions from diesel vehicles, and as a building block for making pharmaceuticals and plastics.

INITIATE has been awarded €21 million of funding by the EU. In addition to demonstrating the concept, the project will also carry out macroeconomic and lifecycle analysis to ensure the sustainability of the process and develop a roadmap for rolling out the technology commercially.

The consortium is bringing together lots of different groups including major steel, urea and energy transition groups, research organisations and experts in circularity, carbon capture and utilisation. It's a great collaboration for JM to be a part of, and another way we're shaping new sustainable and circular solutions to help decarbonise industry for a cleaner healthier world.

Katie Smart
Scientist

Acknowledgements

The INITIATE project has received funding from the European Commission under the Horizon 2020 programme Ref: 958318.

Consolidated Income Statement

for the year ended 31st March 2021

	Notes	2021 £ million	2020 £ million
Revenue	2,3	**15,673**	**14,577**
Cost of sales		(14,654)	(13,576)
Gross profit		**1,019**	**1,001**
Distribution costs		(110)	(126)
Administrative expenses		(404)	(336)
(Loss) / profit on disposal of businesses	30	(1)	2
Amortisation of acquired intangibles	4	(10)	(13)
Major impairment and restructuring charges	6	(171)	(140)
Operating profit	2,4	**323**	**388**
Finance costs	8	(158)	(195)
Finance income	8	73	109
Share of profits of joint ventures and associates	16	–	3
Profit before tax		**238**	**305**
Tax expense	9	(33)	(50)
Profit for the year		**205**	**255**
		pence	pence
Earnings per ordinary share			
Basic	11	106.5	132.3
Diluted	11	106.4	132.1

Consolidated Statement of Total Comprehensive Income

for the year ended 31st March 2021

	Notes	2021 £ million	2020 £ million
Profit for the year		**205**	**255**
Other comprehensive income			
Items that will not be reclassified to the income statement			
Remeasurements of post-employment benefit assets and liabilities	27	(141)	87
Fair value gains / (losses) on equity investments at fair value through other comprehensive income		5	(2)
Tax on items that will not be reclassified to the income statement	10	28	(21)
Total items that will not be reclassified to the income statement		**(108)**	**64**
Items that may be reclassified to the income statement			
Exchange differences on translation of foreign operations	29	(162)	65
Amounts credited to hedging reserve		3	–
Fair value gains / (losses) on net investment hedges		12	(8)
Total items that may be reclassified to the income statement		**(147)**	**57**
Other comprehensive (expense) / income for the year		**(255)**	**121**
Total comprehensive (expense) / income for the year		**(50)**	**376**

The notes on pages 179 to 246 form an integral part of the accounts.

Consolidated and Parent Company Balance Sheets

as at 31st March 2021

	Notes	Group 2021 £ million	Group 2020 £ million	Parent company 2021 £ million	Parent company 2020 £ million
Assets					
Non-current assets					
Property, plant and equipment	12	1,424	1,403	307	290
Right-of-use assets	28	74	88	15	19
Goodwill	13	554	580	115	115
Other intangible assets	14	359	396	265	288
Investments in subsidiaries	15	–	–	1,921	1,921
Investments in joint ventures and associates	16	2	23	–	–
Investments at fair value through other comprehensive income	17	53	49	–	7
Other receivables	20	50	63	1,315	1,214
Interest rate swaps	18	20	34	20	34
Deferred tax assets	26	140	66	52	–
Post-employment benefit net assets	27	194	317	186	309
Total non-current assets		**2,870**	**3,019**	**4,196**	**4,197**
Current assets					
Inventories	19	1,814	1,902	579	779
Current tax assets		13	31	–	–
Trade and other receivables	20	2,422	2,077	2,297	2,225
Cash and cash equivalents		581	304	502	214
Other financial assets	21	44	28	45	28
Total current assets		**4,874**	**4,342**	**3,423**	**3,246**
Total assets		**7,744**	**7,361**	**7,619**	**7,443**
Liabilities					
Current liabilities					
Trade and other payables	22	(3,325)	(2,745)	(4,537)	(4,167)
Lease liabilities	28	(11)	(12)	(3)	(3)
Current tax liabilities		(147)	(106)	(36)	(31)
Cash and cash equivalents – bank overdrafts		(36)	(31)	(25)	(20)
Borrowings and related swaps	23	(26)	(331)	–	(130)
Other financial liabilities	21	(18)	(50)	(22)	(50)
Provisions	25	(35)	(11)	(187)	(85)
Total current liabilities		**(3,598)**	**(3,286)**	**(4,810)**	**(4,486)**
Non-current liabilities					
Borrowings and related swaps	23	(1,252)	(994)	(1,252)	(994)
Lease liabilities	28	(51)	(64)	(13)	(16)
Deferred tax liabilities	26	(28)	(74)	–	(32)
Employee benefit obligations	27	(98)	(104)	(14)	(12)
Provisions	25	(27)	(9)	(18)	(1)
Other payables	22	(5)	(6)	(268)	(514)
Total non-current liabilities		**(1,461)**	**(1,251)**	**(1,565)**	**(1,569)**
Total liabilities		**(5,059)**	**(4,537)**	**(6,375)**	**(6,055)**
Net assets		**2,685**	**2,824**	**1,244**	**1,388**
Equity					
Share capital	29	221	221	221	221
Share premium		148	148	148	148
Shares held in employee share ownership trust (ESOT)		(29)	(32)	(29)	(32)
Other reserves	29	–	142	4	142
Retained earnings[1]		2,345	2,345	900	1,041
Total equity		**2,685**	**2,824**	**1,244**	**1,388**

[1] The parent company's profit for the year is £60 million (2020: £13 million).

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

R J MacLeod
S R Oxley — Directors

The notes on pages 179 to 246 form an integral part of the accounts.

Consolidated Cash Flow Statement

for the year ended 31st March 2021

	Notes	2021 £ million	2020 £ million
Cash flows from operating activities			
Profit before tax		238	305
Adjustments for:			
Share of profits of joint ventures and associates		–	(3)
Loss / (profit) on disposal of businesses		1	(2)
Depreciation		158	154
Amortisation		32	24
Impairment losses		122	146
Loss on sale of non-current assets		4	5
Share-based payments		9	(1)
Decrease / (increase) in inventories		19	(575)
Increase in receivables		(430)	(541)
Increase in payables		607	1,115
Increase / (decrease) in provisions		41	(6)
Contributions in excess of employee benefit obligations charge		(7)	(24)
Changes in fair value of financial instruments		(45)	24
Net finance costs		85	86
Income tax paid		(65)	(109)
Net cash inflow from operating activities		**769**	**598**
Cash flows from investing activities			
Interest received		66	104
Purchases of property, plant and equipment		(304)	(332)
Purchases of intangible assets		(77)	(111)
Proceeds from sale of assets held for sale		–	7
Proceeds from sale of non-current assets		5	1
Net proceeds from sale of businesses	*30*	19	–
Net cash outflow from investing activities		**(291)**	**(331)**
Cash flows from financing activities			
Proceeds from borrowings		368	135
Repayment of borrowings		(298)	(123)
Dividends paid to equity shareholders	*29*	(99)	(167)
Interest paid		(159)	(202)
Principal element of lease payments		(14)	(13)
Net cash outflow from financing activities		**(202)**	**(370)**
Increase / (decrease) in cash and cash equivalents		276	(103)
Exchange differences on cash and cash equivalents		(4)	(2)
Cash and cash equivalents at beginning of year		273	378
Cash and cash equivalents at end of year		**545**	**273**
Cash and deposits		119	112
Money market funds		462	192
Bank overdrafts		(36)	(31)
Cash and cash equivalents		**545**	**273**

The notes on pages 179 to 246 form an integral part of the accounts.

Consolidated Statement of Changes in Equity

for the year ended 31st March 2021

	Share capital £ million	Share premium account £ million	Shares held in ESOT £ million	Other reserves (note 29) £ million	Retained earnings £ million	Total equity £ million
At 1st April 2019	221	148	(45)	87	2,205	2,616
Profit for the year	–	–	–	–	255	255
Remeasurements of post-employment benefit assets and liabilities	–	–	–	–	87	87
Fair value losses on investments at fair value through other comprehensive income	–	–	–	(2)	–	(2)
Exchange differences on translation of foreign operations	–	–	–	65	–	65
Fair value losses on net investment hedges taken to equity	–	–	–	(8)	–	(8)
Tax on other comprehensive income	–	–	–	–	(21)	(21)
Total comprehensive income	–	–	–	55	321	376
Dividends paid (note 29)	–	–	–	–	(167)	(167)
Share-based payments	–	–	–	–	5	5
Cost of shares transferred to employees	–	–	13	–	(19)	(6)
At 31st March 2020	221	148	(32)	142	2,345	2,824
Profit for the year	–	–	–	–	205	205
Remeasurements of post-employment benefit assets and liabilities	–	–	–	–	(141)	(141)
Fair value gains on investments at fair value through other comprehensive income	–	–	–	5	–	5
Exchange differences on translation of foreign operations	–	–	–	(162)	–	(162)
Amounts credited to hedging reserve	–	–	–	3	–	3
Fair value gains on net investment hedges taken to equity	–	–	–	12	–	12
Tax on other comprehensive income	–	–	–	–	28	28
Total comprehensive (expense) / income	–	–	–	(142)	92	(50)
Dividends paid (note 29)	–	–	–	–	(99)	(99)
Share-based payments	–	–	–	–	16	16
Cost of shares transferred to employees	–	–	3	–	(10)	(7)
Tax on share-based payments	–	–	–	–	1	1
At 31st March 2021	**221**	**148**	**(29)**	**–**	**2,345**	**2,685**

The notes on pages 179 to 246 form an integral part of the accounts.

Parent Company Statement of Changes in Equity

for the year ended 31st March 2021

	Share capital £ million	Share premium account £ million	Shares held in ESOT £ million	Other reserves (note 29) £ million	Retained earnings £ million	Total equity £ million
At 1st April 2019	221	148	(45)	8	1,140	1,472
Profit for the year	–	–	–	–	13	13
Remeasurements of post-employment benefit assets and liabilities	–	–	–	–	89	89
Amounts credited to hedging reserve	–	–	–	2	–	2
Tax on other comprehensive income	–	–	–	–	(20)	(20)
Total comprehensive income	–	–	–	2	82	84
Dividends paid (note 29)	–	–	–	–	(167)	(167)
Share-based payments	–	–	–	–	4	4
Cost of shares transferred to employees	–	–	13	–	(18)	(5)
At 31st March 2020	221	148	(32)	10	1,041	1,388
Profit for the year	–	–	–	–	60	60
Remeasurements of post-employment benefit assets and liabilities	–	–	–	–	(135)	(135)
Impairment losses on equity investments through other comprehensive income	–	–	–	(3)	–	(3)
Amounts charged to hedging reserve	–	–	–	(3)	–	(3)
Tax on other comprehensive income	–	–	–	–	26	26
Total comprehensive expense	–	–	–	(6)	(49)	(55)
Dividends paid (note 29)	–	–	–	–	(99)	(99)
Share-based payments	–	–	–	–	15	15
Cost of shares transferred to employees	–	–	3	–	(9)	(6)
Tax on share-based payments	–	–	–	–	1	1
At 31st March 2021	**221**	**148**	**(29)**	**4**	**900**	**1,244**

The notes on pages 179 to 246 form an integral part of the accounts.

Notes on the accounts
for the year ended 31st March 2021

1 Accounting policies

Basis of accounting and preparation – group

The financial statements of the group have been prepared on a going concern basis in accordance with International Accounting Standards (IAS) in conformity with the requirements of the Companies Act 2006. The financial statements are also prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB), adopted pursuant to Regulation (EC) No 1606/2002 as it applies to the European Union, including the interpretations issued by the IFRS Interpretations Committee.

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 group accounts comprise the accounts of the parent company and 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 recognised on transactions between group companies.

The results of businesses acquired or disposed of in the year are consolidated from or up to the effective date of acquisition or disposal, respectively. The net assets of businesses acquired are recognised in the consolidated accounts at their fair values at the date of acquisition.

Going concern

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

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

In both scenarios outlined above, the group has sufficient headroom against committed facilities and key financial covenants are not in breach during the going concern period. Accordingly, the directors continue to adopt the going concern basis in preparing the financial statements, (see going concern section on pages 40 and 41).

Basis of accounting and preparation – parent company

The accounts are prepared on a going concern basis in accordance with Financial Reporting Standard (FRS) 101, Reduced Disclosure Framework, issued in September 2015 and the Companies Act 2006 applicable to companies reporting under FRS 101. The parent company applies the recognition, measurement and disclosure requirements of international accounting standards in conformity with the requirements of the Companies Act 2006, but makes amendments where necessary to comply with the Act and has set out below the FRS 101 disclosure exemptions taken by the parent company:

- the requirements of paragraphs 45(b) and 46 to 52 of IFRS 2, *Share-based Payment*;
- the requirements of IFRS 7, *Financial Instruments: Disclosures*;
- the requirements of paragraphs 91 to 99 of IFRS 13, *Fair Value Measurement*;
- the requirements of the second sentence of paragraph 110 and paragraphs 113(a), 114, 115, 118, 119(a) to (c), 120 to 127 and 129 of IFRS 15, *Revenue from Contracts with Customers*;
- the requirement in paragraph 38 of IAS 1, *Presentation of Financial Statements*, to present comparative information in respect of: paragraph 73(e) of IAS 16, *Property, Plant and Equipment*; and paragraph 118(e) of IAS 38, *Intangible Assets*;
- the requirements of paragraphs 10(d), 38A, 38B, 40A, 40B, 40C, 40D, 111 and 134 to 136 of IAS 1, *Presentation of Financial Statements*;
- the requirements of IAS 7, *Statement of Cash Flows*;
- the requirements of paragraphs 30 and 31 of IAS 8, *Accounting Policies, Changes in Accounting Estimates and Errors*;
- the requirements of paragraph 17 of IAS 24, *Related Party Disclosures*;
- the requirements in IAS 24, *Related Party Disclosures*, to disclose related party transactions entered into between two or more members of a group, provided that any subsidiary which is a party to the transaction is wholly owned by such a member; and
- the requirements of paragraphs 130(f)(ii), 130(f)(iii), 134(d), 134(f) and 135(c) to 135(e) of IAS 36, *Impairment of Assets*.

Notes on the accounts continued

for the year ended 31st March 2021

1 Accounting policies (continued)

Basis of accounting and preparation – parent company (continued)

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(3) of the Companies Act 2006. Profit for the year is disclosed in the parent company balance sheet and statement of changes in equity.

In the parent company balance sheet, businesses acquired from other group companies are recognised at book value at the date of acquisition. The difference between the consideration paid and the book value of the net assets acquired is reflected in retained earnings.

Significant accounting policies

The group's and parent company's accounting policies have been applied consistently during the current and prior year, other than where new policies have been adopted (see below). The group's and parent company's significant accounting policies are as follows:

Foreign currencies

Foreign currency transactions are recorded in the functional currency of the relevant subsidiary, joint venture, associate or branch at the exchange rate at the date of the transaction. Foreign currency monetary assets and liabilities are retranslated into the relevant functional currency at the exchange rate at the balance sheet date.

Income statements and cash flows of overseas subsidiaries, joint ventures, associates and branches are translated into sterling at the average rates for the year. Balance sheets of overseas subsidiaries, joint ventures, associates and branches, including any fair value adjustments and related goodwill, are translated into sterling at the exchange rates at the balance sheet date.

Exchange differences arising on the translation of the net investment in overseas subsidiaries, joint ventures, associates and branches, less exchange differences arising on related foreign currency financial instruments which hedge the group's net investment in these operations, are taken to other comprehensive income. On disposal of the net investment, the cumulative exchange difference is reclassified from equity to operating profit.

Other exchange differences are recognised in operating profit.

Revenue

Revenue represents income derived from contracts for the provision of goods and services by the parent company and its subsidiaries to customers in exchange for consideration in the ordinary course of the group's activities.

Performance obligations

Upon approval by the parties to a contract, the contract is assessed to identify each promise to transfer either a distinct good or service or a series of distinct goods or services that are substantially the same and have the same pattern of transfer to the customer. Goods and services are distinct and accounted for as separate performance obligations in the contract if the customer can benefit from them either on their own or together with other resources that are readily available to the customer and they are separately identifiable in the contract.

The group typically sells licences to its intellectual property together with other goods and services and, since these licences are not generally distinct in the context of the contract, revenue recognition is considered at the level of the performance obligation of which the licence forms part. Revenue in respect of performance obligations containing bundles of goods and services in which a licence with a sales or usage-based royalty is the predominant item is recognised when sales or usage occur.

Transaction price

At the start of the contract, the total transaction price is estimated as the amount of consideration to which the group expects to be entitled in exchange for transferring the promised goods and services to the customer, excluding sales taxes. Variable consideration, such as trade discounts, is included based on the expected value or most likely amount only to the extent that it is highly probable that there will not be a reversal in the amount of cumulative revenue recognised. The transaction price does not include estimates of consideration resulting from contract modifications until they have been approved by the parties to the contract. The total transaction price is allocated to the performance obligations identified in the contract in proportion to their relative stand-alone selling prices. Many of the group's and parent company's products and services are bespoke in nature and, therefore, stand-alone selling prices are estimated based on cost plus margin or by reference to market data for similar products and services.

1 Accounting policies (continued)

Revenue (continued)

Revenue recognition

Revenue is recognised as performance obligations are satisfied as control of the goods and services is transferred to the customer.

For each performance obligation within a contract, the group and parent company determine whether it is satisfied over time or at a point in time. Performance obligations are satisfied over time if one of the following criteria is satisfied:

- the customer simultaneously receives and consumes the benefits provided by the group's and parent company's performance as they perform;
- the group's and parent company's performance creates or enhances an asset that the customer controls as the asset is created or enhanced; or
- the group's and parent company's performance does not create an asset with an alternative use to the group and parent company and they have an enforceable right to payment for performance completed to date.

For more detail of our revenue recognition policy see note 3.

In the event that the group and parent company enter into bill-and-hold transactions at the specific request of customers, revenue is recognised when the goods are ready for transfer to the customer and when the group and parent company are no longer capable of directing those goods to another use.

Revenue includes sales of precious metal to customers and the precious metal content of products sold to customers.

Linked contracts under which the group and parent company sell or buy precious metal and commit to repurchase or sell the metal in the future are accounted for as finance transactions and no revenue is recognised in respect of the sale leg.

No revenue is recognised by the group or parent company in respect of non-monetary exchanges of precious metal on the basis that the counterparties are in the same line of business.

Consideration payable to customers

Consideration payable to customers in advance of the recognition of revenue in respect of the goods and services to which it relates is capitalised and recognised as a deduction to the revenue recognised upon transfer of the goods and services to the customer.

Costs to fulfil a contract

Contract fulfilment costs in respect of over time contracts are expensed as incurred. Contract fulfilment costs in respect of point in time contracts are accounted for under IAS 2, *Inventories*.

Contract receivables

Contract receivables represent amounts for which the group and parent company have an unconditional right to consideration in respect of unbilled revenue recognised at the balance sheet date.

Contract liabilities

Contract liabilities represent the obligation to transfer goods or services to a customer for which consideration has been received, or consideration is due, from the customer.

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.

Notes on the accounts continued

for the year ended 31st March 2021

1 Accounting policies (continued)

Research and development

Research expenditure is charged to the income statement in the year incurred. Development expenditure is charged to the income statement in the year incurred unless it meets the recognition criteria for capitalisation. When the recognition criteria have been met, any further development expenditure is capitalised as an intangible asset.

Property, plant and equipment

Property, plant and equipment is stated at cost less accumulated depreciation and any provisions for impairment. Depreciation is provided at rates calculated to write-off the cost less estimated residual value of each asset over its useful life. Certain 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:

- buildings – 30 years; and
- plant and machinery – 4 to 10 years.
- land is not depreciated.

The expected lives of property, plant and equipment tends to be short to medium term, as such the physical risk posed by climate change in the long term is low.

Goodwill and other intangible assets

Goodwill arises on the acquisition of a business when the fair value of the consideration exceeds the fair value attributed to the net assets acquired (including contingent liabilities). It is subject to annual impairment reviews. Acquisition-related costs are charged to the income statement as incurred. The group and parent company have taken advantage of the exemption allowed under IFRS 1 and, therefore, goodwill arising on acquisitions made before 1st April 2004 is included at the carrying amount at that date less any subsequent impairments.

Other intangible assets are stated at cost less accumulated amortisation and any provisions for impairment. Customer contracts are amortised when the relevant income stream occurs. All other intangible assets are amortised by using the straight-line method over the useful lives from the time they are first available for use. The estimated useful lives vary according to the specific asset, but are typically:

- customer contracts and relationships – 1 to 15 years;
- capitalised computer software – 3 to 10 years;
- patents, trademarks and licences – 3 to 20 years;
- acquired research and technology – 4 to 10 years; and
- capitalised development currently being amortised – 3 to 8 years.

Intangible assets which are not yet being amortised are subject to annual impairment reviews.

Investments in subsidiaries

Investments in subsidiaries are stated in the parent company's balance sheet at cost less any provisions for impairment. If a distribution is received from a subsidiary, the investment in that subsidiary is assessed for an indication of impairment.

Leases

Leases are recognised as a right-of-use asset, together with a corresponding lease liability, at the date at which the leased asset is available for use.

The right-of-use asset is initially measured at cost, which comprises the initial value of the lease liability, lease payments made (net of any incentives received from the lessor) before the commencement of the lease, initial direct costs and restoration costs. The right-of-use asset is depreciated on a straight-line basis over the shorter of the asset's useful life and the lease term in operating profit.

The lease liability is initially measured as the present value of future lease payments discounted using the interest rate implicit in the lease or, where this rate is not determinable, the group's incremental borrowing rate, which is the interest rate the group would have to pay to borrow the amount necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions. Interest is charged to finance costs at a constant rate of interest on the outstanding lease liability over the lease term.

Payments in respect of short-term leases, low-value leases and precious metal leases are charged to the income statement on a straight-line basis over the lease term in operating profit.

1 Accounting policies (continued)

Leases (continued)

The group leases precious metals to fund temporary peaks in metal requirements provided market conditions allow. These leases are from banks for specified periods (less than 12 months) and the group pays a fee which is expensed on a straight-line basis over the lease term in finance costs. The group holds sufficient precious metal inventories to meet all the obligations under these lease arrangements as they fall due.

Inventories

Precious metal

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 is valued at the price at which it is contractually committed, 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

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 and short-term deposits with a maturity date of three months or less from the date of acquisition. Money market funds comprise investments in funds that are subject to an insignificant risk of changes in fair value. 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 policies and, therefore, cash and cash equivalents include cash and deposits, money market funds and bank overdrafts. Offset arrangements across group businesses have been applied to arrive at the net cash and overdraft figures.

Financial instruments

Investments and other financial assets

The group and parent company classify their financial assets in the following measurement categories:

- those measured at fair value either through other comprehensive income or through profit or loss; and
- those measured at amortised cost.

At initial recognition, the group and parent company measure financial assets at fair value plus, in the case of financial assets not measured at fair value through profit or loss, transaction costs that are directly attributable to their acquisition.

The group and parent company subsequently measure equity investments at fair value and have elected to present fair value gains and losses on equity investments in other comprehensive income. There is, therefore, no subsequent reclassification of cumulative fair value gains and losses to profit or loss following disposal of the investments.

The group and parent company subsequently measure trade and other receivables and contract receivables at amortised cost, with the exception of trade receivables that have been designated as at fair value through other comprehensive income because the group has certain operations with business models to hold trade receivables for collection or sale. All other financial assets, including short-term receivables, are measured at amortised cost less any impairment provision.

For the impairment of trade and contract receivables, the group and parent company apply the simplified approach permitted by IFRS 9, *Financial Instruments*, which requires expected lifetime losses to be recognised from initial recognition.

Derivative financial instruments

The group and parent company use derivative financial instruments, in particular forward currency contracts, currency swaps, interest rate swaps and commodity derivatives 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.

Notes on the accounts continued

for the year ended 31st March 2021

1 Accounting policies (continued)

Financial instruments (continued)

Derivative financial instruments (continued)

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. For currency swaps designated as instruments in cash flow or net investment hedging relationships, the impact from currency basis spreads is included in the hedge relationship and may be a source of ineffectiveness recognised in the income statement.

Derivative financial instruments which are not designated as hedging instruments are classified as at fair value through profit or loss, 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. The vast majority of forward precious metal price contracts are entered into and held for the receipt or delivery of precious metal and, therefore, are not recorded at fair value.

Cash flow hedges

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 or the hedge no longer meets the criteria for hedge accounting, 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. If a forward precious metal price contract will be settled net in cash, it is designated and accounted for as a cash flow hedge.

Fair value hedges

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 or the hedge no longer meets the criteria for hedge accounting.

Net investment hedges

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.

Financial liabilities

Borrowings are measured at amortised cost. Those borrowings designated as being in fair value hedge relationships are remeasured for the fair value changes in respect of the hedged risk with these changes recognised in the income statement. All other financial liabilities, including short-term payables, are measured at amortised cost.

Precious metal sale and repurchase agreements

The group and parent company undertake linked contracts to sell or buy precious metal and commit to repurchase or sell the metal in the future. An asset representing the metal which the group and parent company have committed to sell or a liability representing the obligation to repurchase the metal are recognised in trade and other receivables or trade and other payables, respectively.

Taxation

Current and deferred tax are recognised in the income statement, except when they relate to items recognised directly in equity, in which case the related tax is also recognised in equity.

Current tax is the amount of income tax expected to be paid in respect of taxable profits using the tax rates that have been enacted or substantively enacted at the balance sheet date.

Deferred tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the balance sheet. It is provided using the tax rates that are expected to apply in the period when the asset or liability is settled, based on tax rates that have been enacted or substantively enacted at the balance sheet date.

1 Accounting policies (continued)

Taxation (continued)

Deferred tax assets are recognised to the extent that it is probable that future taxable profits will be available against which the temporary differences can be utilised. No deferred tax asset or liability is recognised in respect of temporary differences associated with investments in subsidiaries and branches where the group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

Provisions and contingencies

Provisions are recognised when the group has a present obligation as a result of a past event and a reliable estimate can be made of a probable adverse outcome, for example warranties, environmental claims and restructuring. Otherwise, material contingent liabilities are disclosed unless the probability of the transfer of economic benefits is remote. Contingent assets are only disclosed if an inflow of economic benefits is virtually certain.

The parent company considers financial guarantees of its subsidiaries' borrowings and precious metal leases to be insurance contracts.

Share-based payments and employee share ownership trust (ESOT)

The fair value of shares awarded to employees under the performance share plan, restricted share plan, long term incentive plan and deferred bonus 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 performance periods, adjusted to reflect actual and expected levels of vesting where appropriate.

The group and parent company provide finance to the ESOT to purchase company shares in the open market. Costs of running the ESOT are charged to the income statement. The cost of shares held by the ESOT is deducted in arriving at equity until they vest unconditionally with employees.

Post-employment benefits

The costs of defined contribution plans are charged to the income statement as they fall due.

For defined benefit plans, the group and parent company recognise the net assets or liabilities of the plans in their balance sheets. Assets are measured at their fair value at the balance sheet date. Liabilities are measured at present value using the projected unit credit method and a discount rate reflecting yields on high quality corporate bonds. The changes in plan assets and liabilities, based on actuarial advice, are recognised as follows:

- The current service cost is deducted in arriving at operating profit.
- The net interest cost, based on the discount rate at the beginning of the year, contributions paid in and the present value of the net defined benefit liabilities during the year, is included in finance costs.
- Past service costs and curtailment gains and losses are recognised in operating profit at the earlier of when the plan amendment or curtailment occurs and when any related restructuring costs or termination benefits are recognised.
- Gains or losses arising from settlements are included in operating profit when the settlement occurs.
- Remeasurements, representing returns on plan assets, excluding amounts included in interest, and actuarial gains and losses arising from changes in financial and demographic assumptions, are recognised in other comprehensive income.

Sources of estimation uncertainty

Determining the carrying amounts of certain assets and liabilities at the balance sheet date requires estimation of the effects of uncertain future events. In the event that actual outcomes differ from those estimated, there may be an adjustment to the carrying amounts of those assets and liabilities within the next financial year. Other significant risks of material adjustment are the valuation of the liabilities of the defined benefit pension plans and tax provisions. The group and parent company have considered the refining process and stocktakes and provisions and contingent liabilities and, whilst not deemed to represent a significant risk of material adjustment to the group's and parent company's financial position during the year ending 31st March 2021, represent important accounting estimates.

Goodwill, other intangibles and other assets

The group and parent company have significant intangible assets from both business acquisitions and investments in new products and technologies. Some of those acquisitions and investments are at an early stage of commercial development and, therefore, carry a greater risk that they will not be commercially viable. Goodwill and intangible assets not yet ready for use are not amortised, but are subject to annual impairment reviews. Other intangible assets are amortised from the time they are first ready for use and, together with other assets, are assessed for impairment when there is a triggering event that provides evidence that they are impaired.

Notes on the accounts continued

for the year ended 31st March 2021

1 Accounting policies (continued)

Sources of estimation uncertainty (continued)

Goodwill, other intangibles and other assets (continued)

The impairment reviews require the use of estimates of future profit and cash generation based on financial budgets and plans approved by management, generally covering a three-year period and then extrapolated using long term growth rates, and the pre-tax discount rates used in discounting projected cash flows.

Post-employment benefits

The group's and parent company's defined benefit plans are assessed annually by qualified independent actuaries. The estimate of the liabilities of the plans is based on a number of actuarial assumptions.

There is a range of possible values for each actuarial assumption and the point within that range is estimated to most appropriately reflect the group's and parent company's circumstances. Small changes in these assumptions can have a significant impact on the estimate of the liabilities of the plans. A description of those discount rate and inflation assumptions, together with sensitivity analysis, is set out in note 27 to the group and parent company accounts.

Tax provisions

Tax provisions are determined based on the tax laws and regulations that apply in each of the jurisdictions in which the group operates. Tax provisions are recognised where the impact of those laws and regulations is unclear and it is probable that there will be a tax adjustment representing a future outflow of funds to a tax authority or a consequent adjustment to the carrying value of a tax asset.

Provisions are measured using the best estimate of the most likely amount, being the most likely amount in a range of possible outcomes. The resolution of tax positions taken by the group can take a considerable period of time to conclude and, in some cases, it is difficult to predict the outcome. Group current income tax liabilities at 31st March 2021 of £147 million (2020: £106 million) include tax provisions of £102 million (2020: £106 million) and the estimation of the range of possible outcomes is an increase in those liabilities by £97 million (2020: £106 million) to a decrease of £78 million (2020: £90 million). The estimates made reflect where the group faces routine tax audits or is in ongoing disputes with tax authorities; has identified potential tax exposures relating to transfer pricing; or is contesting the tax deductibility of certain business costs.

Deferred tax assets

Deferred tax assets are recognised to the extent it is probable that future taxable profits will be available, against which the deductible temporary difference can be utilised, based on management's assumptions relating to future taxable profits.

Determination of future taxable profits requires application of judgement and estimates, including: market share, expected changes to selling prices, product profitability, precious metal prices and other direct input costs, based on management's expectations of future changes in the markets using external sources of information where appropriate. The estimates take account of the inherent uncertainties, constraining the expected level of profit as appropriate. Changes in these estimates will affect future profits and therefore the recoverability of the deferred tax assets.

Refining process and stocktakes

The group's and parent company's refining businesses process significant quantities of precious metal and there are uncertainties regarding the actual amount of metal in the refining system at any one time. The group's refining businesses process over five million ounces of platinum group metals per annum with a market value of around £11 billion. The majority of metal processed is owned by customers and the group and parent company must return pre-agreed quantities of refined metal based on assays of starting materials and other contractual arrangements, such as the timing of the return of metal. The group and parent company calculate the profits or losses of their refining operations based on estimates, including the extent to which process losses are expected during refining. The risk of process losses or stock take gains depends on the nature of the starting material being refined, the specific refining processes applied, the efficiency of those processes and the contractual arrangements.

Stocktakes are performed to determine the volume and value of metal within the refining system compared with the calculated estimates, with the variance being a profit or a loss. Stocktakes are, therefore, a key control in the assessment of the accuracy of the profit or loss of refining operations. Whilst refining is a complex, large-scale industrial process, the group and parent company have appropriate processes and controls over the movement of material in their refineries.

1 Accounting policies (continued)

Sources of estimation uncertainty (continued)

Climate change

The impact of climate change presented in the group's Strategic Report (see page 2) and the stated net zero targets have been considered in preparing the group accounts.

The following considerations were made:

Impact on the going concern period and viability of the group over the next three years. The latest forecasts reflect the continuous investment in sustainable technologies including commercialisation of our high nickel cathode material, eLNO, products used in green hydrogen production and higher performance fuel cell components for a range of automotive, non-automotive and stationary applications.

The potential impact of climate change on a number of areas within the financial statements has been considered, including:

- The forecasts of cash flows used in impairment assessments for the carrying value of non-current assets including goodwill (see note 5).
- Impairment considerations related to the decommissioning of Clean Air's plants.
- Recoverability of deferred tax assets which are expected to be recovered in five years (see note 26).
- The expected lives of fixed assets and their exposure to the physical risk posed by climate change.

Judgements made in applying accounting policies

Metal

The group and parent company use precious metal owned by customers in their production processes. It has been determined that this metal is not controlled by the group or parent company and, therefore, it is not recognised on the balance sheet.

The group and parent company manage precious metal inventories by entering into physically settled forward sales and purchases of metal positions in line with a well-established hedging policy. The own use exemption has been adopted for these transactions and, therefore, the group and parent company do not fair value such physically settled contracts.

The group undertakes linked contracts to sell or buy precious metal and commits to repurchase or sell the metal in the future to manage inventory levels. Accordingly, cash flows in respect of sale and repurchase agreements are shown as cash flows from operating activities in the cash flow statement rather than cash flows from financing activities.

Provisions and contingent liabilities

The group is involved in various disputes and claims which arise from time to time in the course of its business including, for example, in relation to commercial matters, product quality or liability, employee matters and tax audits. The group is also involved from time to time in the course of its business in legal proceedings and actions, engagement with regulatory authorities and in dispute resolution processes. Judgement is required to determine if an outflow of economic resources is probable, or possible but not probable for such events. Where it is probable, a liability is recognised and further judgement is used to determine the amount of the provision. Where it is possible but not probable, further judgement is used to determine if the likelihood is remote, in which case no disclosures are provided; if the likelihood is not remote then judgement is required to determine the contingent liability disclosed. Provisions and contingent liabilities are set out in notes 25 and 35, respectively.

In the course of preparing the accounts, no other judgements have been made in the process of applying the group's and parent company's accounting policies, other than those involving estimations, that have had a significant effect on the amounts recognised in the accounts.

Changes in accounting policies

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

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

Notes on the accounts continued

for the year ended 31st March 2021

1 Accounting policies (continued)

Changes in accounting policies (continued)

Interest Rate Benchmark Reform Phase 2 – Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 (continued)

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

Other amendments to accounting standards

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

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

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

Non-GAAP measures

The group uses various measures to manage its business which are not defined by generally accepted accounting principles (GAAP). The group's management believes these measures provide valuable additional information to users of the accounts in understanding the group's performance. The group's non-GAAP measures are defined and reconciled to GAAP measures in note 38.

2 Segmental information

Revenue, sales and underlying operating profit by sector

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

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

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

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

New Markets – a portfolio of businesses with particular focus on potential growth and value realisation opportunities. This includes battery systems for a range of applications, fuel cell technologies and battery materials for automotive applications. The sector also develops products found in devices used in medical procedures and advanced catalysts for pharmaceutical and agricultural chemicals markets.

The Group Management Committee (the chief operating decision maker as defined by IFRS 8, *Operating Segments*) monitors the results of these operating sectors to assess performance and make decisions about the allocation of resources. Each operating sector is represented by a member of the Group Management Committee. These operating sectors represent the group's reportable segments and their principal activities are described on pages 42 to 57. The performance of the group's operating sectors is assessed on sales and underlying operating profit (see note 38). Sales between segments are made at market prices, taking into account the volumes involved.

Year ended 31st March 2021	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Corporate £ million	Eliminations £ million	Total £ million
Revenue from external customers	6,985	7,916	238	534	–	–	**15,673**
Inter-segment revenue	2	4,851	–	53	–	(4,906)	**–**
Revenue	**6,987**	**12,767**	**238**	**587**	**–**	**(4,906)**	**15,673**
External sales	2,412	921	236	353	–	–	**3,922**
Inter-segment sales	–	136	1	3	–	(140)	**–**
Sales[1]	**2,412**	**1,057**	**237**	**356**	**–**	**(140)**	**3,922**
Underlying operating profit[1]	**269**	**268**	**31**	**9**	**(73)**	**–**	**504**

Year ended 31st March 2020	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Corporate £ million	Eliminations £ million	Total £ million
Revenue from external customers	6,172	7,670	229	506	–	–	14,577
Inter-segment revenue	1	4,291	–	6	–	(4,298)	–
Revenue	**6,173**	**11,961**	**229**	**512**	**–**	**(4,298)**	**14,577**
External sales	2,617	945	223	385	–	–	4,170
Inter-segment sales	1	134	–	4	–	(139)	–
Sales[1]	**2,618**	**1,079**	**223**	**389**	**–**	**(139)**	**4,170**
Underlying operating profit[1]	**295**	**256**	**27**	**(1)**	**(38)**	**–**	**539**

1 Sales and underlying operating profit are non-GAAP measures (see note 38). Sales excludes the sale of precious metals. Underlying operating profit excludes profit or loss on disposal of businesses, gain or loss on significant legal proceedings, together with associated legal costs, amortisation of acquired intangibles and major impairment and restructuring charges.

Notes on the accounts continued

for the year ended 31st March 2021

2 Segmental information (continued)

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

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

Average exchange rates	**2021**	2020
US dollar / £	1.31	1.27
Euro / £	1.12	1.14
Chinese renminbi / £	8.85	8.85

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

Reconciliation from underlying operating profit to operating profit by sector

Year ended 31st March 2021	**Clean Air £ million**	**Efficient Natural Resources £ million**	**Health £ million**	**New Markets £ million**	**Corporate £ million**	**Total £ million**
Underlying operating profit[1]	**269**	**268**	**31**	**9**	**(73)**	**504**
Amortisation of acquired intangibles	(2)	(6)	–	(2)	–	**(10)**
Major impairment and restructuring charges (note 6)	(102)	(21)	(17)	(7)	(24)	**(171)**
Operating profit	**165**	**241**	**14**	**–**	**(97)**	**323**

Year ended 31st March 2020	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Corporate £ million	Total £ million
Underlying operating profit[1]	**295**	**256**	**27**	**(1)**	**(38)**	**539**
Profit on disposal of businesses	–	–	–	–	2	**2**
Amortisation of acquired intangibles	(3)	(6)	–	(4)	–	**(13)**
Major impairment and restructuring charges (note 6)	(56)	–	(17)	(57)	(10)	**(140)**
Operating profit	**236**	**250**	**10**	**(62)**	**(46)**	**388**

[1] Sales and underlying operating profit are non-GAAP measures (see note 38). Sales excludes the sale of precious metals. Underlying operating profit excludes profit or loss on disposal of businesses, gain or loss on significant legal proceedings, together with associated legal costs, amortisation of acquired intangibles and major impairment and restructuring charges.

2 Segmental information (continued)

Other segmental information

Year ended 31st March 2021	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Corporate £ million	Total £ million
Segmental net assets	**1,480**	**705**	**469**	**310**	**353**	**3,317**
Net debt (note 38)						**(775)**
Post-employment benefit net assets and liabilities						**96**
Deferred tax net assets						**112**
Provisions and non-current other payables						**(67)**
Investments in joint ventures and associates						**2**
Net assets						**2,685**
Property, plant and equipment	94	67	24	87	11	**283**
Intangible assets	1	4	5	21	44	**75**
Capital expenditure	**95**	**71**	**29**	**108**	**55**	**358**
Depreciation	67	49	20	12	10	**158**
Amortisation	8	8	1	2	13	**32**
Impairment losses (notes 5 and 6)	51	34	11	4	22	**122**
Total	**126**	**91**	**32**	**18**	**45**	**312**

Year ended 31st March 2020	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Corporate £ million	Total £ million
Segmental net assets	**1,361**	**1,267**	**520**	**236**	**332**	**3,716**
Net debt (note 38)						**(1,094)**
Post-employment benefit net assets and liabilities						**213**
Deferred tax net liabilities						**(8)**
Provisions and non-current other payables						**(26)**
Investments in joint ventures and associates						**23**
Net assets						**2,824**
Property, plant and equipment	188	73	19	52	19	**351**
Intangible assets	–	3	13	13	85	**114**
Capital expenditure	**188**	**76**	**32**	**65**	**104**	**465**
Depreciation	64	48	21	12	9	**154**
Amortisation	5	9	1	4	5	**24**
Impairment losses (notes 5 and 6)	55	1	18	66	6	**146**
Total	**124**	**58**	**40**	**82**	**20**	**324**

Notes on the accounts continued

for the year ended 31st March 2021

3 Revenue

Products and services

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

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

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

3 Revenue (continued)

Revenue judgements

Over time revenue

Over time revenue recognition predominantly occurs in Efficient Natural Resources (Refining Services) and Health, see criteria for over time recognition as defined by the groups accounting policies in note 1.

Refining Services

The majority of the metal processed by the group and parent company's refining businesses is owned by customers and, therefore, revenue is recognised over time on the basis that the group and parent company are providing a service to enhance an asset controlled by the customer. The customer controls the metal throughout the refining process, the key indicators being legal ownership, metal price risk and that the customer has the right to claim the equivalent metal at all stages of processing.

The performance obligation contained in all refining contracts is a service arrangement to refine customer metal to a specified quality and volume by a certain date. For a contract that has multiple metals, the refinement of each metal is a separate performance obligation. We receive the contracted cash fee which is set with reference to market price at the start of the contract. Upon delivery of the refined metal to the customer, the percentage of the refined metal that we may retain at settlement is considered to be a non-cash consideration and is recognised as part of revenue at fair value.

Revenue from refining services is recognised using an output method by estimating the progress of the metal in the refining process. Once the customer metal is in the refining process it is commingled with metal from other customers and it is not separately identifiable. Because we have a consistent volume of metal flowing through the refinery process, we estimate that all of the metal in the refinery is on average 50% of the way through the process. We therefore recognise up to 50% of the revenue (cash service fee and non-cash consideration) for our services when metal enters the refining process. Since refining each type of metal is a separate performance obligation, once we have returned the metal to the customer, we recognise the remaining 50% of revenue for that particular metal while other metal may still be due to the same customer.

Health and New Markets

Revenue is recognised using an input method based on costs incurred to date as a proportion of estimated total contract costs. When it is probable that total contract costs will exceed total contract revenue, the expected loss is recognised immediately as an expense. These products and services are highly specialised assets with no alternative use and we have an enforceable right to payment (including reasonable profit margin) for performance completed to date according to the contracts.

If the over time criteria for revenue recognition are not met, revenue is recognised at the point in time that control is transferred to the customer, which is usually when legal title passes to the customer and the business has the right to payment. Most of the group's and parent company's contracts satisfy the point in time criteria.

Notes on the accounts continued

for the year ended 31st March 2021

3 Revenue (continued)

Revenue from external customers by principal products and services

Year ended 31st March 2021	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Total £ million
Metal	4,573	6,995	2	181	**11,751**
Heavy Duty Catalysts	741	–	–	–	**741**
Light Duty Catalysts	1,641	–	–	–	**1,641**
Catalyst Technologies	–	436	–	–	**436**
Platinum Group Metal Services	–	376	–	–	**376**
Advanced Glass Technologies	–	66	–	–	**66**
Diagnostic Services	–	43	–	–	**43**
Generics	–	–	146	–	**146**
Innovators	–	–	90	–	**90**
Alternative Powertrain	–	–	–	225	**225**
Medical Device Components	–	–	–	60	**60**
Life Science Technologies	–	–	–	50	**50**
Other	30	–	–	18	**48**
Revenue	**6,985**	**7,916**	**238**	**534**	**15,673**

Year ended 31st March 2020	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Total £ million
Metal	3,555	6,725	6	121	**10,407**
Heavy Duty Catalysts	831	–	–	–	**831**
Light Duty Catalysts	1,742	–	–	–	**1,742**
Catalyst Technologies	–	513	–	–	**513**
Platinum Group Metal Services	–	298	–	–	**298**
Advanced Glass Technologies	–	70	–	–	**70**
Diagnostic Services	–	64	–	–	**64**
Generics	–	–	134	–	**134**
Innovators	–	–	89	–	**89**
Alternative Powertrain	–	–	–	237	**237**
Medical Device Components	–	–	–	71	**71**
Life Science Technologies	–	–	–	47	**47**
Other	44	–	–	30	**74**
Revenue	**6,172**	**7,670**	**229**	**506**	**14,577**

Revenue from external customers by point in time and over time performance obligations

Year ended 31st March 2021	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Total £ million
Revenue recognised at a point in time	6,985	7,579	157	528	**15,249**
Revenue recognised over time	–	337	81	6	**424**
Revenue	**6,985**	**7,916**	**238**	**534**	**15,673**

Year ended 31st March 2020	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Total £ million
Revenue recognised at a point in time	6,172	7,361	165	502	**14,200**
Revenue recognised over time	–	309	64	4	**377**
Revenue	**6,172**	**7,670**	**229**	**506**	**14,577**

3 Revenue (continued)

Geographical analysis of revenue from external customers and non-current assets

The group's country of domicile is the UK. Revenue from external customers based on the customer's location and non-current assets based on the location of the assets are disclosed below.

	Revenue from external customers		Non-current assets	
	2021 £ million	2020 £ million	**2021 £ million**	2020 £ million
UK	3,354	3,275	990	1,007
Germany	1,512	1,422	251	271
Rest of Europe	2,035	2,125	384	366
USA	2,457	2,750	422	483
Rest of North America	625	477	46	48
China (including Hong Kong)	2,632	2,182	216	224
Rest of Asia	1,997	1,288	135	148
Rest of World	1,061	1,058	19	6
			2,463	**2,553**
Investments at fair value through other comprehensive income			53	49
Interest rate swaps			20	34
Deferred income tax assets			140	66
Post-employment benefit net assets			194	317
Total	**15,673**	**14,577**	**2,870**	**3,019**

Major customers

The group received £1.9 billion of revenue from one external customer in the Clean Air sector which represents more than 10% of the group's revenue from external customers during the year ended 31st March 2021 (2020: £1.8 billion of revenue from one external customer in the Clean Air sector).

Unsatisfied performance obligations

At 31st March 2021, for contracts that had an original expected duration of more than one year, the group had unsatisfied performance obligations of £921 million (2020: £397 million), representing contractually committed revenue to be recognised at a future date. Of this amount, £361 million (2020: £88 million) is expected to be recognised within one year and £560 million (2020: £309 million) is expected to be recognised after one year.

Payment terms

The group and parent company supply goods and services on payment terms that are consistent with those standard across the industry and it does not have any customer contracts with a material financing component. Where revenue is recognised over time, payment terms are generally consistent with the timeframe over which revenue is recognised.

Notes on the accounts continued

for the year ended 31st March 2021

4 Operating profit

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

	2021 £ million	2020 £ million
Total research and development expenditure	194	199
Less: Development expenditure capitalised	(22)	(23)
Research and development expenditure charged to the income statement	172	176
Less: External funding received – from governments	(12)	(13)
– from other organisations	–	(1)
Net research and development expenditure charged to the income statement	**160**	**162**
Inventories recognised as an expense	13,689	12,585
Write-down of inventories recognised as an expense	27	70
Reversal of write-down of inventories from increases in net realisable value	(12)	(17)
Net gains on foreign exchange	(56)	(17)
Net losses on foreign currency forwards at fair value through profit or loss	58	24
Past service credit	(3)	(20)
Depreciation of:		
Property, plant and equipment	144	140
Right-of-use assets	14	14
Depreciation	**158**	**154**
Amortisation of:		
Internally generated intangible assets	3	3
Acquired intangibles	10	12
Other intangible assets	19	9
Amortisation	**32**	**24**
Impairment losses included in administrative expenses	31	10
Impairment losses included in amortisation of acquired intangibles	–	1
Impairment losses (note 5)	**31**	**11**
Impairment losses included in major impairment and restructuring charges	91	135
Restructuring charges included in major impairment and restructuring charges	80	5
Major impairment and restructuring charges (note 6)	**171**	**140**
Fees payable to the company's auditor and its associates for:		
The audit of these accounts	2.0	1.2
The audit of the accounts of the company's subsidiaries	2.3	2.2
The audit of prior period accounts	0.7	0.9
Total audit fees	**5.0**	**4.3**
Audit-related assurance services	0.3	0.2
Other services	–	0.4
Total non-audit fees	**0.3**	**0.6**
Total fees payable to the company's auditor and its associates	**5.3**	**4.9**

No audit fees were paid to other auditors (2020: £nil).

Audit-related assurance services predominantly comprise of reviews of interim financial information.

Amortisation and impairment of acquired intangibles which arose on the acquisition of businesses totalled £10 million (2020: £13 million).

Please see note 5 for the impairment losses in administration expenses and note 6 for the major impairments and restructuring charges.

5 Impairment losses

During the year ended 31st March 2021, as part of our review for impairment triggers an impairment loss has been recognised in the group income statement within underlying operating profit. These losses are stated below:

	2021 £ million	2020 £ million
Impairment losses included in administrative expenses		
– other intangible assets	8	1
– property, plant and equipment	2	9
– investments in joint ventures and associates	21	–
Impairment losses included in amortisation of acquired intangibles		
– other intangible assets	–	1
Total impairment losses	**31**	**11**

The group recognised impairments during the year in relation to its investments in associates, Shanghai Bi Ke Clean Energy Technology Co Ltd (£17 million) and, Qingdao Johnson Matthey Hero Catalyst Company Ltd (£4 million), see note 16.

The group monitors impairment triggers and performs impairment reviews as directed by accounting policies which resulted in additional impairments of £10 million. Prior year impairments recognised in administrative expenses include an impairment in respect of demonstration plants for Battery Materials eLNO (£8 million).

Goodwill

Impairment testing

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 cash-generating units (CGUs) are determined using value in use calculations which generally use cash flow projections based on financial budgets and plans covering a three-year period approved by management. The budgets and plans are based on a number of assumptions, including market share, expected changes to selling prices, product profitability, precious metal prices and other direct input costs, based on past experience and management's expectations of future changes in the markets using external sources of information where appropriate.

Significant CGUs

Goodwill arising on the acquisition of businesses is allocated, at acquisition, to the CGUs that are expected to benefit from that business combination. These CGUs represent the smallest identifiable groups of assets that generate cash inflows that are largely independent of the cash inflows from other groups of assets. Goodwill allocated to the significant CGUs is as follows:

	Group		Parent company	
	2021 £ million	2020 £ million	2021 £ million	2020 £ million
Clean Air				
– Heavy Duty Catalysts	83	88	–	–
Efficient Natural Resources				
– Catalyst Technologies	264	272	113	113
– Diagnostic Services	49	49	–	–
– Other	2	2	–	–
Health				
– Generics[1]	117	117	–	–
– Innovators	26	29	2	2
New Markets[2]	13	23	–	–
Total carrying amount at 31st March (note 13)	**554**	**580**	**115**	**115**

1 The goodwill recognised on the acquisition of Macfarlan Smith is allocated to the Generics CGU which comprises both the legacy Macfarlan Smith business and the group's other generics businesses reflecting the way that the group monitors and manages its operations.

2 New Markets comprises CGUs with goodwill balances individually less than £5 million.

Notes on the accounts continued

for the year ended 31st March 2021

5 Impairment losses (continued)

Goodwill (continued)

Significant CGUs (continued)

Unallocated corporate costs are split between CGUs based on their share of contribution. The three-year cash flows are extrapolated using the long term average growth rates for the relevant products, industries and countries in which the CGUs operate.

The expected economic life of the Heavy Duty Catalysts CGU has been restricted to 2040 reflecting climate change targets. In the medium term, growth will come from tightening emissions legislation driving demand for more sophisticated catalyst systems. Beyond the medium term, the world will increasingly use alternatives to the internal combustion engine.

Pre-tax discount rates, derived from the group's post-tax weighted average cost of capital of 6.3% (2020: 6.5%), adjusted for the risks applicable to each CGU are used to discount these projected risk-adjusted cash flows.

The key assumptions are:

	Discount rate		Long term growth rate	
	2021	2020	**2021**	2020
Clean Air				
– Heavy Duty Catalysts	9.3%	9.8%	-1.2%	-1.2%
Efficient Natural Resources				
– Catalyst Technologies	8.7%	8.3%	2.5%	2.8%
– Diagnostic Services	9.2%	9.7%	1.3%	1.3%
Health				
– Generics	8.6%	9.9%	2.0%	2.0%
– Innovators	8.5%	8.4%	3.0%	3.0%

Different long term growth rates are used for the Clean Air – Heavy Duty Catalysts CGU because of expected macroeconomic trends in the industry in which the business operates. The growth rate for year four is expected to be 0% (2020: 1% for years four to ten). After that, growth is expected to slow and, therefore, the long term growth rate above is used for year five onwards.

Different long term growth rates are used for the Health – Generics and Innovators CGUs because of the significant growth expected in the medium term from our existing pipeline of active pharmaceutical ingredients. The growth rate for years four to ten is expected to be 6% (2020: 4%). The long term growth rate above is used for year eleven onwards.

Sensitivity analysis

The headroom for the significant CGUs, calculated as the difference between net assets including allocated goodwill at 31st March 2021 and the value in use calculations, is shown below. The table also shows, for each significant CGU, the headroom assuming a 1% decrease in the growth rate assumption and a 1% increase in the discount rate assumption used in the value in use calculations.

	Headroom as at 31st March 2021 £ million	Headroom assuming a 1% decrease in the growth rate £ million	Headroom assuming a 1% increase in the discount rate £ million
Clean Air			
– Heavy Duty Catalysts	486	427	411
Efficient Natural Resources			
– Catalyst Technologies	793	575	560
– Diagnostic Services	60	42	40
Health			
– Generics	183	90	83
– Innovators	367	287	282

A reduction in the Heavy Duty Catalysts CGU's expected economic life by one year to 2039, reduces headroom by approximately £30 million from £486 million.

6 Major impairment and restructuring charges

The below amounts are excluded from the underlying operating profit of the group.

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

Major impairment and restructuring charges are shown separately on the face of the income statement and excluded from underlying operating profit (see note 38)

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

- **Clean Air manufacturing plants**, We have accelerated the rebalancing of production into our key plants in North Macedonia, and new facilities in Poland and China to create a simplified and agile structure. As a result, the carrying value of our plant that was impaired in the prior year was further impaired by £19 million to £2 million, together with associated information systems (£30 million). The impairments were based on a fair value less costs of disposal assessment, with our assessment of the market value of the plant based on internal data (level 3 inputs – based on the IFRS 13 fair value hierarchy). The Clean Air restructuring charge was £53 million and includes substantial implementation and redundancy costs.
- **Efficient Natural Resources operating model**, The operating model initiative targets to remove duplication, standardise global systems and processes and reduce complexity to increase overall effectiveness and efficiency. The Efficient Natural Resources restructuring charge was £10 million and includes substantial redundancy costs.
- **Efficient Natural Resources site closure**, The operating model workstream within Efficient Natural Resources includes closure of the Catacel Ravenna facility in Ohio which we acquired in 2014. The site was closed in February 2021 and results in a £7 million impairment charge. A further restructuring charge of £4 million for site closure and redundancy costs was recognised.
- **Health footprint consolidation**, Closure of a production unit in Scotland was announced during the year. Operations will be wound down over the next two years with production transferred to other units, this results in a £5 million impairment charge. The sector is also right-sizing another business unit, combined with this a further restructuring charge of £6 million is recognised of which the majority is redundancy and compliance costs, associated information systems were impaired by £6 million.
- **Battery Materials LFP business**, In the prior year, the Battery Materials lithium iron phosphate (LFP) business was impaired by £57 million. This was due to the anticipated site closure following sales that fell short of expectations and focusing our science and innovative solutions on cathode materials that are truly market leading, principally eLNO, our ultra-high energy density cathode material. During the year a plant including associated inventory that was previously written down to £nil was sold for £3 million, a decision to close the remainder of the LFP site was announced which resulted in closure costs of £5 million.
- **New Markets businesses**, Our drive for efficiency and disciplined capital allocation enhances returns, and we continue to actively manage our portfolio. In November 2020, we divested our activities in Water and Atmosphere Control Technologies which is not core in our growth strategy. In accordance with IFRS 5, the businesses were disclosed as a disposal group held for sale in our half year results which resulted in a £4 million impairment charge following a fair value assessment of Water. Other restructuring activities within New Markets results in a restructuring charge of £1 million related to redundancy costs.
- **Group wide organisational efficiencies**, The group function is reviewing the existing corporate functional organisation structures, cost base and efficiency opportunities. In the year to 31st March 2021, £4 million had been charged for restructuring costs and a £20 million impairment charge following a review of the scope of the roll out of the global enterprise resource planning (ERP).

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for the year ended 31st March 2021

7 Employee information

Employee numbers

	2021	2020
Clean Air	5,602	6,087
Efficient Natural Resources	3,913	3,981
Health	914	878
New Markets	1,994	1,927
Corporate	1,137	1,066
Monthly average number of employees	**13,560**	**13,939**

The number of temporary employees included above at 31st March 2021 is 543 (2020: 583).

The monthly average number of employees in the parent company is 3,878 (2020: 3,654).

	At 31st March 2021			At 31st March 2020		
	Actual employees	Agency staff	Total headcount	Actual employees	Agency staff	Total headcount
Clean Air	5,958	331	6,289	6,226	458	6,684
Efficient Natural Resources	3,855	162	4,017	3,988	134	4,122
Health	903	55	958	907	8	915
New Markets	1,757	375	2,132	1,952	381	2,333
Corporate	1,167	19	1,186	1,079	219	1,298
Year-end headcount	**13,640**	**942**	**14,582**	**14,152**	**1,200**	**15,352**

Employee costs

	Group		Parent company	
	2021 £ million	2020 £ million	2021 £ million	2020 £ million
Wages and salaries	626	621	221	187
Social security costs	69	68	26	19
Post-employment costs	65	49	37	38
Share-based payments	16	5	15	4
Termination benefits	4	2	1	1
Employee benefits expense	**780**	**745**	**300**	**249**

8 Net finance costs

	2021 £ million	2020 £ million
Net loss on remeasurement of foreign currency swaps held at fair value through profit or loss	(8)	(5)
Interest payable on financial liabilities held at amortised cost and interest on related swaps	(53)	(43)
Interest payable on other liabilities[1]	(94)	(144)
Interest payable on lease liabilities	(3)	(3)
Total finance costs	**(158)**	**(195)**
Interest receivable on financial assets held at amortised cost	4	4
Interest receivable on other assets[1]	64	103
Interest on post-employment benefits	5	2
Total finance income	**73**	**109**
Net finance costs	**(85)**	**(86)**

[1] Interest payable and receivable on other liabilities and assets mainly comprises interest on precious metal leases and the amortisation of contango and backwardation on precious metal inventory and sale and repurchase agreements.

9 Tax expense

	2021 £ million	2020 £ million
Current tax		
Corporation tax on profit for the year	131	99
Adjustment for prior years	(4)	(3)
Total current tax	**127**	**96**
Deferred tax		
Origination and reversal of temporary differences	(92)	(47)
Tax rate adjustments	–	3
Adjustment for prior years	(2)	(2)
Total deferred tax (note 26)	**(94)**	**(46)**
Tax expense	**33**	**50**

The tax expense can be reconciled to profit before tax in the income statement as follows:

	2021 £ million	2020 £ million
Profit before tax	**238**	**305**
Tax expense at UK corporation tax rate of 19% (2020: 19%)	45	58
Effects of:		
Overseas tax rates	4	(7)
Expenses not deductible for tax purposes	2	3
Losses and other temporary differences not recognised	5	21
Recognition or utilisation of previously unrecognised tax assets	(7)	(10)
Adjustment for prior years	(6)	(5)
Patent box / Innovation box	(14)	(19)
Other tax incentives	(4)	(5)
Tax rate adjustments	–	2
Irrecoverable withholding tax	–	2
Other	8	10
Tax expense	**33**	**50**

In the March 2021 budget the UK government announced that legislation will be introduced in Finance Bill 2021 to increase the main rate of UK corporation tax from 19% to 25%, effective 1st April 2023.

As the changes had not been substantively enacted at the balance sheet date, the deferred tax balances as at 31st March 2021 continue to be measured at a rate of 19%. If the 25% tax rate had been used at the balance sheet date, the deferred tax asset would have been £17 million higher.

Losses and other temporary differences not recognised includes current year tax losses arising in Canada and China which are not expected to be used in the foreseeable future.

Recognition or utilisation of previously unrecognised tax assets is mainly the recognition of tax losses in Brazil.

Adjustments for prior years includes current and deferred tax adjustments in respect of the UK, US and Germany, as well as adjustments in respect of provisions for uncertain tax positions.

Other tax incentives includes research and development tax incentives in the US and China and other tax incentives in Poland.

Other movements mainly includes movements in respect of provisions for uncertain tax positions.

Notes on the accounts continued

for the year ended 31st March 2021

10 Tax on other comprehensive (expense) / income

	2021			2020		
	Before tax £ million	Tax £ million	Net of tax £ million	Before tax £ million	Tax £ million	Net of tax £ million
Items that will not be reclassified to the income statement						
Remeasurements of post-employment benefit assets and liabilities	(141)	28	(113)	87	(18)	69
Fair value gains / (losses) on equity investments at fair value through other comprehensive income	5	–	5	(2)	–	(2)
Tax rate adjustments	–	–	–	–	(3)	(3)
Items that may be reclassified to the income statement						
Exchange differences on translation of foreign operations	(162)	–	(162)	65	–	65
Amounts credited to hedging reserve	3	–	3	–	–	–
Fair value gains / (losses) on net investment hedges	12	–	12	(8)	–	(8)
Total other comprehensive (expense) / income	**(283)**	**28**	**(255)**	**142**	**(21)**	**121**

11 Earnings per ordinary share

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

	2021 pence	2020 pence
Earnings per share		
Basic	106.5	132.3
Diluted	106.4	132.1

	2021	2020
Earnings (£ million)		
Basic and diluted earnings	205	255
Weighted average number of shares in issue		
Basic	192,711,413	192,437,993
Dilution for long-term incentive plans	260,753	314,053
Diluted	**192,972,166**	**192,752,046**

12 Property, plant and equipment

Group

	Land and buildings £ million	Leasehold improvements £ million	Plant and machinery £ million	Assets in the course of construction £ million	Total £ million
Cost					
At 1st April 2019	607	25	2,056	296	2,984
Additions	2	–	33	316	351
Reclassification	3	1	112	(116)	–
Disposals	(3)	(1)	(75)	(15)	(94)
Exchange adjustments	18	(1)	45	5	67
At 31st March 2020	627	24	2,171	486	3,308
Additions	1	–	28	254	283
Reclassification	78	10	247	(335)	–
Disposals	(1)	(1)	(29)	(6)	(37)
Disposal of businesses (note 30)	–	(1)	(10)	–	(11)
Exchange adjustments	(38)	(1)	(97)	(22)	(158)
At 31st March 2021	667	31	2,310	377	3,385
Accumulated depreciation and impairment					
At 1st April 2019	268	15	1,414	16	1,713
Charge for the year	18	2	120	–	140
Impairment losses (notes 5 and 6)	23	1	60	15	99
Disposals	(2)	(1)	(71)	(14)	(88)
Exchange adjustments	10	–	31	–	41
At 31st March 2020	317	17	1,554	17	1,905
Charge for the year	20	1	123	–	144
Impairment losses (notes 5 and 6)	3	–	27	3	33
Disposals	(2)	(1)	(26)	(1)	(30)
Disposal of businesses (note 30)	–	–	(7)	–	(7)
Exchange adjustments	(17)	–	(65)	(2)	(84)
At 31st March 2021	321	17	1,606	17	1,961
Carrying amount at 31st March 2021	**346**	**14**	**704**	**360**	**1,424**
Carrying amount at 31st March 2020	310	7	617	469	1,403
Carrying amount at 1st April 2019	339	10	642	280	1,271

Finance costs capitalised were £5 million (2020: £7 million) and the capitalisation rate used to determine the amount of finance costs eligible for capitalisation was 2.9% (2020: 3.0%).

During the year, the group recognised impairments in respect of four sites and plants, Clean Air (£18 million), Efficient Natural Resources (£4 million), Health (£5 million), and New Markets (£4 million), which have been included in major impairment and restructuring charges (see note 6). The group monitors impairment triggers and performs impairment reviews as directed by accounting policies which resulted in additional impairments of £2 million, which have been recognised in underlying operating profit (see note 5).

Notes on the accounts continued

for the year ended 31st March 2021

12 Property, plant and equipment (continued)

Parent company

	Land and buildings £ million	Leasehold improvements £ million	Plant and machinery £ million	Assets in the course of construction £ million	Total £ million
Cost					
At 31st March 2020	127	3	581	99	810
Additions	–	–	14	61	75
Reclassification	–	(1)	38	(37)	–
Disposals	–	–	(6)	(1)	(7)
At 31st March 2021	127	2	627	122	878
Accumulated depreciation and impairment					
At 31st March 2020	74	2	445	(1)	520
Depreciation charge for the year	4	–	32	–	36
Impairment losses	3	–	17	–	20
Disposals	–	–	(5)	–	(5)
At 31st March 2021	81	2	489	(1)	571
Carrying amount at 31st March 2021	**46**	**–**	**138**	**123**	**307**
Carrying amount at 31st March 2020	53	1	136	100	290

Finance costs capitalised were £1 million (2020: £1 million) and the capitalisation rate used to determine the amount of finance costs eligible for capitalisation was 2.9% (2020: 3.0%).

During the year, the parent company recognised impairments in respect of a plant in Clean Air (£18 million) which has been included in major impairment and restructuring charges (see note 6). The parent company monitors impairment triggers and performs impairment reviews as directed by accounting policies which resulted in additional impairments of £2 million, which have been recognised in underlying operating profit.

13 Goodwill

	Group £ million	Parent company £ million
Cost		
At 1st April 2019	589	123
Exchange adjustments	9	–
At 31st March 2020	598	123
Disposal of businesses (note 30)	(9)	–
Exchange adjustments	(18)	–
At 31st March 2021	572	123
Impairment		
At 1st April 2019	11	–
Impairment losses	7	8
At 31st March 2020	18	8
At 31st March 2021	18	8
Carrying amount at 31st March 2021	**554**	**115**
Carrying amount at 31st March 2020	580	115
Carrying amount at 1st April 2019	578	123

During the year, the group disposed of the Atmosphere Control Technologies businesses. The sale completed on 16th November 2020 and resulted in the disposal of £9 million goodwill associated with the business (note 30).

Notes on the accounts continued

for the year ended 31st March 2021

14 Other intangible assets

Group

	Customer contracts and relationships £ million	Computer software £ million	Patents, trademarks and licences £ million	Acquired research and technology £ million	Development expenditure £ million	Total £ million
Cost						
At 1st April 2019	152	231	63	52	206	704
Additions	–	90	1	–	23	114
Disposals	(7)	(1)	(1)	(3)	(21)	(33)
Exchange adjustments	1	1	1	1	10	14
At 31st March 2020	146	321	64	50	218	799
Additions	–	53	–	–	22	75
Disposals	–	(3)	(2)	–	(4)	(9)
Reclassification	–	–	5	(5)	–	–
Disposal of businesses (note 30)	(9)	–	–	(1)	–	(10)
Exchange adjustments	(4)	(4)	(2)	(2)	(10)	(22)
At 31st March 2021	133	367	65	42	226	833
Accumulated amortisation and impairment						
At 1st April 2019	114	54	35	34	131	368
Charge for the year	5	10	2	4	3	24
Impairment losses (notes 5 and 6)	–	7	2	3	21	33
Disposals	(7)	(1)	(1)	(3)	(21)	(33)
Exchange adjustments	1	1	2	1	6	11
At 31st March 2020	113	71	40	39	140	403
Charge for the year	5	19	1	4	3	32
Impairment losses (notes 5 and 6)	–	58	9	–	–	67
Disposals	–	(2)	(1)	–	(4)	(7)
Disposal of businesses (note 30)	(4)	–	–	(1)	–	(5)
Exchange adjustments	(6)	(2)	(3)	(1)	(4)	(16)
At 31st March 2021	108	144	46	41	135	474
Carrying amount at 31st March 2021	**25**	**223**	**19**	**1**	**91**	**359**
Carrying amount at 31st March 2020	33	250	24	11	78	396
Carrying amount at 1st April 2019	38	177	28	18	75	336

During the year, the group recognised impairments in respect of licences (£3 million) as part of a site closure in Efficient Natural Resources and information systems (£56 million), which have been included in major impairment and restructuring charges (see note 6). The group monitors impairment triggers and performs impairment reviews as directed by accounting policies which resulted in additional impairments of £8 million, which have been recognised in underlying operating profit (see note 5).

14 Other intangible assets (continued)

Parent company

	Computer software £ million	Patents, trademarks and licences £ million	Acquired research and technology £ million	Development expenditure £ million	Total £ million
Cost					
At 31st March 2020	276	27	10	34	347
Additions	47	–	–	17	64
Reclassification	–	5	(5)	–	–
Disposals	(1)	–	–	–	(1)
At 31st March 2021	322	32	5	51	410
Accumulated amortisation and impairment					
At 31st March 2020	34	3	7	15	59
Charge for the year	17	1	–	2	20
Impairment losses	58	9	–	–	67
Disposals	(1)	–	–	–	(1)
At 31st March 2021	108	13	7	17	145
Carrying amount at 31st March 2021	**214**	**19**	**(2)**	**34**	**265**
Carrying amount at 31st March 2020	242	24	3	19	288

During the year, the group recognised impairments in respect of licences (£3 million) as part of a site closure in Efficient Natural Resources and information systems (£56 million), which have been included in major impairment and restructuring charges (see note 6). The group monitors impairment triggers and performs impairment reviews as directed by accounting policies which resulted in additional impairments of £8 million, which have been recognised in underlying operating profit (see note 5).

15 Investments in subsidiaries

	Cost of investments in subsidiaries £ million	Accumulated impairment £ million	Carrying amount £ million
At 1st April 2019	2,170	(258)	1,912
Additions	13	–	13
Impairment loss	–	(4)	(4)
At 31st March 2020 and 31st March 2021	**2,183**	**(262)**	**1,921**

The parent company recognised an impairment during the prior year in respect of its investment in Johnson Matthey Argentina S.A.

The parent company's subsidiaries are shown in note 37.

Notes on the accounts continued

for the year ended 31st March 2021

16 Investments in joint ventures and associates

	2021 £ million	2020 £ million
Investments in joint ventures	2	6
Investments in associates	–	17
Investments in joint ventures and associates	**2**	**23**

The movements in the year were:

	Joint ventures £ million	Associates £ million	Total £ million
1st April 2019	5	15	20
Group's share of profit for the year	1	2	3
At 31st March 2020	6	17	23
Impairment losses	(4)	(17)	(21)
At 31st March 2021	**2**	**–**	**2**

The group recognised a total impairment of £17 million during the year in respect of an 11.1% interest in the ordinary share capital of Shanghai Bi Ke Clean Energy Technology Co Ltd (CECC) and revenue share agreement. The group has significant influence in this entity as CECC requires unanimous board decisions. As a result, this investment is accounted for as an investment in an associate in the group accounts.

The group has a 51% interest in the ordinary share capital of Qingdao Johnson Matthey Hero Catalyst Company Limited, with the other 49% being owned by Qingdao Hero Chemical Engineering Company Ltd. This investment is accounted for as an investment in joint venture on the basis that the group has joint control over the entity. Directors from both of the owners sit on the board of the company and decisions require unanimous consent. The group has recognised an impairment in the year totalling £4 million in respect of this joint venture.

During the year ended 31st March 2021, the group made £nil (2020: £1 million) purchases from its joint venture and associate.

17 Investments at fair value through other comprehensive income

	Group		Parent company	
	2021 £ million	2020 £ million	2021 £ million	2020 £ million
Quoted bonds purchased to fund pension deficit	53	49	–	–
Unquoted investments	–	–	–	7
Investments at fair value through other comprehensive income	**53**	**49**	**–**	**7**

There is no active market for the unquoted investments and, therefore, they are categorised as level 3 inputs based on the IFRS 13 fair value hierarchy (note 32). The parent company's investment is the revenue share agreement with CECC (note 16). Movements in the unquoted investments in the year are shown below:

	Parent company £ million
At 1st April 2019 and 31st March 2020	7
Impairment loss	(7)
At 31st March 2021	**–**

The parent company has recognised an impairment of £7 million in the year, £4 million recognised in administrative expenses and £3 million recognised through other comprehensive income in respect of a revenue share agreement with CECC.

18 Interest rate swaps

	Group		Parent company	
	2021 £ million	2020 £ million	**2021 £ million**	2020 £ million
Cross currency interest rate swaps designated as cash flow hedges	8	19	8	19
Interest rate swaps designated as fair value hedges	12	15	12	15
Interest rate swaps	**20**	**34**	**20**	**34**

19 Inventories

	Group		Parent company	
	2021 £ million	2020 £ million	**2021 £ million**	2020 £ million
Raw materials and consumables	286	292	45	43
Work in progress	1,213	1,289	481	675
Finished goods and goods for resale	315	321	53	61
Inventories	**1,814**	**1,902**	**579**	**779**

Work in progress includes £0.9 billion (31st March 2020: £0.9 billion) of precious metal which is committed to future sales to customers and valued at the price at which it is contractually committed.

20 Trade and other receivables

	Group		Parent company	
	2021 £ million	2020 £ million	**2021 £ million**	2020 £ million
Current				
Trade receivables	1,571	1,228	310	291
Contract receivables	181	163	60	29
Amounts receivable from subsidiaries	–	–	1,438	1,404
Prepayments	88	80	34	41
Value added tax and other sales tax receivable	119	71	34	–
Advance payments to customers	11	8	–	–
Amounts receivable under precious metal sale and repurchase agreements	308	457	307	427
Other receivables	144	70	114	33
Trade and other receivables	**2,422**	**2,077**	**2,297**	**2,225**
Non-current				
Amounts receivable from subsidiaries	–	–	1,312	1,211
Value added tax and other sales tax receivable	2	2	–	–
Prepayments	3	3	3	3
Advance payments to customers	45	58	–	–
Other receivables	**50**	**63**	**1,315**	**1,214**

The fair value of the precious metal contracted to be sold by the group under sale and repurchase agreements is £407 million (2020: £760 million).

Of the parent company's amounts receivable from subsidiaries, £153 million is impaired (2020: £153 million). Future expected credit losses on intercompany receivables are immaterial.

The group enters into factoring type arrangements in a small number of countries as part of normal business due to longer than standard payment terms. We seek to collect payments in the month following sale. As at 31st March 2021, the level of these arrangements was approximately £300 million (31st March 2020: approximately £350 million).

Notes on the accounts continued

for the year ended 31st March 2021

21 Other financial assets and liabilities

	Group		Parent company	
	2021 £ million	2020 £ million	**2021 £ million**	2020 £ million
Forward foreign exchange contracts designated as cash flow hedges	12	4	12	6
Forward precious metal price contracts designated as cash flow hedges	–	2	–	2
Forward foreign exchange contracts and currency swaps at fair value through profit or loss	32	22	33	20
Other financial assets	**44**	**28**	**45**	**28**
Forward foreign exchange contracts designated as cash flow hedges	(4)	(10)	(8)	(10)
Forward precious metal price contracts designated as cash flow hedges	(8)	–	(8)	–
Forward foreign exchange contracts and currency swaps at fair value through profit or loss	(6)	(40)	(6)	(40)
Other financial liabilities	**(18)**	**(50)**	**(22)**	**(50)**

22 Trade and other payables

	Group		Parent company	
	2021 £ million	2020 £ million	**2021 £ million**	2020 £ million
Current				
Trade payables	996	677	321	261
Contract liabilities	184	134	78	5
Amounts payable to subsidiaries	–	–	2,354	2,372
Accruals	369	312	167	117
Amounts payable under precious metal sale and repurchase agreements	1,442	1,491	1,371	1,357
Other payables	334	131	246	55
Current trade and other payables	**3,325**	**2,745**	**4,537**	**4,167**
Non-current				
Amounts payable to subsidiaries	–	–	267	510
Other payables	5	6	1	4
Non-current other payables	**5**	**6**	**268**	**514**

The amount of the contract liabilities balance at 31st March 2020 which was recognised in revenue during the year ended 31st March 2021 for the group and parent company was £91 million (2020: £85 million) and £0.1 million (2020: £17 million), respectively.

The fair value of the precious metal contracted to be repurchased by the group under sale and repurchase agreements is £1,766 million (2020: £1,738 million).

23 Borrowings and related swaps

	Group		Parent company	
	2021 £ million	2020 £ million	**2021 £ million**	2020 £ million
Non-current				
Bank and other loans				
€166 million EIB loan 2022	(141)	(148)	(141)	(148)
3.26% $150 million Bonds 2022	(113)	(128)	(113)	(128)
2.99% $165 million Bonds 2023	(120)	(134)	(120)	(134)
2.44% €20 million Bonds 2023	(17)	(18)	(17)	(18)
3.57% £65 million Bonds 2024	(65)	(65)	(65)	(65)
3.565% $50 million KfW loan 2024	(36)	(41)	(36)	(41)
3.14% $130 million Bonds 2025	(94)	(106)	(94)	(106)
1.40% €77 million Bonds 2025	(67)	(71)	(67)	(71)
2.54% £45 million Bonds 2025	(45)	(45)	(45)	(45)
€45 million KfW loan 2025	(38)	–	(38)	–
3.79% $130 million Bonds 2025	(95)	–	(95)	–
3.97% $120 million Bonds 2027	(87)	–	(87)	–
€90 million EBRD loan 2027	(76)	–	(76)	–
3.39% $180 million Bonds 2028	(131)	(146)	(131)	(146)
1.81% €90 million Bonds 2028	(81)	(86)	(81)	(86)
4.10% $30 million Bonds 2030	(22)	–	(22)	–
2.92% €25 million Bonds 2030	(21)	–	(21)	–
Cross currency interest rate swaps designated as net investment hedges	(3)	(6)	–	–
Cross currency interest rate swaps designated as fair value hedges	–	–	(3)	(6)
Borrowings and related swaps	**(1,252)**	**(994)**	**(1,252)**	**(994)**
Current				
$50 million KfW IPEX-Bank GmbH loan 2020	–	(41)	–	(41)
4.66% €100 million Bonds 2021	–	(89)	–	(89)
Other bank loans	(26)	(201)	–	–
Borrowings and related swaps	**(26)**	**(331)**	**–**	**(130)**

The 3.26% $150 million Bonds 2022 have been swapped into floating rate US dollars. The 1.40% €77 million Bonds 2025 and the 1.81% €90 million Bonds 2028 have been swapped into floating rate euros. $100 million of the 3.14% $130 million Bonds 2025 have been swapped into sterling at 2.83%.

All borrowings bear interest at fixed rates with the exception of the EIB loan 2022, the KfW loan 2025, the EBRD loan 2027 and the bank overdrafts, which bear interest at commercial floating rates.

Notes on the accounts continued

for the year ended 31st March 2021

24 Movements in assets and liabilities arising from financing activities

	2020 £ million	Cash (inflow)/ outflow £ million	Non-cash movements: Transfers £ million	Non-cash movements: Foreign exchange movements £ million	Non-cash movements: Fair value and other movements £ million	**2021 £ million**
Non-current assets						
Interest rate swaps	34	–	–	–	(14)	**20**
Non-current liabilities						
Borrowings and related swaps	(994)	(366)	–	100	8	**(1,252)**
Lease liabilities	(64)	–	14	1	(2)	**(51)**
Current liabilities						
Borrowings and related swaps	(331)	296	–	9	–	**(26)**
Lease liabilities	(12)	14	(14)	1	–	**(11)**
Net movements in assets and liabilities arising from financing activities	**–**	**(56)**	**–**	**111**	**(8)**	
Dividends paid to equity shareholders	–	99				
Interest paid	–	159				
Net cash outflow from financing activities	–	**202**				

	2019 £ million	Cash (inflow)/ outflow £ million	Non-cash movements: Transfers £ million	Non-cash movements: IFRS16 transition £ million	Non-cash movements: Foreign exchange movements £ million	Non-cash movements: Fair value and other movements £ million	2020 £ million
Non-current assets							
Interest rate swaps	13	–	–	–	–	21	**34**
Non-current liabilities							
Borrowings and related swaps	(1,073)	–	131	–	(41)	(11)	**(994)**
Lease liabilities	–	–	13	(66)	–	(11)	**(64)**
Current liabilities							
Borrowings and related swaps	(184)	(12)	(131)	–	(4)	–	**(331)**
Lease liabilities	–	13	(13)	(11)	–	(1)	**(12)**
Net movements in assets and liabilities arising from financing activities	**–**	**1**	**–**	**(77)**	**(45)**	**(2)**	
Dividends paid to equity shareholders	–	167					
Interest paid	–	202					
Net cash outflow from financing activities	**–**	**370**					

25 Provisions

Group

	Restructuring provisions £ million	Warranty and technology provisions £ million	Other provisions £ million	Total £ million
At 1st April 2019	3	10	15	28
Charge for the year	–	4	5	9
Utilised	(1)	(1)	(8)	(10)
Released	–	(4)	(3)	(7)
At 31st March 2020	2	9	9	20
Charge for the year	69	2	7	78
Utilised	(23)	–	(4)	(27)
Released	(6)	(3)	(1)	(10)
Exchange adjustments	–	–	1	1
At 31st March 2021	**42**	**8**	**12**	**62**

	2021 £ million	2020 £ million
Current	35	11
Non-current	27	9
Total provisions	**62**	**20**

Restructuring

The restructuring provisions are part of the group's efficiency initiatives (see note 6).

Warranty and technology

The warranty and technology provisions represent management's best estimate of the group's liability under warranties granted and remedial work required under technology licences based on past experience in Clean Air, Efficient Natural Resources and New Markets. Warranties generally cover a period of up to three years.

Other

The other provisions include environmental and legal provisions arising across the group. Amounts provided reflect management's best estimate of the expenditure required to settle the obligations at the balance sheet date. They are expected to be fully utilised within the next 15 years.

Notes on the accounts continued

for the year ended 31st March 2021

25 Provisions (continued)

Parent company

	Restructuring provisions £ million	Other provisions £ million	Total £ million
At 1st April 2019	1	22	**23**
Charge for the year	–	35	**35**
Net sale of metal	–	29	**29**
Utilised	(1)	–	**(1)**
At 31st March 2020	–	86	**86**
Charge for the year	53	–	**53**
Net sale of metal	–	86	**86**
Utilised	(14)	–	**(14)**
Released	(6)	–	**(6)**
At 31st March 2021	**33**	**172**	**205**

	2021 £ million	2020 £ million
Current	**187**	85
Non-current	**18**	1
Total provisions	**205**	**86**

The restructuring provisions are part of the parent company's efficiency initiatives (see note 6).

The other provisions include provisions to buy metal to cover short positions created by the parent company selling metal to cover price risk on metal owned by subsidiaries. Amounts provided reflect management's best estimate of the expenditure required to settle the obligations at the balance sheet date.

The parent company also guarantees some of its subsidiaries' borrowings and its exposure at 31st March 2021 was £35 million (2020: £177 million).

26 Deferred tax

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 2019	30	23	(25)	(18)	21	2	33
Charge / (credit) to the income statement	(6)	9	–	(33)	(10)	(6)	(46)
Tax on items taken directly to or transferred from equity	–	21	–	–	–	–	21
Exchange adjustments	1	(1)	(1)	–	1	–	–
At 31st March 2020	25	52	(26)	(51)	12	(4)	8
Charge / (credit) to the income statement (note 9)	(22)	2	(25)	(45)	(9)	5	(94)
Tax on items taken directly to or transferred from equity	–	(28)	–	–	–	(1)	(29)
Exchange adjustments	(2)	1	3	2	(1)	–	3
At 31st March 2021	**1**	**27**	**(48)**	**(94)**	**2**	**–**	**(112)**

	2021 £ million	2020 £ million
Deferred tax assets	(140)	(66)
Deferred tax liabilities	28	74
Net amount	**(112)**	**8**

26 Deferred tax (continued)

Group (continued)

Deferred tax has not been recognised in respect of tax losses of £165 million (2020: £212 million) and other temporary differences of £22 million (2020: £10 million). Of the total tax losses, £43 million (2020: £50 million) is expected to expire within five years, £18 million within five to ten years (2020: £16 million), £35 million after ten years (2020: £102 million) and £69 million carry no expiry (2020: £102 million). These deferred tax assets have not been recognised on the basis that their future economic benefit is not probable.

In addition, the group's overseas subsidiaries have net unremitted earnings of £1,763 million (2020: £1,769 million), resulting in temporary differences of £479 million (2020: £393 million). No deferred tax has been provided in respect of these differences since the timing of the reversals can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

The recognition of deferred tax assets has been determined by the recoverability of those assets against future tax liabilities as determined by budgets and plans that have been updated for COVID-19 showing profits in relevant businesses. The forecasted profits are expected to be recovered in five years and are therefore not exposed to the longer term impact from climate change on consumer demand and legislation. The majority of the deferred tax assets and liabilities noted above are anticipated to be realised after more than 12 months.

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 2019	1	40	(1)	(11)	1	9	39
Charge / (credit) to the income statement	(4)	5	1	(32)	–	3	(27)
Tax on items taken directly to or transferred from equity	–	20	–	–	–	–	20
At 31st March 2020	(3)	65	–	(43)	1	12	32
(Credit) / charge to income statement	(14)	1	(5)	(40)	–	–	(58)
Tax on items taken directly to or transferred from equity	–	(25)	–	–	–	(1)	(26)
At 31st March 2021	**(17)**	**41**	**(5)**	**(83)**	**1**	**11**	**(52)**

Deductible temporary differences, unused tax losses and unused tax credits not recognised on the balance sheet are £6 million (2020: £6 million) and have no expiry date.

27 Post-employment benefits

Group

Background

Pension plans

The group operates a number of post-employment retirement and medical benefit plans around the world. 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.

For defined benefit plans, which include final salary, career average and other types of plans with committed pension payments, the retirement benefits are based on factors, such as the employee's pensionable salary and length of service. The majority of the group's final salary and career average defined benefit retirement plans are closed to new entrants, but remain open to ongoing accrual for current members.

Notes on the accounts continued

for the year ended 31st March 2021

27 Post-employment benefits (continued)

Group (continued)

Background (continued)

Regulatory framework and governance

The UK pension plan, the Johnson Matthey Employees Pension Scheme (JMEPS), is a registered arrangement established under trust law and, as such, is subject to UK pension, tax and trust legislation. It is managed by a corporate trustee, JMEPS Trustees Limited. The trustee board includes representatives appointed by both the parent company and employees, and includes an independent chairman.

Although the parent company bears the financial cost of the plan, the trustee directors are responsible for the overall management and governance of JMEPS, including compliance with all applicable legislation and regulations. The trustee directors are required by law to act in the interests of all relevant beneficiaries and: to set certain policies; to manage the day-to-day administration of the benefits; and to set the plan's investment strategy following consultation with the parent company.

UK pensions are regulated by the Pensions Regulator whose statutory objectives and regulatory powers are described on its website: www.thepensionsregulator.gov.uk

The JMEPS Trustee Board considers how climate risk is integrated within investment processes when appointing, monitoring and withdrawing from investment managers using the investment consultant's Environmental, Social and Governance (ESG) ratings. The ESG ratings include consideration of climate risk management policies. On a periodic basis, JMEPS will review the ESG ratings assigned to the underlying investments based on the investment consultant's ESG research.

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 defined benefit 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 legacy section provides benefits to members in the form of a set level of pension payable for life based on the member's length of service and final pensionable salary at retirement or averaged over their career with the company. The majority of the benefits attract inflation-related increases both before and after retirement. 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.

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. All new employees join the cash balance section of the plan.

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, and the US hourly pension plan was closed to new entrants on 1st January 2019, but both plans remains open to future accrual for existing members. All new US employees now join a defined contribution plan.

Other post-employment benefits

The group's principal post-employment medical plans are in the UK and US, and are unfunded arrangements that have been closed to new entrants for over ten years.

27 Post-employment benefits (continued)

Group (continued)

Background (continued)

Maturity profile

The estimated weighted average durations of the defined benefit obligations of the main plans as at 31st March 2021 are:

	Weighted average duration Years
Pensions:	
UK	**20**
US	**12**
Post-retirement medical benefits:	
UK	**11**
US	**12**

Funding

Introduction

The group's principal defined benefit retirement plans are funded through separate fiduciary or trustee administered funds that are independent of the sponsoring company. The contributions paid to these arrangements are jointly agreed by the sponsoring company and the relevant trustee or fiduciary body after each funding valuation and in consultation with independent qualified actuaries. The plans' assets, together with the agreed funding contributions, should be sufficient to meet the plans' future pension obligations.

UK valuations

UK legislation requires that pension plans are funded prudently and that, when undertaking a funding valuation (every three years), assets are taken at their market value and liabilities are determined based on a set of prudent assumptions set by the trustee following consultation with their appointed actuary. The assumptions used for funding valuations may, therefore, differ to the actuarial assumptions used for IAS 19, *Employee Benefits*, accounting purposes.

In January 2013, a special purpose vehicle (SPV), Johnson Matthey (Scotland) Limited Partnership, was set up to provide deficit reduction contributions and greater security to the trustee. The group invested £50 million in a bond portfolio which is beneficially held by the SPV. The income generated by the SPV is used to make annual distributions of £3.5 million to JMEPS for a period of up to 25 years. These annual distributions are only payable if the legacy section of JMEPS continues to be in deficit, on a funding basis. This bond portfolio is held as a non-current investment at fair value through other comprehensive income 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.

A funding valuation of JMEPS was carried out as at 1st April 2018 and showed that there was a deficit of £34 million in the legacy section of the plan. To address this deficit, the parent company agreed to make additional deficit contributions that would remove this deficit by 31st December 2019. At 31st March 2018, £43 million also remained available within the SPV for future distribution which created an overall surplus of £9 million in the legacy section of the plan as at 1st April 2018. The valuation also showed a surplus in the cash balance section of the plan. The next triennial actuarial valuation of JMEPS will be carried out as at 1st April 2021 with the results known later in the year. The assumptions used for funding valuations may differ to the actuarial assumptions used for IAS 19 accounting purposes.

In accordance with the governing documentation of JMEPS, any future plan surplus would be returned to the parent company by way of a refund assuming gradual settlement of the liabilities over the lifetime of the plan. As such, there are no adjustments required in respect of IFRIC 14, IAS 19 – *The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction.*

US valuations

The last annual review of the US defined benefit pension plans was carried out by a qualified actuary as at 1st July 2020 and showed that there was a surplus of $9.4 million on the projected funding basis.

The assumptions used for funding valuations may differ to the actuarial assumptions used for IAS 19 accounting purposes.

Notes on the accounts continued
for the year ended 31st March 2021

27 Post-employment benefits (continued)

Group (continued)

Funding (continued)

Other valuations

Similar funding valuations are undertaken on the group's other defined benefit pension plans outside of the UK and US in accordance with prevailing local legislation.

Risk management

The group is exposed to a number of risks relating to its post-retirement pension plans, the most significant of which are:

Risk	Mitigation
Market (investment) risk Asset returns may not move in line with the liabilities and may be subject to volatility.	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. 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. The plans implement partial currency hedging on their overseas assets to mitigate currency risk.
Interest (discount) rate risk Liabilities are sensitive to movements in bond yields (interest rates), with lower interest rates leading to an increase in the valuation of liabilities, albeit the impact on the plan's funding level will be partially offset by an increase in the value of its bond holdings.	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. In the UK, this interest rate hedge is extended by the use of interest rate swaps, such that approximately 80% of the plan's interest rate risk is currently hedged. The swaps are held with several banks to reduce counterparty risk.
Inflation risk Liabilities are sensitive to movements in inflation, with higher inflation leading to an increase in the valuation of liabilities.	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. In the UK, this inflation hedge is extended by the use of inflation swaps, such that approximately 80% of the plan's inflation risk is currently hedged. The swaps are held with several banks to reduce counterparty risk.
Longevity risk The majority of the group's defined benefit plans provide benefits for the life of the member, so the liabilities are sensitive to life expectancy, with increases in life expectancy leading to an increase in the valuation of liabilities.	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. 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.

Contributions

During the year, total contributions to the group's post-employment defined benefit plans were £49 million (2020: £52 million).

It is estimated that the group will contribute approximately £40 million to the post-employment defined benefit plans during the year ending 31st March 2022.

27 Post-employment benefits (continued)

IAS 19 accounting

Principal actuarial assumptions

Qualified independent actuaries have updated the IAS 19 valuations of the group's major defined benefit plans to 31st March 2021. The assumptions used are chosen from a range of possible actuarial assumptions which, due to the long-term nature of the plans, may not necessarily be borne out in practice.

Financial assumptions

	2021 UK plan %	**2021 US plans %**	**2021 Other plans %**	2020 UK plan %	2020 US plans %	2020 Other plans %
First year's rate of increase in salaries	3.40	3.00	2.06	–	–	2.15
Ultimate rate of increase in salaries	3.40	3.00	2.06	2.60	3.00	2.15
Rate of increase in pensions in payment	3.05	–	1.70	2.50	–	1.70
Discount rate	2.10	3.00	1.53	2.30	3.00	1.87
Inflation		2.20	1.64		2.20	1.65
– UK Retail Prices Index (RPI)	3.20	–	–	2.50	–	–
– UK Consumer Prices Index (CPI)	2.65	–	–	1.85	–	–
Current medical benefits cost trend rate	5.40	2.20	–	5.40	2.20	–
Ultimate medical benefits cost trend rate	5.40	2.20	–	5.40	2.20	–

Demographic assumptions

The mortality assumptions are based on country-specific mortality tables and, where appropriate, include an allowance for future improvements in life expectancy. In addition, where credible data exists, actual plan experience is taken into account. The group's most substantial pension liabilities are in the UK and the US where, using the mortality tables adopted, the expected lifetime of average members currently at age 65 and average members at age 65 in 25 years' time (i.e. members who are currently aged 40 years) is respectively:

	Currently age 65		**Age 65 in 25 years**	
	UK plan	**US plans**	**UK plan**	**US plans**
Male	87	85	89	87
Female	90	87	92	89

Financial information

Plan assets

Movements in the fair value of plan assets during the year were:

	UK pension – legacy section £ million	UK pension – cash balance section £ million	US pensions £ million	US post – retirement medical benefits £ million	Other £ million	Total £ million
At 1st April 2019	2,025	68	311	–	52	2,456
Administrative expenses	(3)	–	(1)	–	–	(4)
Interest income	48	2	12	–	1	63
Return on plan assets excluding interest	(11)	(2)	46	–	(1)	32
Employee contributions	2	6	1	1	–	10
Company contributions	27	19	–	3	3	52
Benefits paid	(61)	(3)	(20)	(4)	(2)	(90)
Exchange adjustments	–	–	19	–	2	21
At 31st March 2020	2,027	90	368	–	55	2,540
Administrative expenses	(3)	–	(1)	–	–	(4)
Interest income	46	2	10	–	2	60
Return on plan assets excluding interest	125	11	(4)	–	3	135
Employee contributions	3	7	1	1	–	12
Company contributions	9	21	16	1	1	48
Benefits paid	(65)	(3)	(32)	(2)	(2)	(104)
Exchange adjustments	–	–	(38)	–	(3)	(41)
At 31st March 2021	**2,142**	**128**	**320**	**–**	**56**	**2,646**

Notes on the accounts continued

for the year ended 31st March 2021

27 Post-employment benefits (continued)

Financial information (continued)

Plan assets

The fair values of plan assets are analysed as follows:

	2021				2020			
	UK pension – legacy section £ million	**UK pension – cash balance section £ million**	**US pensions £ million**	**Other £ million**	UK pension – legacy section £ million	UK pension – cash balance section £ million	US pensions £ million	Other £ million
Quoted corporate bonds	829	84	199	6	700	73	178	6
Inflation and interest rate swaps	(52)	–	–	–	37	–	–	–
Quoted government bonds	698	–	97	–	809	–	150	–
Cash and cash equivalents	113	2	4	–	89	1	8	–
Quoted equity	442	42	20	1	290	16	32	1
Unquoted equity	46	–	–	–	40	–	–	–
Property	63	–	–	–	62	–	–	–
Insurance policies	–	–	–	49	–	–	–	48
Other	3	–	–	–	–	–	–	–
Plan assets	**2,142**	**128**	**320**	**56**	**2,027**	**90**	**368**	**55**

The UK plan's unquoted equities are assets within a pooled infrastructure fund where the underlying assets are a broad range of private infrastructure investments, diversified by geographic region, infrastructure sector, underlying asset type and development stage. These infrastructure assets are valued using widely recognised valuation techniques which use market data and discounted cash flows. The same valuation approach is used to determine the value of the swaps and insurance policies.

The UK plan's property represents an investment in the BlackRock UK Property Fund, which is a unitised fund where the underlying assets are taken at market value. The valuation of the fund is independently audited by KPMG on an annual basis.

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.

Defined benefit obligation

Movements in the defined benefit obligation during the year were:

	UK pension – legacy section £ million	UK pension – cash balance section £ million	UK post – retirement medical benefits £ million	US pensions £ million	US post – retirement medical benefits £ million	Other £ million	Total £ million
At 1st April 2019	(1,826)	(69)	(9)	(326)	(37)	(91)	(2,358)
Current service cost	(8)	(21)	–	(8)	(1)	(3)	(41)
Past service credit	–	–	–	–	10	10	20
Interest cost	(43)	(2)	–	(13)	(1)	(2)	(61)
Employee contributions	(2)	(6)	–	(1)	(1)	–	(10)
Remeasurements due to changes in:							–
Financial assumptions	131	8	–	(47)	(5)	3	90
Demographic assumptions	(34)	–	(3)	4	(1)	–	(34)
Benefits paid	61	3	–	20	4	2	90
Exchange adjustments	–	–	–	(21)	(2)	(3)	(26)
At 31st March 2020	(1,721)	(87)	(12)	(392)	(34)	(84)	(2,330)
Current service cost	(6)	(20)	–	(9)	(1)	(1)	(37)
Past service credit	(1)	–	4	–	–	–	3
Interest cost	(39)	(3)	–	(11)	(1)	(2)	(56)
Employee contributions	(3)	(7)	–	(1)	(1)	–	(12)
Remeasurements due to changes in:							
Financial assumptions	(259)	(20)	–	(2)	(1)	(4)	(286)
Demographic assumptions	8	–	–	2	1	1	12
Benefits paid	65	3	–	32	2	2	104
Exchange adjustments	–	–	–	41	4	5	50
At 31st March 2021	**(1,956)**	**(134)**	**(8)**	**(340)**	**(31)**	**(83)**	**(2,552)**

27 Post-employment benefits (continued)

Financial information (continued)

Defined benefit obligation (continued)

In the year ended 31st March 2021, a past service credit of £3.5 million was recognised in relation to the UK Post-retirement Medical Plan design to recognise that spouses are not eligible to receive a benefit in the plan in the event of the death of the main member. This is partially offset by the past service cost due to individual augmentations.

Reimbursement rights

A government subsidy is receivable under the US Medicare legislation as the US post-retirement medical benefits plan is actuarially equivalent to the Medicare Prescription Drug Act and there is an insurance policy taken out to reinsure the pension commitments of one of the small pension plans which does not meet the definition of a qualifying insurance policy. These are accounted for as reimbursement rights and are shown on the balance sheet in post-employment benefit net assets.

Movements in the reimbursement rights during the year were:

	UK pension – legacy section £ million	UK pension – cash balance section £ million	UK post – retirement medical benefits £ million	US pensions £ million	US post – retirement medical benefits £ million	Other £ million	Total £ million
At 1st April 2019	–	–	–	–	8	1	9
Return on assets excluding interest	–	–	–	–	(1)	–	(1)
At 31st March 2020	–	–	–	–	7	1	8
Return on assets excluding interest	–	–	–	–	(1)	(1)	(2)
At 31st March 2021	**–**	**–**	**–**	**–**	**6**	**–**	**6**

Net post-employment benefit assets and liabilities

The net post-employment benefit assets and liabilities are:

	UK pension – legacy section £ million	UK pension – cash balance section £ million	UK post – retirement medical benefits £ million	US pensions £ million	US post – retirement medical benefits £ million	Other £ million	Total £ million
At 31st March 2021							
Defined benefit obligation	(1,956)	(134)	(8)	(340)	(31)	(83)	(2,552)
Fair value of plan assets	2,142	128	–	320	–	56	2,646
Reimbursement rights	–	–	–	–	6	–	6
Net post-employment benefit assets and liabilities	**186**	**(6)**	**(8)**	**(20)**	**(25)**	**(27)**	**100**
At 31st March 2020							
Defined benefit obligation	(1,721)	(87)	(12)	(392)	(34)	(84)	(2,330)
Fair value of plan assets	2,027	90	–	368	–	55	2,540
Reimbursement rights	–	–	–	–	7	1	8
Net post-employment benefit assets and liabilities	**306**	**3**	**(12)**	**(24)**	**(27)**	**(28)**	**218**

Notes on the accounts continued

for the year ended 31st March 2021

27 Post-employment benefits (continued)

Financial information (continued)

Net post-employment benefit assets and liabilities (continued)

These are included in the balance sheet as follows:

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

Income statement

Amounts recognised in the income statement for long term employment benefits were:

	2021 £ million	2020 £ million
Administrative expenses	(4)	(4)
Current service cost	(37)	(41)
Past service credit	3	20
Defined benefit post-employment costs charged to operating profit	**(38)**	**(25)**
Defined contribution plans' expense	(26)	(23)
Other long term employee benefits	(1)	(1)
Charge to operating profit	**(65)**	**(49)**
Interest on post-employment benefits charged to finance income	5	2
Charge to profit before tax	**(60)**	**(47)**

27 Post-employment benefits (continued)

Financial information (continued)

Net post-employment benefit assets and liabilities (continued)

Statement of total comprehensive income

Amounts recognised in the statement of total comprehensive income for long term employment benefits were:

	2021 £ million	2020 £ million
Return on plan assets excluding interest	135	32
Remeasurements due to changes in:		
Financial assumptions	(286)	90
Demographic assumptions	12	(34)
Reimbursement rights – return on assets excluding interest	(2)	(1)
Remeasurements of post-employment benefit assets and liabilities	**(141)**	**87**

Sensitivity analysis

The calculations of the defined benefit obligations are sensitive to the assumptions used. The following summarises the estimated impact on the group's main plans of a change in the assumption while holding all other assumptions constant. This sensitivity analysis may not be representative of the actual change as it is unlikely that the change in assumptions would occur in isolation of one another.

Financial assumptions

A 0.1% change in the discount rate and inflation assumptions would (increase) / decrease the UK and US pension plans' defined benefit obligations at 31st March 2021 as follows:

	0.1% increase		**0.1% decrease**	
	UK plan £ million	**US plans £ million**	**UK plan £ million**	**US plans £ million**
Effect of discount rate	42	4	(41)	(4)
Effect of inflation	(31)	–	32	–

Demographic assumptions

A one-year increase in life expectancy would increase the UK and US pension plans' defined benefit obligation by £87 million and £7 million, respectively.

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 above.

Notes on the accounts continued

for the year ended 31st March 2021

28 Leases

Leasing activities

The group and parent company lease some of their property, plant and equipment which are used by the group and parent company in their operations.

Right-of-use assets

Group	Land and buildings £ million	Plant and machinery £ million	Total £ million
At 1st April 2020	72	16	88
New leases, remeasurements and modifications	3	1	4
Depreciation charge for the year	(10)	(4)	(14)
Disposal of businesses (note 30)	(1)	–	(1)
Impairment losses (note 6)	–	(1)	(1)
Exchange adjustments	(1)	(1)	(2)
At 31st March 2021	**63**	**11**	**74**

Parent company	Land and buildings £ million	Plant and machinery £ million	Total £ million
At 1st April 2020	13	6	19
Depreciation charge for the year	(2)	(1)	(3)
Impairment losses	–	(1)	(1)
At 31st March 2021	**11**	**4**	**15**

During the year, the group and parent company recognised a £1 million impairment in respect of a Clean Air plant associated intangible asset (note 6).

	Group		Parent company	
Lease liabilities	**2021 £ million**	2020 £ million	**2021 £ million**	2020 £ million
Current	11	12	3	3
Non-current	51	64	13	16
Total liabilities	**62**	**76**	**16**	**19**

	Group		Parent company	
	2021 £ million	2020 £ million	**2021 £ million**	2020 £ million
Interest expense	3	3	1	1

The weighted average incremental borrowing rate applied to the group's lease liabilities was 4.5% (2020: 4.2%) and 4.3% (2020: 3.5%) for the parent company.

A maturity analysis of lease liabilities is disclosed in note 31.

	Group		Parent company	
Other	**2021 £ million**	2020 £ million	**2021 £ million**	2020 £ million
Total cash outflow for leases	17	16	4	5

The expense relating to low-value and short-term leases is immaterial.

29 Share capital and other reserves

Share capital	Number	£ million
Issued and fully paid ordinary shares		
At 1st April 2019, 31st March 2020 and 31st March 2021	**198,940,606**	**221**

Details of outstanding allocations under the company's long term incentive plans and awards under the deferred bonus which have yet to mature are disclosed in note 33.

At the last annual general meeting on 23rd July 2020, shareholders approved a resolution for the company to purchases its own shares up to a maximum number of 19,353,343 ordinary shares of 110 49/53 pence each. The resolution remains valid until the conclusion of this year's annual general meeting. The directors have no present intention of exercising this authority but will keep the matter under review, taking into account the financial resources of the company, the company's share price and future funding opportunities. The directors would only exercise this authority in circumstances where they believed that to do so would result in an increase in earnings per share and be in the interests of shareholders generally.

The group and parent company's employee share ownership trust (ESOT) also buys shares on the open market and holds them in trust for employees participating in the group's executive long term incentive plans. At 31st March 2021, the ESOT held 894,670 shares (2020: 1,011,913 shares) which had not yet vested unconditionally to employees. Computershare Trustees (CI) Limited, as trustee for the ESOT, has waived its dividend entitlement.

The total number of treasury shares held was 5,407,176 (2020: 5,407,176) at a total cost of £92 million (2020: £92 million).

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

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

The board is responsible for the group's capital management including the approval of dividends. This includes an assessment of both the level of reserves legally available for distribution and consideration as to whether Johnson Matthey Plc would be solvent and maintain sufficient liquidity following any proposed distribution. The board has assessed the level of distributable profits as at 31st March 2021 and is satisfied that they are sufficient to support the proposed dividend.

Other reserves

Capital redemption reserve, The capital redemption reserve represents the cumulative nominal value of the company's ordinary shares repurchased and subsequently cancelled.

Foreign currency translation reserve, The foreign currency translation reserve comprises all foreign currency differences arising from the translation of the financial statements of foreign operations.

Fair value through other comprehensive income reserve, The fair value through other comprehensive income reserve represents the equity movements on financial assets held within this category.

Hedging reserve, The hedging reserve comprises the effective portion of the cumulative net change in the fair value of cash flow hedging instruments. All amounts recorded in reserves at year end in relation to cash flow and net investment hedges relate to continuing hedge relationships.

Notes on the accounts continued

for the year ended 31st March 2021

29 Share capital and other reserves (continued)

Group

	Capital redemption reserve £ million	Foreign currency translation reserve £ million	Fair value through other comprehensive income reserve £ million	Hedging reserve: Forward currency contracts £ million	Hedging reserve: Cross currency contracts £ million	Hedging reserve: Forward metal contracts £ million	Total other reserves £ million
At 1st April 2019	7	82	2	(1)	(4)	1	87
Cash flow hedges – (losses) / gains taken to equity	–	–	–	(9)	11	2	4
Cash flow hedges – transferred to revenue (income statement)	–	–	–	(1)	–	–	(1)
Cash flow hedges – transferred to foreign exchange (income statement)	–	–	–	–	(5)	–	(5)
Cash flow hedges – transferred to inventory (balance sheet)	–	–	–	3	–	(1)	2
Fair value losses on net investment hedges taken to equity	–	(8)	–	–	–	–	(8)
Fair value losses on investments at fair value through other comprehensive income	–	–	(2)	–	–	–	(2)
Exchange differences on translation of foreign operations taken to equity	–	65	–	–	–	–	65
Tax on above items taken directly to or transferred from equity	–	–	–	1	(1)	–	–
At 31st March 2020	7	139	–	(7)	1	2	142
Cash flow hedges – gains / (losses) taken to equity	–	–	–	7	(10)	(8)	(11)
Cash flow hedges – transferred to revenue (income statement)	–	–	–	1	–	–	1
Cash flow hedges – transferred to foreign exchange (income statement)	–	–	–	–	9	–	9
Cash flow hedges – transferred to inventory (balance sheet)	–	–	–	6	–	(2)	4
Fair value gains on net investment hedges taken to equity	–	12	–	–	–	–	12
Fair value gains on investments at fair value through other comprehensive income	–	–	5	–	–	–	5
Exchange differences on translation of foreign operations taken to equity	–	(162)	–	–	–	–	(162)
Tax on above items taken directly to or transferred from equity	–	–	–	–	–	–	–
At 31st March 2021	**7**	**(11)**	**5**	**7**	**–**	**(8)**	**–**

29 Share capital and other reserves (continued)

Parent company

	Capital redemption reserve £ million	Foreign currency translation reserve £ million	Fair value through other comprehensive income reserve £ million	Hedging reserve: Forward currency contracts £ million	Hedging reserve: Cross currency contracts £ million	Hedging reserve: Forward metal contracts £ million	Total other reserves £ million
At 1st April 2019	7	–	3	1	(4)	1	8
Cash flow hedges – (losses) / gains taken to equity	–	–	–	(5)	11	2	8
Cash flow hedges – transferred to foreign exchange (income statement)	–	–	–	–	(5)	–	(5)
Cash flow hedges – transferred to inventory (balance sheet)	–	–	–	–	–	(1)	(1)
Tax on items taken directly to or transferred from equity	–	–	–	1	(1)	–	–
At 31st March 2020	7	–	3	(3)	1	2	10
Cash flow hedges – gains / (losses) taken to equity	–	–	–	6	(10)	(8)	(12)
Cash flow hedges – transferred to revenue (income statement)	–	–	–	(1)	–	–	(1)
Cash flow hedges – transferred to foreign exchange (income statement)	–	–	–	–	9	–	9
Cash flow hedges – transferred to inventory (balance sheet)	–	–	–	3	–	(2)	1
Other movements	–	–	(3)	–	–	–	(3)
Tax on items taken directly to or transferred from equity	–	–	–	–	–	–	–
At 31st March 2021	**7**	**–**	**–**	**5**	**–**	**(8)**	**4**

Capital

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 uses Return on Invested Capital to provide a measure of its efficiency in allocating the capital under its control to profitable investments (see note 38). Capital employed is defined as total equity, excluding post tax pension net assets, plus net debt. During the year, the group complied with all externally imposed capital requirements to which it is subject.

Notes on the accounts continued

for the year ended 31st March 2021

30 Disposals

Water and Atmosphere Control Technologies

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

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

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

The loss on disposal of businesses totalled £1 million.

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

31 Financial risk management

The group's activities expose it to a variety of financial risks, including credit risk, market risk and liquidity risk. Market risk includes foreign currency risk, interest rate risk and price risk. The financial risks are managed by the group, under policies approved by the board. The group uses derivative financial instruments, including forward currency contracts, interest rate swaps and currency swaps, to manage the financial risks associated with its underlying business activities and the financing of those activities. Some derivative financial instruments used to manage financial risk are not designated as hedges and, therefore, are classified as at fair value through profit or loss. The group does not undertake any speculative trading activity in financial instruments.

Credit risk

Within certain businesses, the group derives a significant proportion of its revenue from sales to major customers. Sales to individual customers are large 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 results. The group derives significant benefit from trading with its customers and manages the risk at many levels. Each sector has a credit committee that regularly monitors its exposure. The Audit Committee receives a report every six months that details all significant credit limits, amounts due and overdue within the group, and the relevant actions being taken. At 31st March 2021, trade receivables for the group amounted to £1,571 million (2020: £1,228 million), of which £1,317 million (2020: £906 million) are in Clean Air which mainly supplies car and truck manufacturers and component suppliers in the automotive industry. Although Clean Air has a wide range of customers, the concentrated nature of this industry means that amounts owed by individual customers can be large and, in the event that one of those customers experiences financial difficulty, there could be a material adverse impact on the group. Other parts of the group tend to sell to a larger number of customers and amounts owed tend to be lower. At 31st March 2021, no single outstanding balance exceeded 2% (2020: 2%) of revenue.

The credit profiles of the group's customers are obtained from credit rating agencies where possible and are closely monitored. The scope of these reviews includes amounts overdue and credit limits. The group's exposure to credit risk is influenced mainly by the individual characteristics of each customer. However, risk associated with the industry and country in which customers operate may also influence the credit risk. The credit quality of customers is assessed by taking into account financial position, past experience and other relevant factors, in particular those based on current market conditions. Generally, payments are made promptly in the automotive industry and in the other markets in which the group operates.

The group applies the simplified approach to measuring expected credit losses under IFRS 9, *Financial Instruments*, which requires lifetime expected credit losses to be recognised from initial recognition for trade and contract receivables. A provision matrix is used to calculate lifetime expected credit losses using historical loss rates based on days past due and a broad range of forward-looking information, including country and market growth forecasts. This year, expected credit losses on unimpaired trade and contract receivables have increased to £23 million (2020: £21 million) reflecting the larger trade receivables balance at year end and the estimated impact of the COVID-19 pandemic on the group, its customers and the countries and markets in which it operates.

Trade receivables are specifically 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. They are written off when there is no reasonable expectation of recovery, based on an estimate of the financial position of the counterparty.

The group's provision matrix for trade and contract receivables is set out below:

	Contract receivables	**Trade receivables**					
At 31st March 2021	**Total**	**Impaired**	**Not past due**	**< 30 days overdue**	**30-90 days overdue**	**>90 days overdue**	**Total**
Expected credit loss rate (%)	1%	100%	1%	2%	7%	11%	
Gross carrying value (£ million)	184	7	1,513	60	11	7	1,598
Expected credit losses (£ million)	(3)	(7)	(17)	(1)	(1)	(1)	(27)
Net carrying value (£ million)	**181**						**1,571**

	Contract receivables	Trade receivables					
At 31st March 2020	Total	Impaired	Not past due	< 30 days overdue	30-90 days overdue	>90 days overdue	Total
Expected credit loss rate (%)	1%	100%	1%	2%	7%	11%	
Gross carrying value (£ million)	165	16	1,132	86	17	12	1,263
Expected credit losses (£ million)	(2)	(16)	(15)	(2)	(1)	(1)	(35)
Net carrying value (£ million)	**163**						**1,228**

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31 Financial risk management (continued)

Credit risk (continued)

Movements in the allowance for credit losses on trade and contract receivables are as follows:

	Group 2021 £ million	Group 2020 £ million
At beginning of year	37	15
Charge for year	7	25
Utilised	(5)	(1)
Released	(9)	(2)
At end of year	**30**	**37**

The group's maximum exposure to default on trade and contract receivables is £1,782 million (2020: £1,428 million).

The group's financial assets included in other receivables are all current and not impaired.

The credit risk on cash and deposits and derivative financial instruments is limited because the counterparties with significant balances are banks with strong credit ratings. The exposure to individual banks is monitored frequently against internally-defined limits, together with each bank's credit rating and credit default swap prices. At 31st March 2021, the maximum net exposure with a single bank for cash and deposits was £26 million (2020: £41 million), whilst the largest mark to market exposure for derivative financial instruments to a single bank was £9 million (2020: £22 million). The group also uses money market funds to invest surplus cash thereby further diversifying credit risk and, at 31st March 2021, the group's exposure to these funds was £462 million (2020: £192 million). The amounts on deposit at the year end represent the group's maximum exposure to credit risk on cash and deposits. Expected credit losses on cash and cash equivalents are immaterial.

Foreign currency risk

The group operates globally with a significant amount of its profit earned outside the UK. The main impact of movements in exchange rates on the group's results arises on translation of overseas subsidiaries' profits into sterling. The largest exposure is to the euro and a 5% (5.6 cent (2020: 5.7 cent)) movement in the average exchange rate for the euro against sterling would have had a £9 million (2020: £10 million) impact on underlying operating profit. The group is also exposed to the US dollar and a 5% (6.5 cent (2020: 6.4 cent)) movement in the average exchange rate for the US dollar against sterling would have had a £7 million (2020: £12 million) impact on underlying operating profit. This exposure is part of the group's economic risk of operating globally which is essential to remain competitive in the markets in which it operates.

The group matches foreign currency assets and liabilities (where these differ to the functional currency of the relevant subsidiary) to avoid the risk of a material impact on the income statement resulting from movements in exchange rates. The group does, however, have foreign exchange exposure on movements through equity related to cash flow and net investment hedges. A 10% depreciation or appreciation in the US dollar and euro exchange rates against sterling would increase / (decrease) other reserves as follows:

	10% depreciation		10% appreciation	
	2021 £ million	2020 £ million	2021 £ million	2020 £ million
Cash flow hedges	12	12	(14)	(15)
Net investment hedges	12	21	(15)	(26)

For the net investment hedges, these movements would be fully offset in reserves by an opposite movement on the retranslation of the net assets of the overseas subsidiaries.

Investments in foreign operations

To protect the group's sterling balance sheet and reduce cash flow risk, the group has financed most of its investment in the US and Europe by borrowing US dollars and euros, respectively. Although much of this funding is obtained by directly borrowing the relevant currency, a part is achieved through currency swaps which can be more efficient and reduce costs.

The group has designated US dollar and euro loans and a cross currency swap as hedges of net investments in foreign operations as they hedge changes in the value of the subsidiaries' net assets against movements in exchange rates. The change in the value of the net investment hedges from movements in foreign currency exchange rates is recognised in equity and is offset by an equal and opposite movement in the carrying value of the net assets of the subsidiaries. All critical terms of the hedging instruments and hedged items matched during the year and, therefore, hedge ineffectiveness was immaterial. The hedge ratio is 1:1.

31 Financial risk management (continued)

Foreign currency risk (continued)

Investments in foreign operations (continued)

Year ended 31st March 2021	US dollar and euro loans[1] £ million	Cross currency swap[2] £ million	Total £ million
Carrying value of hedging instruments at 31st March 2021	(69)	(3)	**(72)**
Change in carrying value of hedging instruments recognised in equity during the year	9	3	**12**
Change in fair value of hedged items during the year used to determine hedge effectiveness	(9)	(3)	**(12)**

Year ended 31st March 2020	US dollar and euro loans[1] £ million	Cross currency swap[2] £ million	Total £ million
Carrying value of hedging instruments at 31st March 2020	(165)	(6)	**(171)**
Change in carrying value of hedging instruments recognised in equity during the year	(7)	(1)	**(8)**
Change in fair value of hedged items during the year used to determine hedge effectiveness	7	1	**8**

1 The designated hedging instruments are the $75 million of the 3.26% $150 million Bonds 2022 and €17 million of the 2.44% €20 million Bonds 2023. The 4.66% €100 million Bonds matured in January 2021.

2 The designated hedging instrument is a cross currency swap expiring in 2025 whereby the group pays 2.609% fixed on €77 million and receives 2.83% fixed on £65 million.

Forecast receipts and payments in foreign currencies

The group uses forward foreign exchange contracts to hedge foreign exchange exposures arising on forecast receipts and payments in foreign currencies. These are designated and accounted for as cash flow hedges. The group's policy is to hedge between 50% and 80% of forecast receipts and payments in foreign currencies.

For hedges of forecast receipts and payments in foreign currencies, the critical terms of the hedging instruments match exactly with the terms of the hedged items and, therefore, the group performs a qualitative assessment of effectiveness. Ineffectiveness may arise if the timing of the forecast transaction changes from what was originally estimated or if there are changes in the credit risk of the group or the derivative counterparty. Hedge ineffectiveness was immaterial during the year. The hedge ratio is 1:1.

Year ended 31st March 2021	Sterling / US dollar £ million	Sterling / euro £ million	Other £ million	Total £ million
Carrying value of hedging instruments at 31st March 2021 – assets	3	4	5	**12**
– liabilities	(1)	–	(3)	**(4)**
Change in carrying value of hedging instruments recognised in equity during the year	2	7	(2)	**7**
Change in fair value of hedged items during the year used to determine hedge effectiveness	(2)	(7)	2	**(7)**
Notional amount[1]	97	91	13	**–**

Year ended 31st March 2020	Sterling / US dollar £ million	Sterling / euro £ million	Other £ million	Total £ million
Carrying value of hedging instruments at 31st March 2020 – assets	–	1	3	**4**
– liabilities	(2)	(3)	(5)	**(10)**
Change in carrying value of hedging instruments recognised in equity during the year	(6)	–	(3)	**(9)**
Change in fair value of hedged items during the year used to determine hedge effectiveness	6	–	3	**9**
Notional amount[1]	70	111	–	**–**

1 The notional amount is the sterling equivalent of the net currency amount purchased or sold.

The weighted average exchange rates on sterling / US dollar and sterling / euro forward foreign exchange contracts are 1.34 and 0.89 (2020: 1.27 and 1.14), respectively. The hedged, highly probable forecast transactions denominated in foreign currencies are expected to occur over the next 12 months.

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31 Financial risk management (continued)

Foreign currency risk (continued)

Foreign currency borrowings

The group has designated a US dollar fixed interest rate to sterling fixed interest rate cross currency swap as a cash flow hedge. This swap hedges the movement in the cash flows on $100 million of the 3.14% $130 million bonds 2025 attributable to changes in the US dollar / sterling exchange rate. The currency swap has similar critical terms as the hedged item, such as reference rate, reset dates, payment dates, maturity and notional amount. As all critical terms matched during the year, hedge ineffectiveness was immaterial. The hedge ratio is 1:1. The interest element of the swap is recognised in the income statement each year.

	Cross currency swap	
	2021 £ million	2020 £ million
Carrying value of hedging instruments at 31st March[1]	8	19
Change in carrying value of hedging instruments recognised in equity during the year	(11)	11
Change in fair value of hedged items during the year used to determine hedge effectiveness	11	(11)

1 The designated hedging instrument is a cross currency swap expiring in 2025 whereby the group pays 2.83% fixed on £65 million and receives 3.14% fixed on $100 million.

Interest rate risk

The group's interest rate risk arises from fixed rate borrowings (fair value risk) and floating rate borrowings (cash flow risk). Its policy is to optimise interest cost and reduce volatility in reported earnings and equity. The group manages its risk by reviewing the profile of debt regularly and by selectively using interest rate swaps to maintain borrowings at competitive rates. At 31st March 2021, 107% (2020: 84%) of the group's net debt was at fixed rates with an average interest rate of 3.5% (2020: 3.6%). The remaining debt is floating rate. Based on the group's net debt at floating rates, after taking into account the effect of the swaps, a 1% change in all interest rates during the current year would have a £0.5 million impact on the group's profit before tax (2020: £2 million).

The group has designated four (2020: four) fixed rate to floating interest rate swaps as fair value hedges as they hedge the changes in fair value of bonds attributable to changes in interest rates. All hedging instruments have maturities in line with the repayment dates of the hedged bonds and the cash flows of the instruments are consistent. All critical terms of the hedging instruments and hedged items matched during the year and, therefore, hedge ineffectiveness was immaterial.

	2021 £ million	2020 £ million
Carrying value of hedging instruments at 31st March[1]	**12**	**15**
Amortised cost	(251)	(270)
Fair value adjustment	(10)	(15)
Carrying value of hedged items at 31st March[1]	**(261)**	**(285)**
Change in carrying value of hedging instruments recognised in profit or loss during the year	(3)	10
Change in fair value of hedged items during the year used to determine hedge effectiveness	5	(10)

1 The hedged items are the 3.26% $150 million Bonds 2022, 1.40% €77 million Bonds 2025 and 1.81% €90 million Bonds 2028. Interest rate swaps have been contracted with aligned notional amounts and maturities to the bonds with the effect that the group pays an average floating rate of six-month LIBOR plus 0.64% on the US dollar bonds and six-month EURIBOR plus 0.94% on the euro bonds.

Price risk

The group enters into forward precious metal price contracts for the receipt or delivery of precious metal. The group has policies in place to ensure that sales and purchases are matched and, therefore, that it is not exposed to price risk in respect of these contracts.

31 Financial risk management (continued)

Liquidity risk

The group's policy on funding capacity is to ensure that it always has sufficient long term funding and committed bank facilities in place to meet foreseeable peak borrowing requirements. At 31st March 2021, the group had borrowings under committed bank facilities of £nil (2020: £nil). The group also has a number of uncommitted facilities and overdraft lines at its disposal.

The group's undrawn £1 billion revolving credit facility includes Environmental, Social and Governance KPIs which provides the group with an interest saving or cost depending on our performance. One of the Key Performance Indicators tracks the amount of renewable energy sourced by the group.

	2021 £ million	2020 £ million
Expiring within one year	–	125
Expiring in more than one year	1,000	1,000
Undrawn committed bank facilities	**1,000**	**1,125**

The maturity analyses for financial liabilities showing the remaining contractual undiscounted cash flows, including future interest payments, at current year exchange rates and assuming floating interest rates remain at the latest fixing rates, are:

At 31st March 2021	Within 1 year £ million	1 to 2 years £ million	2 to 5 years £ million	After 5 years £ million	Total £ million
Bank overdrafts	36	–	–	–	36
Bank and other loans – principal	26	250	575	414	1,265
Bank and other loans – interest payments	32	29	61	24	146
Lease liabilities – principal	11	10	17	25	63
Lease liabilities – interest payments	3	2	5	8	18
Financial liabilities in trade and other payables	3,141	1	–	3	3,145
Total non-derivative financial liabilities	**3,249**	**292**	**658**	**474**	**4,673**
Forward foreign exchange contracts – payments	289	–	–	–	289
Forward foreign exchange contracts – receipts	(284)	–	–	–	(284)
Currency swaps – payments	821	–	–	–	821
Currency swaps – receipts	(816)	–	–	–	(816)
Cross currency interest rate swaps – payments	2	2	68	–	72
Cross currency interest rate swaps – receipts	(2)	(2)	(68)	–	(72)
Total derivative financial liabilities	**10**	**–**	**–**	**–**	**10**

At 31st March 2020	Within 1 year £ million	1 to 2 years £ million	2 to 5 years £ million	After 5 years £ million	Total £ million
Bank overdrafts	31	–	–	–	31
Bank and other loans – principal	331	–	528	445	1,304
Bank and other loans – interest payments	30	24	52	24	130
Lease liabilities – principal	12	12	26	26	76
Lease liabilities – interest payments	3	2	5	8	18
Financial liabilities in trade and other payables	2,611	1	2	–	2,614
Total non-derivative financial liabilities	**3,018**	**39**	**613**	**503**	**4,173**
Forward foreign exchange contracts – payments	398	–	–	–	398
Forward foreign exchange contracts – receipts	(386)	–	–	–	(386)
Currency swaps – payments	1,236	–	–	–	1,236
Currency swaps – receipts	(1,198)	–	–	–	(1,198)
Cross currency interest rate swaps – payments	2	2	71	–	75
Cross currency interest rate swaps – receipts	(2)	(2)	(68)	–	(72)
Total derivative financial liabilities	**50**	**–**	**3**	**–**	**53**

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31 Financial risk management (continued)

Offsetting financial assets and liabilities

The group offsets financial assets and liabilities when it currently has a legally enforceable right to offset the recognised amounts and it intends 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 or enforceable master netting arrangements:

At 31st March 2021	**Gross financial assets / (liabilities) £ million**	**Amounts set off £ million**	**Net amounts in balance sheet £ million**	**Amounts not set off[1] £ million**	**Net £ million**
Non-current interest rate swaps	20	–	20	(3)	17
Cash and cash equivalents	582	(1)	581	–	581
Other financial assets	44	–	44	(9)	35
Cash and cash equivalents – bank overdrafts	(37)	1	(36)	–	(36)
Other financial liabilities	(18)	–	(18)	9	(9)
Non-current borrowings and related swaps	(1,252)	–	(1,252)	3	(1,249)

At 31st March 2020	Gross financial assets / (liabilities) £ million	Amounts set off £ million	Net amounts in balance sheet £ million	Amounts not set off[1] £ million	Net £ million
Non-current interest rate swaps	34	–	34	(6)	28
Cash and cash equivalents	304	–	304	–	304
Other financial assets	28	–	28	(21)	7
Cash and cash equivalents – bank overdrafts	(31)	–	(31)	–	(31)
Other financial liabilities	(50)	–	(50)	21	(29)
Non-current borrowings and related swaps	(994)	–	(994)	6	(988)

[1] Agreements with derivative counterparties are based on an ISDA Master Agreement. Under these arrangements, whilst the group does not have a legally enforceable right of set off, where certain credit events occur, such as default, the net position receivable from or payable to a single counterparty in the same currency would be taken as owing and all the relevant arrangements terminated.

32 Fair values

Fair value hierarchy

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

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

Fair value of financial instruments

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

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

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

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

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

32 Fair values (continued)

	2021 £ million	2020 £ million	Fair value hierarchy Level	Note
Financial instruments measured at fair value				
Non-current				
Investments at fair value through other comprehensive income	53	49	1	17
Interest rate swaps	20	34	2	18
Borrowings and related swaps	(3)	(6)	2	23
Current				
Trade receivables[1]	423	328	2	20
Other receivables[2]	58	72	2	20
Cash and cash equivalents – money market funds	462	192	2	
Other financial assets[3]	44	28	2	21
Other financial liabilities[3]	(18)	(50)	2	21
Financial instruments not measured at fair value				
Non-current				
Borrowings and related swaps	(1,249)	(988)	–	23
Lease liabilities	(51)	(64)	–	28
Current				
Cash and cash equivalents – cash and deposits	119	112	–	
Cash and cash equivalents – bank overdrafts	(36)	(31)	–	
Borrowings and related swaps	(26)	(331)	–	23
Lease liabilities	(11)	(12)	–	28

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

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

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

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

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

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

33 Share-based payments

The total expense recognised during the year in respect of equity-settled share-based payments was £16 million (2020: £5 million). The increase in the expense recognised represents the negative growth in underlying earnings per share achieved during the prior year and current year offset by the forecast underlying earnings per share for the years ending 31st March 2022 and 2023.

Further details of the directors' remuneration under share-based payment plans are given in the Remuneration Report.

Performance share plan (PSP)

From 2017, shares are awarded to certain of the group's executive directors and senior managers under the PSP based on a percentage of salary and are subject to performance targets over a three-year period.

At 31st March 2021, 1,267,198 shares awarded in 2018, 2019 and 2020 were outstanding (31st March 2020: 1,037,536 shares awarded in 2017, 2018 and 2019).

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33 Share-based payments (continued)

Performance share plan (PSP) (continued)

The PSP shares awarded prior to 1st August 2020 are subject to the below criteria for release:

The minimum release of 15% of the award is subject to achieving underlying earnings per share (uEPS) growth of 4% compound per annum and the full release is subject to uEPS growing by at least 10% compound per annum. The number of awarded shares released varies on a straight-line basis between these points. Awards lapse if the uEPS growth is less than the minimum. For the 2018 and 2019 awards, there was no uEPS growth and, therefore, the awards will lapse.

The PSP shares awarded post the 1st August 2020 are subject to the below criteria for release:

The 2020 Performance Share Plan award will be 50% based on EPS growth targets and 50% on Total Shareholder Return (TSR). The EPS target will be 15% vesting for 3% p.a. underlying EPS growth, increasing on a straight-line basis to 100% vesting for 8% p.a. underlying EPS growth or above. The TSR target will be 25% vesting for median performance, increasing on a straight-line basis to 100% vesting for upper quartile performance. The TSR peer group will be the FTSE 31 – 100 (excluding financial services companies).

Awards to the executive directors are also subject to a deferred release whereby a third is released on the third anniversary of the award date and the remaining vested shares are released in equal instalments on the fourth and fifth anniversaries of the award date. The Remuneration Committee is entitled to claw back the awards to the executive directors in cases of misstatement or misconduct.

Activity relating to the PSP during the year was:

	2021 Number of awarded shares	2020 Number of awarded shares
Outstanding at the start of the year	1,037,536	684,015
Awarded during the year	723,758	442,905
Forfeited during the year	(494,096)	(89,384)
Outstanding at the end of the year	**1,267,198**	**1,037,536**

The fair value of the shares awarded during the year under the PSP was 2,078.9 pence per share (2020: 2,964.6 pence per share). The fair value was calculated using a modified Black Scholes model based on the share price at the date of award of 2,239.0 pence (2020: 3,210.0 pence) adjusted for the present value of the expected dividends that will not be received at an expected dividend rate of 2.48% (2020: 2.66%).

At 31st March 2021 the weighted average remaining contracted life of the awarded shares is 1.3 years (2020: 1.1 years).

Restricted share plan (RSP)

From 2017, shares are awarded to certain of the group's senior managers below the board under the RSP based on a percentage of salary. Awards under the RSP are not subject to performance targets. The shares are subject only to the condition that the employee remains employed by the group on the vesting date (three years after the award date).

Activity relating to the RSP during the year was:

	2021 Number of awarded shares	2020 Number of awarded shares
Outstanding at the start of the year	247,021	161,691
Awarded during the year	534,516	125,243
Forfeited during the year	(29,587)	(29,618)
Released during the year	(65,782)	(7,557)
Expired during the year	(5,804)	(2,738)
Outstanding at the end of the year	**680,364**	**247,021**

The fair value of the shares awarded during the year under the RSP was 2,078.9 pence per share (2020: 2,964.6 pence per share). The fair value was calculated using a modified Black Scholes model based on the share price at the date of award of 2,239.0 pence (2020: 3,210.0 pence) adjusted for the present value of the expected dividends that will not be received at an expected dividend rate of 2.48% (2020: 2.66%).

At 31st March 2021 the weighted average remaining contracted life of the awarded shares is 1.7 years (2020: 1.3 years).

33 Share-based payments (continued)

Long-term incentive plan (LTIP)

Prior to 2017, shares were awarded to approximately 1,300 of the group's executive directors, senior managers and middle managers under the LTIP based on a percentage of salary and were subject to performance targets over a three-year period.

At 31st March 2021, 23,808 shares awarded in 2016 were subject to deferred release as explained below (31st March 2020: 71,277 shares awarded in 2016).

For the 2016 awards, the minimum release of 15% of the award was subject to achieving uEPS growth of 4% compound per annum over the three-year period to 31st March 2019 and the full release was subject to uEPS growing by at least 10% compound per annum. Actual uEPS growth was 7.7%, which represented 67% of the full award. In August 2020 24,357 shares were released with a further 23,808 shares subject to deferred release.

Awards to the executive directors were subject to a deferred release whereby a third is released on the third anniversary of the award date and the remaining vested shares are released in equal instalments on the fourth and fifth anniversaries of the award date. The Remuneration Committee is entitled to claw back the awards to the executive directors in cases of misstatement or misconduct.

Activity relating to the LTIP during the year was:

	2021 Number of awarded shares	2020 Number of awarded shares
Outstanding at the start of the year	71,277	703,698
Awarded during the year	553	–
Forfeited during the year	–	(34,059)
Released during the year	(24,357)	(402,410)
Expired during the year	(23,665)	(195,952)
Outstanding at the end of the year	**23,808**	**71,277**

Deferred bonus

A proportion of the bonus payable to executive directors and senior managers is awarded as shares and deferred for three years. The Remuneration Committee is entitled to claw back the deferred element in cases of misstatement or misconduct or other relevant reason as determined by it.

Activity relating to the deferred bonus during the year was:

	2021 Number of awarded shares	2020 Number of awarded shares
Outstanding at the start of the year	105,530	81,625
Awarded during the year	34,264	42,009
Released during the year	(26,710)	(18,104)
Outstanding at the end of the year	**113,084**	**105,530**

The fair value of the shares awarded during the year under the deferred bonus was 2,028.2 pence per share (2020: 2,887.0 pence per share). The fair value was calculated using a modified Black Scholes model based on the share price at the date of award of 2,239.0 pence (2020: 3,210.0 pence) adjusted for the present value of the expected dividends that will not be received at an expected dividend rate of 2.48% (2020: 2.66%).

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33 Share-based payments (continued)

All employee share incentive plan (SIP) – UK and overseas

Under the SIP, all employees with at least one year of service with the group and who are employed by a participating group company are entitled to contribute up to 2.5% of base pay each month, subject to a £125 per month limit. The SIP trustees buy shares (partnership shares) at market value each month with the employees' contributions. For each partnership share purchased, the group purchases two shares (matching shares) which are awarded to the employee.

In the UK SIP, if the employee sells or transfers partnership shares within three years of the date of award, the linked matching shares are forfeited.

In the overseas SIP, partnership shares and matching shares are subject to a three-year holding period and cannot be sold or transferred during that time.

During the year, 284,808 (2020: 227,974) matching shares under the SIP were awarded to employees. These are nil cost awards on which performance conditions are substantially completed at the date of grant and, consequently, the fair value of these awards is based on the market value of the shares at that date.

401k approved savings investment plans (401k plans)

In the US, there are two 401k plans, one for salaried employees and one for hourly employees. Salaried employees may contribute up to 50% of their base pay and hourly employees up to 20% of their base pay, both subject to a statutory limit. Salaried employees choosing Johnson Matthey Plc share matching are matched 100% of the first 4% contributed and hourly employees are matched 50% of the first 6% contributed. Employees may contribute after one month of service and are eligible for matching after one year of service.

During the year, 6,632 (2020: 5,652) shares under the 401k plans were awarded to employees. These are nil cost awards on which performance conditions are substantially completed at the date of grant and, consequently, the fair value of these awards is based on the market value of the shares at that date.

34 Commitments

	Group		Parent company	
	2021 £ million	2020 £ million	**2021 £ million**	2020 £ million
Capital commitments – future capital expenditure contracted but not provided				
Property, plant and equipment	167	41	23	12
Other intangible assets	29	9	21	–

At 31st March 2021, precious metal leases were £437 million (31st March 2020: £451 million) at year end prices.

35 Contingent liabilities

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

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

35 Contingent liabilities (continued)

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

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

36 Transactions with related parties

The group has a related party relationship with its joint venture and associate (note 16), its post-employment benefit plans (note 27) and its key management personnel (below). Transactions between the Company and its subsidiaries, which are related parties of the Company, have been eliminated on consolidation and are not disclosed in this note.

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 2021, the GMC had an average of 9 members (2020: 9 members). The only transactions with any key management personnel was compensation charged in the year which was:

	2021 £ million	2020 £ million
Short term employee benefits	7	6
Share-based payments	1	–
Non-executive directors' fees and benefits	1	1
Total compensation of key management personnel	**9**	**7**

There were no balances outstanding as at 31st March 2021 (2020: £nil). Information on directors' remuneration is given in the Remuneration Report.

Guarantees of subsidiaries' liabilities are disclosed in note 25.

Notes on the accounts continued
for the year ended 31st March 2021

37 Related undertakings

A full list of related undertakings at 31st March 2021 (comprising subsidiaries, joint ventures and associates) is set out below. Those held directly by the parent company are marked with an asterisk (*) and those held jointly by the parent company and a subsidiary are marked with a cross (+). All the companies are wholly owned unless otherwise stated. All the related undertakings are involved in the principal activities of the group. Unless otherwise stated, the share class of each related undertaking comprises ordinary shares only.

Entity	Registered address
+Johnson Matthey Argentina S.A.	Tucumán 1, Piso 4, C1049AAA, Buenos Aires, Argentina
Johnson Matthey (Aust.) Ltd	64 Lillee Crescent, Tullamarine VIC 3043, Australia
+Johnson Matthey Holdings Limited	64 Lillee Crescent, Tullamarine VIC 3043, Australia
+Johnson Matthey Belgium BVBA	Pegasuslaan 5, 1831 Diegem, Belgium
+Tracerco Europe BVBA	Zone 3, Doorneveld 115, 1731 Zellik, Brussels, Belgium
The Argent Insurance Co. Limited	Power House, 7 Par-la-Ville Road, Hamilton HM11, Bermuda
Johnson Matthey Brasil Ltda	Avenida Macuco, 726, 12th Floor, Edifício International Office, CEP04523-001, Brazil
Stepac Brazil Ltda[5]	Estrada dos Bandeirantes, 1793, Taquara, Jacarepagua, Brazil
Tracerco do Brasil – Diagnosticos de Processos Industriais Ltda	Estrada dos Bandeirantes, 1793, Curicica, Jacarepagua, Rio de Janeiro, Brazil
Johnson Matthey Battery Materials Ltd.	McCarthy Tetrault LLP, Le Complexe St-Amable, 1150, rue de Claire-Fontaine, 7e étage, Quebec G1R 5G4, Canada
Tracerco Radioactive Diagnostic Services Canada Inc.	8908 60 Avenue NW, Edmonton AB, T6E 6A6, Canada
Johnson Matthey Argillon (Shanghai) Emission Control Technologies Ltd.	Ground Floor, Building 2, No. 298, Rongle East Road, Songjiang Industrial Zone, Shanghai 201613, China
Johnson Matthey Battery Materials (Changzhou) Co., Ltd.	1 Xin Wei Liu Road, Changzhou Export Processing Zone, Changzhou, Jiangsu Province, China
Johnson Matthey Chemical Process Technologies (Shanghai) Company Limited	Room 1066, Building 1, No 215 Lian He Bei Lu, Fengxian District, Shanghai, China
Johnson Matthey (China) Trade Co., Ltd	1st, 2nd and 3rd Floor, Building 2, No. 598 Dongxing Road, Songjiang Industrial Zone, Shanghai, China
Johnson Matthey Clean Energy Technologies (Beijing) Co., Ltd	20th Floor, Tower F, Phoenix Place, No.21 Building, Shuguangxi Lane A5, Chaoyang District, Beijing 100028, China
Johnson Matthey Process Technologies (Beijing) Co., Ltd.	20th Floor, Tower F, Phoenix Place, No.21 Building, Shuguangxi Lane A5, Chaoyang District, Beijing 100028, China
Johnson Matthey Pharmaceutical Services (Yantai) Co., Ltd.	No. 9 Wuxi Road, Yantai Economic and Technology Development Zone, Yantai, Shandong Province, China
Johnson Matthey (Shanghai) Catalyst Co., Ltd.	586 Dongxing Road, Songjiang Industry Zone, Shanghai, 201613, China
Johnson Matthey (Shanghai) Chemicals Limited	588 and 599 Dongxing Road, Songjiang Industry Zone, Shanghai, 201613, China
Johnson Matthey (Shanghai) Trading Limited	Room 1615B, No. 118 Xinling Road, Shanghai Pilot Free Trade Zone, China
Johnson Matthey (Tianjin) Chemical Co., Ltd.	Room 1-1201, Borun Commercial Plaza, Tianjin Development Zone, China
Johnson Matthey (Zhangjiagang) Environmental Protection Technology Co., Ltd	No. 9 Dongxin Road, Jiangsu Yangtze River International Chemical Industrial Park, Jiangsu Province, China
Johnson Matthey (Zhangjiagang) Precious Metal Technology Co., Ltd.	No. 48, the west of Beijing Road, Jingang Town, Yangtze River International Chemical Industrial Park, Jiangsu, China
Qingdao Johnson Matthey Hero Catalyst Company Limited (51.0%)	Shiyuan Road, Jihongtan Street, Chengyang District, Qingdao, 200331, China
Shanghai Bi Ke Clean Energy Technology Co Ltd (11.1%)	Room 8708, No. 315 Emei Road, Hongkou District, Shanghai, China
Shanghai Johnson Matthey Applied Materials Technologies Co., Ltd	Area A, 1st Floor, Building 7, 298 East Rongle Road, Songjiang District, Shanghai, China
Tracerco China Process Diagnostics & Instrumentation (Shanghai) Co., Ltd.	Area G, 2nd Floor, Building 7, 298 East Rongle Road, Songjiang District, Shanghai, China
Johnson Matthey A/S	c/o Lundgrens Advokatpartnerselskab, Tuborg Boulevard 12, 4., 2900 Hellerup, Denmark
*AG Holding Ltd	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
*Cascade Biochem Limited[1]	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
Ilumink Limited	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
*JMEPS Trustees Limited	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
Johnson Matthey Battery Systems Engineering Limited	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
*Johnson Matthey Battery Materials Limited[6]	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
Johnson Matthey Davy Technologies International Limited (in Liquidation)	30 Finsbury Square, London, EC2A 1AG
*Johnson Matthey Davy Technologies Limited	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England

37 Related undertakings (continued)

Entity	Registered address
*Johnson Matthey Fuel Cells Limited	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
Johnson Matthey Investments Limited	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
*Johnson Matthey (Nominees) Limited	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
*Johnson Matthey Precious Metals Limited	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
Johnson Matthey South Africa Holdings Limited	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
Johnson Matthey Tianjin Holdings Limited	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
Matthey Finance Limited	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
*Matthey Holdings Limited	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
*Tracerco Limited	5th Floor, 25 Farringdon Street, London, EC4A 4AB, England
Finex Oy[5]	Seppolantie 1, Kotka, 48230, Finland
Johnson Matthey Finland Oy (in liquidation)	Autokatu 6, 20380 Turku, Finland
Kiinteistö Oy Kotkan Huumantie[5] (70%)	c/o Finex Oy, Seppolantie 1, Kotka, 48230, Finland
Johnson Matthey SAS	Les Diamants – Immeuble B, 41 rue Delizy, 93500 Pantin, France
Johnson Matthey Battery Materials GmbH	Ostenriederstrasse 15, 85368 Moosburg a.d. Isar, Germany
Johnson Matthey Catalysts (Germany) GmbH	Bahnhofstrasse 43, 96257 Redwitz an der Rodach, Germany
Johnson Matthey Chemicals GmbH	Wardstrasse 17, D-46446 Emmerich am Rhein, Germany
Johnson Matthey GmbH & Co. KG[2]	Otto-Volger-Strasse 9b, 65843 Sulzbach, Germany
Johnson Matthey Holding GmbH	Bahnhofstrasse 43, 96257 Redwitz an der Rodach, Germany
Johnson Matthey Management GmbH	Otto-Volger-Strasse 9b, 65843 Sulzbach, Germany
Johnson Matthey Piezo Products GmbH	Bahnhofstrasse 43, 96257 Redwitz an der Rodach, Germany
Johnson Matthey Redwitz Real Estate (Germany) B.V. & Co. KG[2]	Bahnhofstrasse 43, 96257 Redwitz an der Rodach, Germany
Johnson Matthey Hong Kong Limited (in liquidation)	Room 802-6, 909 Cheung Sha Wan Road, Kowloon, Hong Kong
Johnson Matthey Pacific Limited[3]	Room 802-6, 909 Cheung Sha Wan Road, Kowloon, Hong Kong
Johnson Matthey Process Technologies Holdings Hong Kong Limited	Room 802-6, 909 Cheung Sha Wan Road, Kowloon, Hong Kong
Johnson Matthey Tracerco Holdings Hong Kong Limited	Room 802-6, 909 Cheung Sha Wan Road, Kowloon, Hong Kong
Macfarlan Smith (Hong Kong) Limited	Room 802-6, 909 Cheung Sha Wan Road, Kowloon, Hong Kong
Johnson Matthey Chemicals India Private Limited	Plot No 6A, MIDC Industrial Estate, Taloja, District Raigad, Maharashtra 410208, India
Johnson Matthey India Private Limited	5th Floor, Regus Business Centre, 1st Floor, M-4, South Extension-II, New Dehli, 110049, India
Johnson Matthey Limited	13-18 City Quay, Dublin 2, D02 ED70, Ireland
Stepac L.A. Ltd.[5]	Tefen Industrial Park Bldg. #12, Post Box 73, Tefen, Western Galilee, 2495900, Israel
Johnson Matthey Italia S.r.l.	Corso Trapani 16, 10139, Torino, Italy
Johnson Matthey Fuel Cells Japan Limited	5123-3 Kitsuregawa, Sakura-shi, Tochigi, 329-1412, Japan
Johnson Matthey Japan Godo Kaisha	5123-3 Kitsuregawa, Sakura-shi, Tochigi, 329-1412, Japan
Johnson Matthey DOOEL Skopje	TIDZ Skopje 1, 1041 Ilinden, Macedonia
*Johnson Matthey Sdn. Bhd.	Suite 16-03, Level 16, Wisma UOA II, 21 Jalan Pinang, 50450 Kuala Lumpur, Malaysia
Johnson Matthey Services Sdn. Bhd.	Suite 16-03, Level 16, Wisma UOA II, 21 Jalan Pinang, 50450 Kuala Lumpur, Malaysia
Tracerco Asia Sdn. Bhd.	Suite 16-03, Level 16, Wisma UOA II, 21 Jalan Pinang, 50450 Kuala Lumpur, Malaysia
Tracerco Asia Services Sdn. Bhd.	Suite 16-03, Level 16, Wisma UOA II, 21 Jalan Pinang, 50450 Kuala Lumpur, Malaysia
Johnson Matthey de Mexico, S. de R.L. de C.V.	c/o Cacheaux, Cavazos and Newton, No. 437 Col. Colinas del Cimatario, CP 76090 Queretaro, Mexico
Johnson Matthey Servicios, S. de R.L. de C.V.	c/o Cacheaux, Cavazos and Newton, No. 437 Col. Colinas del Cimatario, CP 76090 Queretaro, Mexico
Intercat Europe B.V.	Fregatweg 38, 6222 NZ Maastricht, Netherlands
Johnson Matthey Advanced Glass Technologies B.V.	Fregatweg 38, 6222 NZ Maastricht, Netherlands
Johnson Matthey B.V.	Otto-Volger-Strasse 9b, 65843 Sulzbach/Ts. Germany
Johnson Matthey Holdings B.V.	Fregatweg 38, 6222 NZ Maastricht, Netherlands
Johnson Matthey Netherlands B.V.[5]	Fregatweg 38, 6222 NZ Maastricht, Netherlands
Johnson Matthey Netherlands 2 B.V.	Fregatweg 38, 6222 NZ Maastricht, Netherlands
Matthey Finance B.V.[1]	Fregatweg 38, 6222 NZ Maastricht, Netherlands
Tracerco Norge AS	Kokstadflaten 35, 5257 Kokstad, Norway
Johnson Matthey Battery Systems Spólka z ograniczoną odpowiedzialnocścią	Ul. Alberta Einsteina 6, 44-109, Gliwice, Poland
Johnson Matthey Poland Spólka z ograniczoną odpowiedzialnocścią	Ul. Alberta Einsteina 6, 44-109, Gliwice, Poland
Johnson Matthey Battery Materials Poland spółka z ograniczona odpowiedzialnosci	Ul. Hutnicza 1, 62-510 Konin, Poland

Notes on the accounts continued

for the year ended 31st March 2021

37 Related undertakings (continued)

Entity	Registered address
+Macfarlan Smith Portugal, Lda	Largo de São Carlos 3, 1200-410 Lisboa, Portugal
Johnson Matthey Catalysts LLC	1 Transportny Proezd, 660027 Krasnoyarsk, Russia
International Diol Company (4.3%)	PO Box 251, Riyadh 11411, Saudi Arabia
*Johnson Matthey General Partner (Scotland) Limited	10 Wheatfield Road, Edinburgh, Midlothian, EH11 2QA, Scotland
*Johnson Matthey (Scotland) Limited Partnership[2]	10 Wheatfield Road, Edinburgh, Midlothian, EH11 2QA, Scotland
*Macfarlan Smith Limited	10 Wheatfield Road, Edinburgh, Midlothian, EH11 2QA, Scotland
*Meconic Limited (in Liquidation)	7 Exchange Crescent, Conference Square, Edinburgh, EH3 8AN
Johnson Matthey Singapore Private Limited	50 Raffles Place, #19-00, Singapore Lane Tower, Singapore 048623
Johnson Matthey (Proprietary) Limited	Corner Henderson and Premier Roads, Germiston South Ext 7, Gauteng, South Africa
Johnson Matthey Research South Africa (Proprietary) Limited	Corner Henderson and Premier Roads, Germiston South Ext 7, Gauteng, South Africa
Johnson Matthey Salts (Proprietary) Limited	Corner Henderson and Premier Roads, Germiston South Ext 7, Gauteng, South Africa
Johnson Matthey Catalysts Korea Limited	A-dong 2906-ho, 13 Heungdeok 1-ro, Giheung-gu, Yongin-si, Gyeonggi-do, South Korea
Johnson Matthey Korea Limited	101-2803, Lotte Castle, 109, Mapo-daero, Mapo-gu Seoul, South Korea
Johnson Matthey AB	Viktor Hasselblads gata 8, 421 31 Västra Frölunda, Göteborg, Sweden
Johnson Matthey Formox AB	SE-284 80, Perstorp, Sweden
Johnson Matthey & Brandenberger AG	Glatttalstrasse 18, 8052 Zurich, Switzerland
Johnson Matthey Finance GmbH	Hertensteinstrasse 51, 6004 Lucerne, Switzerland
Johnson Matthey Finance Zurich GmbH	Glatttalstrasse 18, 8052 Zurich, Switzerland
LiFePO4+C Licensing AG	Hertensteinstrasse 51, 6004 Lucerne, Switzerland
Johnson Matthey (Thailand) Limited	1858/12 Interlink Tower, 5th Floor, Debaratna Road, Kwang Bangna Tai, Khet Bangna, Bangkok 10260, Thailand
Johnson Matthey Holdings (Thailand) Limited	1858/12 Interlink Tower, 5th Floor, Debaratna Road, Kwang Bangna Tai, Khet Bangna, Bangkok 10260, Thailand
Johnson Matthey Services (Trinidad and Tobago) Limited	Queen's Park Place, 17-20 Queens Park West, Port of Spain, Trinidad and Tobago
Stepac Ambalaj Malzemeleri Sanayi Ve Ticaret Anonim Sirketi (in liquidation)	Güzeloba Mah. Rauf Denktaş Cad., No.56/101, Muratpaşa/Antalya, Turkey
Johnson Matthey Fuel Cells, Inc.	Corporation Service Company, 251 Little Falls Drive, Wilmington DE 19808, USA
Johnson Matthey Holdings, Inc.	Corporation Service Company, 251 Little Falls Drive, Wilmington DE 19808, USA
Johnson Matthey Inc.[4]	Corporation Service Company, 2595 Interstate Drive, Suite 103, PA 17110, USA
Johnson Matthey Japan, Inc.[5]	Corporation Service Company, 251 Little Falls Drive, Wilmington DE 19808, USA
Johnson Matthey Materials, Inc.	Corporation Service Company, 251 Little Falls Drive, Wilmington DE 19808, USA
Johnson Matthey North America, Inc.	Corporation Service Company, 251 Little Falls Drive, Wilmington DE 19808, USA
Johnson Matthey Pharmaceutical Materials, Inc.	Corporation Service Company, 251 Little Falls Drive, Wilmington DE 19808, USA
Johnson Matthey Process Technologies, Inc.	Corporation Service Company, 251 Little Falls Drive, Wilmington DE 19808, USA
Johnson Matthey Stationary Emissions Control LLC	Corporation Service Company, 251 Little Falls Drive, Wilmington DE 19808, USA
Red Maple LLC (50.0%)	Corporation Service Company, 251 Little Falls Drive, Wilmington DE 19808, USA

In some jurisdictions in which the group operates, share classes are not defined and in these instances, for the purpose of disclosure, these holdings have been classified as ordinary shares.

1 Ordinary and preference shares.
2 Limited partnership, no share capital.
3 Ordinary and non-cumulative redeemable preference shares.
4 Ordinary and series A preferred stock.
5 Sold/dissolved during current financial year.
6 Incorporated during current financial year.

38 Non-GAAP measures

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

Definitions

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

1 Key Performance Indicator.

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

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

- **Profit or loss on disposal of businesses**, In the prior year the group released a residual provision for environmental liabilities of £2 million which has originally been recognised in respect of the disposal of Johnson Matthey Gold and Silver Refining Holdings in March 2015. The time limit on claims was five years and no claims have been received.
- **Amortisation of acquired intangibles**, Amortisation and impairment of intangible assets which arose on the acquisition of businesses totalled £10 million (2020: £13 million).
- **Major impairment and restructuring charges**, The group recognised £171 million in major impairment and restructuring charges (2020: £140 million) see note 6.

Notes on the accounts continued

for the year ended 31st March 2021

38 Non-GAAP measures (continued)

Reconciliations to GAAP measures

Sales

See note 2.

Underlying profit measures

Year ended 31st March 2021	**Operating profit £ million**	**Profit before tax £ million**	**Tax expense £ million**	**Profit for the year £ million**
Underlying	504	419	(68)	351
Amortisation of acquired intangibles	(10)	(10)	2	(8)
Major impairment and restructuring charges	(171)	(171)	33	(138)
Reported	**323**	**238**	**(33)**	**205**

Year ended 31st March 2020	Operating profit £ million	Profit before tax £ million	Tax expense £ million	Profit for the year £ million
Underlying	539	455	(72)	383
Profit on disposal of businesses	2	2	–	2
Amortisation of acquired intangibles	(13)	(13)	3	(10)
Major impairment and restructuring charges	(140)	(140)	16	(124)
Interest on non-underlying tax provisions	–	1	–	1
Change in non-underlying tax provisions	–	–	3	3
Reported	**388**	**305**	**(50)**	**255**

Underlying earnings per share

	2021	2020
Underlying profit for the year (£ million)	351	383
Weighted average number of shares in issue (number)	192,711,413	192,437,993
Underlying earnings per share (pence)	182.0	199.2

Return on invested capital (ROIC) – unaudited

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

38 Non-GAAP measures (continued)

Average working capital days (excluding precious metals) – unaudited

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

Free cash flow

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

Notes on the accounts continued

for the year ended 31st March 2021

38 Non-GAAP measures (continued)

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

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

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

Independent auditors' report

to the members of Johnson Matthey Plc

Report on the audit of the financial statements

Opinion

In our opinion:

- Johnson Matthey Plc's group financial statements and parent company financial statements (the "financial statements") give a true and fair view of the state of the group's and of the parent company's affairs as at 31 March 2021 and of the group's profit and the group's cash flows for the year then ended;
- the group financial statements have been properly prepared in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006;
- the parent company financial statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, comprising FRS 101 "Reduced Disclosure Framework", and applicable law); and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements, included within the Annual Report, which comprise: the Consolidated and Parent Company Balance Sheets as at 31 March 2021; the Consolidated Income Statement and Consolidated Statement of Total Comprehensive Income; the Consolidated Cash Flow Statement and the Consolidated and Parent Company Statement of Changes in Equity for the year then ended; and the notes to the financial statements, which include a description of the significant accounting policies.

Our opinion is consistent with our reporting to the Audit Committee.

Separate opinion in relation to international financial reporting standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union

As explained in note 1 to the financial statements, the group, in addition to applying international accounting standards in conformity with the requirements of the Companies Act 2006, has also applied international financial reporting standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union.

In our opinion, the group financial statements have been properly prepared in accordance with international financial reporting standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ("ISAs (UK)") and applicable law. Our responsibilities under ISAs (UK) are further described in the Auditors' responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We remained independent of the group in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, which includes the FRC's Ethical Standard, as applicable to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

To the best of our knowledge and belief, we declare that non-audit services prohibited by the FRC's Ethical Standard were not provided.

Other than those disclosed in note 4, we have provided no non-audit services to the parent company in the period under audit.

Independent auditors' report continued

to the members of Johnson Matthey Plc

Our audit approach

Overview

Audit scope

- We conducted a full scope audit or specified procedures at 60 components which together account for 84% of group revenue and 78% of group profit before taxation.
- We maintained regular contact with our component teams and evaluated the outcome of their audit work.

Key audit matters

- Carrying value of goodwill, and capitalised development costs (group and parent company)
- Refinery metal accounting (group and parent company)
- Uncertain tax provisions (group)
- Claims, uncertainties and other provisions (group)
- COVID-19 (group and parent company)
- Carrying value of Property, plant and equipment and Other intangible assets associated with the transformation programme (group and parent company)

Materiality

- Overall group materiality: £22.6 million (2020: £23.7 million), based on approximately 5% of the three year average profit before tax, adjusted for loss on disposal of businesses, loss on significant legal proceedings, major impairment and restructuring charges.
- Overall parent company materiality: £70 million (2020: £70 million) based on approximately 1% of total assets. However the materiality is capped at £20 million (2020: £18 million) for the purpose of the audit of the consolidated financial statements, this being the maximum allocation of group materiality to a component.
- Performance materiality: £16.9 million (group) and £15 million (parent company).

The scope of our audit

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements.

Key audit matters

Key audit matters are those matters that, in the auditors' professional judgement, were of most significance in the audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by the auditors, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters, and any comments we make on the results of our procedures thereon, were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

This is not a complete list of all risks identified by our audit.

Carrying value of Property, plant and equipment and Other intangible assets associated with the transformation programme is a new key audit matter this year. Otherwise, the key audit matters below are consistent with last year.

Key audit matter	How our audit addressed the key audit matter
Carrying value of goodwill, and capitalised development costs (group and parent company) Refer to the Significant issues considered by the Audit Committee on page 131 and notes 1, 5, 13 and 14 to the financial statements. The group holds goodwill of £554 million (2020: £580 million) and capitalised development costs of £91 million (2020: £78 million) at 31 March 2021. The group has significant goodwill arising from the acquisition of businesses and the carrying value is dependent on the financial performance of the cash generating unit (CGU) to which it relates. The group also has significant capitalised development costs, most notably in the Health business, which are at an early stage of their commercial life cycle and, as such, carry a greater risk that they will not be commercially viable. The impairment reviews performed by management contain significant estimation, where changes in the key assumptions can result in materially different impairment charges or available headroom. Certain assets are subject to annual impairment assessment, while others with a finite life are reviewed if a triggering event has been identified. The impairment assessments prepared by management reflect its best estimates of expected future cash flows, as well as other assumptions that influence the impairment conclusions. The nature of these estimates means that they are inherently judgemental and therefore an area of focus in our audit procedures. Management included detailed disclosures to explain its key judgements and estimates as part of notes 1 and 5.	Goodwill - We obtained management's value in use goodwill impairment models and tested and evaluated the reasonableness of operating cash flow forecasts and key assumptions including long term growth rates and discount rates. We agreed the forecast cash flows to board-approved budgets, assessed how these budgets are compiled, confirmed data accuracy and understood key related judgements and estimates. We assessed management's historical forecasting accuracy by comparing the prior year forecasts with actual results. This informed our independent sensitivity analysis. We performed work over each material CGU. The nature and extent of work was commensurate with the level of headroom and sensitivity of the CGU to impairment. Our testing was focused on the key assumptions in the board-approved three year forecasts and we corroborated the assumptions to supporting evidence which included both internal and external sources of evidence. In addition, we assessed the appropriateness and impact of the specific growth assumptions applied by management for the period after the year three forecast but before a long term growth rate is applied (typically year ten). We engaged our valuations experts to assess the long-term growth rate and discount rate for each CGU by comparison with third party information, past performance and relevant risk factors. Our procedures included considering the overall level of risk in the future cash flow projections. We tested the mathematical integrity of the forecasts and of the value in use model, audited the allocation of central costs to the CGUs and agreed the carrying values in management's impairment models to underlying accounting records. We assessed management's sensitivity analysis and performed our own independent sensitivity analysis to assess whether a reasonable downside change in the key assumptions could give rise to a material impairment. Capitalised development costs - We obtained the impairment models for a sample of molecules which continue to be developed, and tested management's key assumptions including the market size, forecast market share and operating margin expected for each product. We either corroborated certain key assumptions to external data points or performed sensitivity analysis. As a result of our work, we agreed with management's conclusions with respect to the recoverability of the goodwill and capitalised development costs and that no impairments should be recognised. We have assessed management's disclosures in light of the impairment testing performed. We consider the disclosures made to be adequate and to appropriately present the sensitivities relevant to the goodwill.

Independent auditors' report continued

to the members of Johnson Matthey Plc

Key audit matter	How our audit addressed the key audit matter
Refinery metal accounting (group and parent company) Refer to the Significant issues considered by the Audit Committee on page 131 and note 1 to the financial statements. The group refines a significant amount of metal. Complex estimates are applied in determining the year-end inventory balances including: (i) Estimation of the level of metal contained in the carrier material entering the refining process, the refined metal that leaves the refining process, and the residual metal balance at year-end; (ii) Estimates of the metal at the refineries at the time of stocktakes, and the subsequent sampling and assaying to assess the precious metal content on stocktake date; (iii) Estimates of the process losses of precious metals that may be lost during the refining and fabrication process, and the adequacy of these provisions at year-end; and (iv) Estimates of the net realisable value of unhedged metal held at year-end. As part of its refining activities, the group processes material on behalf of third parties, whereby the group must return pre-agreed recoverable quantities of refined metal to those parties at an agreed date. Any metal in excess of this pre-agreed quantity is retained by the group. As such, the group makes an estimate of how much metal it will recover as part of its refining operations. The majority of metal processed at refineries is owned by customers and is not held on the financial balance sheet of the group. As such, the group performs a metal balance sheet reconciliation to ensure quantities of precious metals held at year-end are appropriately understood, classified as either owned by Johnson Matthey or the customer and reconciled to its financial position. This ensures that only the group-owned inventory is recorded on the balance sheet, and that the price allocated to this owned inventory is at the lower of cost and net realisable value. The refining process and its associated estimates are deemed a significant risk, as a small variation in underlying estimates or classification could result in a material change to the quantity or valuation of inventory.	We evaluated the design and operation of key controls at the main refining locations over stocktakes, and metal assaying procedures. We tested that the metal balance sheet was prepared and reviewed on a monthly basis. We tested the classification of precious metals at year-end on the metal balance sheet, to determine if metal was owned by the group or the customer. Our procedures included sending confirmations to customers, and testing the balance of customer metal that was in the refining process, but not contractually due. We assessed management's policy for recognising stocktake gains and losses arising from the stocktakes that occurred during the year. We attended physical stock counts (in person, or virtually, using live-feed video equipment) at sites where these were performed by management. The purpose was to verify the existence of inventory and adherence to the group's stocktake processes, and the reasonableness of stocktake gains and losses that have been recorded at these sites. We assessed the underlying controls that have been implemented by management, to monitor potential inventory gains or losses through the refining process. We assessed provisions for inventory process losses compared to historical trends and stocktake results, to assess the likelihood and quantum of processing losses (if any) of metal between the date of the stocktake and the year-end date. We tested that all unhedged metal was being held at the lower of cost and net realisable value, on an individual metal by metal methodology, with reference to external metal price data. We considered the adequacy of the group's disclosures about the degree of estimation involved in arriving at the value of metal inventory. We are satisfied that the metal inventory balances were appropriately recognised at a supportable value, and in line with relevant group accounting policies.
Uncertain tax provisions (group) Refer to the Significant issues considered by the Audit Committee on page 131 and note 1 to the financial statements. As described by management in the accounting policies to the financial statements there is inherent judgement and estimation uncertainty involved in determining when and how much to provide for uncertain tax positions. The group operates in a number of international jurisdictions, and as a result there is risk of uncertain tax exposures arising around the group, as well as heightened risk around the tax effect of cross border transactions including transfer pricing arrangements. Where the precise impact of the tax laws and regulations on taxes payable with respect to profit arising in those jurisdictions is unclear, the group seeks to make reasonable estimates to determine the most likely amount in a range of possible outcomes. As at 31 March 2021 the group had current income tax liabilities of £147 million (2020: £106 million) including tax provisions of £102 million (2020: £106 million). Management's estimate of the range of possible outcomes is an increase in those liabilities of £97 million (2020: £106 million) to a decrease of £78 million (2020: £90 million).	We engaged our tax specialists to support our audit of tax and obtained an understanding of the group's tax strategy and risks. We recalculated the group's tax provisions and determined whether the treatments adopted were in line with the group's tax policies and had been applied consistently. We evaluated the key underlying assumptions and judgements, including considering the status of tax authority audits and enquiries through examining the latest correspondence and enquiring of management, and where applicable, management's advisors. We considered the basis and support in particular for provisions not subject to tax audit, using our experience of similar situations. We discussed the recognition of specific uncertain tax positions with third-party tax advisors appointed by management to verify the key assumptions, judgements and likely outcome with respect to specific uncertain tax positions recognised. We confirmed the appropriateness of management's application of either a single best estimate, or a weighted average range of outcomes, for each exposure, as driven by the facts and circumstances under IFRIC 23. We evaluated the consistency of management's approach to identifying triggering events to reassess or record a provision for an exposure.

Key audit matter	How our audit addressed the key audit matter
	We also evaluated the consistency of management's approach to establishing or changing prior period estimates and validated that changes in provisions established in previous periods reflected a change in facts and circumstances. Our in-scope components performed audit work on the local tax expense and completeness of the corresponding liability or asset position. We also considered the adequacy of the group's disclosures in respect of tax and uncertain tax positions. We are satisfied that the group's provisions with respect to uncertain tax matters have been prepared on a reasonable basis that represents management's current best estimate of the most likely outcome. We consider the disclosures with respect to tax matters to be appropriate.
Claims, uncertainties and other provisions (group) Refer to the Significant issues considered by the Audit Committee on page 131 and notes 25 and 35 to the financial statements. This risk covers warranty provisions, product liability issues, and other litigious matters across the group. There is inherent judgement and estimation involved in determining when and how much to provide for claims and uncertainties. Due to the complex nature of the products offered by Johnson Matthey, the group at any point in time may be exposed to product liability issues including claims for damages or compensation. The assumptions underpinning these claims and the identification of when such claims arise are inherently judgemental. Careful consideration needs to be given as to how the claim and any potential exposure are estimated and subsequently accounted for. The group is also involved in various legal proceedings, including actual or threatened litigation and regulatory investigations. The group discloses such risks as contingent liabilities where it is unable to make a reliable estimate of potential exposures or where it believes a possible outflow is not probable. If the group is unable to defend against such claims, these risks could give rise to a future liability.	For litigation provisions, we read the summary of major litigation matters provided by management and held discussions with group and sector level general counsel. For a sample of matters, we obtained and reviewed correspondence with external legal counsel with respect to matters included in the summary. We have circularised external legal counsel to independently assess legal exposures and the expected outcome for material cases across the group. We reviewed board minutes and made inquiries of management to address the risk of undisclosed claims and uncertainties. We performed audit procedures to identify all third party legal counsel used by management and as appropriate included them in our circularisation. We applied professional scepticism in auditing both the likely outcome and quantification of exposures, including performing audit procedures over claims management determined to be immaterial, and being sceptical of where a constructive obligation existed but management considered a reliable estimate could not be made. We have assessed the level of provisioning and contingent liability disclosures, where relevant, in response to known claims. Based on the procedures outlined, we are satisfied that management's provisioning estimates are adequately supported and appropriate disclosures have been included within the financial statements.
COVID-19 (group and parent company) Refer to the Significant issues considered by the Audit Committee on page 130 and note 1 to the financial statements. The COVID-19 pandemic has continued to impact on the financial performance of the group in the year. Therefore, there is inherent uncertainty in determining the ongoing impact of the pandemic on certain aspects of the financial statements. The key impacts of COVID-19 on the Johnson Matthey group and parent company financial statements are described below: (i) The budgets and models supporting the goodwill and asset impairment assessments reflect management's best estimate of the future performance of the group, taking into account the ongoing effects of the pandemic. The assumptions applied in this analysis have been determined internally, however they incorporate views of external commentators and other third party data sources, where relevant. These models also underpin management's going concern and viability assessment and form the basis of management's impairment assessments.	(i) We have tested the consistency of cash flow forecast models used across the goodwill impairment, going concern and viability modelling and fixed asset impairment assessments. See the Key Audit Matter above for a description of our work over goodwill. The work performed to assess historical forecast accuracy over goodwill was also relevant to other areas where an estimate is reliant on the forecast, such as the viability model and going concern. Our conclusions in respect of going concern are set out separately within this report. (ii) We evaluated management's assessment of the composition of receivables (by counterparty, amount and ageing) and considered the past experience of credit loss as well as forward-looking information (such as the credit ratings of automotive manufacturers) that management had applied, incorporating potential future impacts of the pandemic. Specifically we: • Reviewed the sector by sector assessment that considered the latest credit rating information and compared this to the updated credit loss percentage. • We recalculated the implied bad debt provision using the higher expected credit loss percentage.

Accounts

Independent auditors' report continued

to the members of Johnson Matthey Plc

Key audit matter	How our audit addressed the key audit matter
(ii) The group has £1,752 million (2020: £1,391 million) of trade and contract receivables, and therefore small adjustments to the expected credit loss could give rise to material losses. Management has estimated the group's exposure to credit risk across trade and contract receivables considering the impact of COVID-19 on its customer base. Although historical trends and the group's customer credit worthiness indicate very low credit risk (see note 31) management has determined that the expected credit loss is now greater than it was prior to the pandemic, albeit lower than at 31 March 2020. Management's total provision has decreased from £37 million to £30 million. In addition, management's ways of working, including how controls have operated, have been impacted by COVID-19 as a result of a large number of staff remote working. For example, this has meant virtual review meetings replaced in person meetings. There is also an inevitable increase in risk due to the remote accessing of IT systems, and further consideration of cyber risk as a consequence of remote working has been necessary.	The overall expected credit loss remains low and the movement in expected credit loss provision in the year is immaterial which is as expected given the nature of the group's customer base and past success in credit collection. We have performed additional procedures to assess whether remote working has impacted the operation of IT and business process controls, and whether there has been any impact on the group given the heightened cyber risk. Based on the inquiries performed and the results of our planned audit procedures, we did not identify any evidence of material deterioration in the control environment. We increased the frequency and extent of our oversight over component audit teams, using video conference and remote working paper review, to satisfy ourselves as to the appropriateness of audit work performed at significant and material components. We considered the appropriateness of management's disclosures in the financial statements regarding the impact of the current environment and the increased uncertainty on its accounting estimates and deemed these to be appropriate.
Carrying value of Property, plant and equipment and Other intangible assets associated with the transformation programme (group and parent company) Refer to the Significant issues considered by the Audit Committee on page 130 and notes 1, 6, 12 and 14 in the financial statements. The group announced a transformation programme in June 2020 and as a result, 'Major restructuring and impairment charges' of £171 million have been recognised in the year. Certain locations in the group's manufacturing footprint are impacted by the programme which constitutes an impairment trigger. As such, management has performed an impairment review of Property, plant and equipment and Other intangible assets at the impacted locations. Management has recognised impairments of £35 million in respect of manufacturing plants and £56 million in respect of IT systems. The remaining charges of £80 million are largely implementation and redundancy costs.	We agreed that the transformation announcement constitutes a triggering event. For Property, plant and equipment, no individual impairment was greater than our overall materiality level, and most assets were fully written off. That said, for certain impairments we obtained management's value in use impairment models for the impacted sites and evaluated the reasonableness of key assumptions, operating cash flow forecasts and discount rates. We verified the consistency between the assumptions used in these models and those used in the goodwill impairment reviews (see above). We obtained evidence of management's intentions with respect to closure of the sites, including correspondence with employees. We tested the mathematical accuracy of the valuation models used and agreed the carrying values in management's impairment models to underlying accounting records. Specific to the IT systems we considered whether the identified assets were still in use or obsolete, and for those that were obsolete agreed the carrying values to underlying accounting records and recalculated the impairment. For the residual assets we assessed the recoverable value with reference to the cash flow forecasts of the respective CGUs that use the IT systems. We verified the consistency between the board-approved forecasts and assumptions used in these models and those used in the goodwill impairment reviews (see above). As a result of our work, we agreed with management's conclusions to record impairments with respect to the above assets, and consider the amounts recorded to be reasonable. We have assessed management's disclosures in respect of these impairments and consider them to be appropriate.

How we tailored the audit scope

We tailored the scope of our audit to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole, taking into account the structure of the group and the parent company, the accounting processes and controls, and the industry in which they operate.

As a result of the continued impacts of COVID-19, certain countries remained under restrictive government lockdowns for the duration of our audit. Consistent with the prior year we planned and executed more procedures remotely and as necessary additional work was performed to address the requirements of ISA 500, Considering the Relevance and Reliability of Audit Evidence. In practice, this meant some component teams were able to attend client sites where restrictions permitted, or they had original documentation sent to them electronically or by mail. For others, we were able to obtain sufficient, appropriate evidence remotely given more than one piece of audit evidence could be obtained to support the same transaction. In addition, in response to COVID-19 restrictions our planned inventory counting procedures in some countries continued to use alternative approaches to obtain sufficient, appropriate evidence.

The group is structured across four sectors, Clean Air, Efficient Natural Resources, Health, and New Markets, as well as the Corporate central unit. The financial statements are a consolidation of approximately 310 business units. We have identified each individual business unit, or a series of business units where they map to one legal statutory entity, as a component. These components comprise the group's operating businesses and holding companies across the four sectors and Corporate. Based on our risk and materiality assessments, we determined which components required an audit of their complete financial information having considered the relative significance of each entity to the group, locations with significant inherent risks and the overall coverage obtained over each material line item in the consolidated financial statements. We identified 11 business units which, in our view, required an audit of their complete financial information, due to size or risk characteristics. We performed specified procedures over certain line items that were most material to the group (revenue, cost of sales, accounts receivable, cash, inventory) and tested manual journal entries. The residual line items not subject to audit were not material in the context of the group audit. We performed audits of complete financial information at a further 36 business units. In addition to those full scope components, we performed specified procedures at 13 business units over specific financial statement line items including revenue, trade and other receivables and deferred income, cash, intangibles, inventory, metal inventory, accruals, fixed assets and depreciation, cost of sales and operating expenses. This ensured that appropriate audit procedures were performed to achieve sufficient coverage over these financial statement line items. The total 60 in-scope components are located in numerous countries around the world. We used local teams in these countries to perform the relevant audit procedures. Of these, 11 business units have been determined to be financially significant based on their contribution to the group. These financially significant components are located in the UK, the US, China and Macedonia. The group consolidation, financial statement disclosures and corporate functions were audited by the group audit team. This included our work over the consolidation, litigation provisions, centrally recognised tax balances, goodwill, post-retirement benefits, earnings per share and treasury related balances. This scope of work, together with additional procedures performed at the group level, accounted for 84% of group revenue and 78% of group profit before taxation. This provided the evidence we needed for our opinion on the consolidated financial statements taken as a whole. This was before considering the contribution to our audit evidence from performing audit work at the group level, including disaggregated analytical review procedures, which covers certain of the group's smaller and lower risk components that were not directly included in our group audit scope. We issued formal written instructions to all component auditors setting out the audit work to be performed by each of them. Throughout the year, the group audit team held regular meetings with all material components at all stages of the audit to direct and supervise the work of these local teams and to ensure that we had a full and comprehensive understanding of the results of their work – particularly insofar as it related to the identified areas of focus. The group engagement team also reviewed selected audit working papers for certain component teams. As a result of COVID-19 we did not visit any teams and instead we conducted frequent video conferences with the PwC teams.

Independent auditors' report continued

to the members of Johnson Matthey Plc

Materiality

The scope of our audit was influenced by our application of materiality. We set certain quantitative thresholds for materiality. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and in evaluating the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

	Financial statements – group	Financial statements – parent company
Overall materiality	£22.6 million (2020: £23.7 million).	£20 million (2020: £18 million).
How we determined it	Approximately 5% of three year average profit before tax, adjusted for loss on disposal of businesses, loss on significant legal proceedings, major impairment and restructuring charges.	Approximately 1% of total assets, capped at £20 million for the purpose of the audit of the consolidated financial statements, this being the maximum allocation of group materiality to a component.
Rationale for benchmark applied	Adjusted (underlying) profit before tax is used as the materiality benchmark excluding amortisation of acquired intangibles. Management uses this measure as it believes that it reflects the underlying performance of the group and this is how the directors and key management personnel are measured on their performance. We did not adjust profit before tax to add back amortisation of acquired intangibles as in our view this is a recurring item.	We considered total assets to be an appropriate benchmark for the parent company given that, whilst it does include trading businesses, it is the ultimate holding company, incurs corporate costs and enters into financing on behalf of the group. The materiality level was capped at £20 million given overall group materiality for the purposes of the audit of the consolidated financial statements, this being the maximum allocation of group materiality to a component.

For each component in the scope of our group audit, we allocated a materiality that is less than our overall group materiality. The range of materiality allocated across components was between £1 million and £20 million. Certain components were audited to a local statutory audit materiality that was also less than our overall group materiality.

We use performance materiality to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds overall materiality. Specifically, we use performance materiality in determining the scope of our audit and the nature and extent of our testing of account balances, classes of transactions and disclosures, for example in determining sample sizes. Our performance materiality was 75% of overall materiality, amounting to £16.9 million for the group financial statements and £15 million for the parent company financial statements.

In determining the performance materiality, we considered a number of factors - the history of misstatements, risk assessment and aggregation risk and the effectiveness of controls - and concluded that an amount at the upper end of our normal range was appropriate.

We agreed with the Audit Committee that we would report to them misstatements identified during our audit above £1.1 million (group audit) (2020: £1.3 million) and £1.1 million (parent company audit) (2020: £1.3 million) as well as misstatements below those amounts that, in our view, warranted reporting for qualitative reasons.

Conclusions relating to going concern

Our evaluation of the directors' assessment of the group's and the parent company's ability to continue to adopt the going concern basis of accounting included:

- Evaluation of management's base case and downside case scenarios, understanding and evaluating the key assumptions, including assumptions related to COVID-19;
- Validation that the cash flow forecasts used to support management's impairment, going concern and viability assessments were consistent;
- Assessment of the historical accuracy and reasonableness of management's forecasting;
- Consideration of the group's available financing and debt maturity profile;
- Testing of the mathematical integrity of management's liquidity headroom, covenant compliance, sensitivity and stress testing calculations;
- Assessment of the reasonableness of management's planned or potential mitigating actions; and
- Review of the related disclosures in the Annual Report.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the group's and the parent company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

However, because not all future events or conditions can be predicted, this conclusion is not a guarantee as to the group's and the parent company's ability to continue as a going concern.

In relation to the directors' reporting on how they have applied the UK Corporate Governance Code, we have nothing material to add or draw attention to in relation to the directors' statement in the financial statements about whether the directors considered it appropriate to adopt the going concern basis of accounting.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Reporting on other information

The other information comprises all of the information in the Annual Report other than the financial statements and our auditors' report thereon. The directors are responsible for the other information. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except to the extent otherwise explicitly stated in this report, any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

With respect to the Strategic report and Directors' report, we also considered whether the disclosures required by the UK Companies Act 2006 have been included.

Based on our work undertaken in the course of the audit, the Companies Act 2006 requires us also to report certain opinions and matters as described below.

Strategic report and Directors' report

In our opinion, based on the work undertaken in the course of the audit, the information given in the Strategic report and Directors' report for the year ended 31 March 2021 is consistent with the financial statements and has been prepared in accordance with applicable legal requirements.

In light of the knowledge and understanding of the group and parent company and their environment obtained in the course of the audit, we did not identify any material misstatements in the Strategic report and Directors' report.

Directors' remuneration

In our opinion, the part of the Directors' remuneration report to be audited has been properly prepared in accordance with the Companies Act 2006.

Corporate governance statement

The Listing Rules require us to review the directors' statements in relation to going concern, longer-term viability and that part of the corporate governance statement relating to the parent company's compliance with the provisions of the UK Corporate Governance Code specified for our review. Our additional responsibilities with respect to the corporate governance statement as other information are described in the Reporting on other information section of this report.

Based on the work undertaken as part of our audit, we have concluded that each of the following elements of the corporate governance statement is materially consistent with the financial statements and our knowledge obtained during the audit, and we have nothing material to add or draw attention to in relation to:

- The directors' confirmation that they have carried out a robust assessment of the emerging and principal risks;
- The disclosures in the Annual Report that describe those principal risks, what procedures are in place to identify emerging risks and an explanation of how these are being managed or mitigated;
- The directors' statement in the financial statements about whether they considered it appropriate to adopt the going concern basis of accounting in preparing them, and their identification of any material uncertainties to the group's and parent company's ability to continue to do so over a period of at least twelve months from the date of approval of the financial statements;
- The directors' explanation as to their assessment of the group's and parent company's prospects, the period this assessment covers and why the period is appropriate; and
- The directors' statement as to whether they have a reasonable expectation that the parent company will be able to continue in operation and meet its liabilities as they fall due over the period of its assessment, including any related disclosures drawing attention to any necessary qualifications or assumptions.

Our review of the directors' statement regarding the longer-term viability of the group was substantially less in scope than an audit and only consisted of making inquiries and considering the directors' process supporting their statement; checking that the statement is in alignment with the relevant provisions of the UK Corporate Governance Code; and considering whether the statement is consistent with the financial statements and our knowledge and understanding of the group and parent company and their environment obtained in the course of the audit.

Independent auditors' report continued

to the members of Johnson Matthey Plc

In addition, based on the work undertaken as part of our audit, we have concluded that each of the following elements of the corporate governance statement is materially consistent with the financial statements and our knowledge obtained during the audit:

- The directors' statement that they consider the Annual Report, taken as a whole, is fair, balanced and understandable, and provides the information necessary for the members to assess the group's and parent company's position, performance, business model and strategy;
- The section of the Annual Report that describes the review of effectiveness of risk management and internal control systems; and
- The section of the Annual Report describing the work of the Audit Committee.

We have nothing to report in respect of our responsibility to report when the directors' statement relating to the parent company's compliance with the Code does not properly disclose a departure from a relevant provision of the Code specified under the Listing Rules for review by the auditors.

Responsibilities for the financial statements and the audit

Responsibilities of the directors for the financial statements

As explained more fully in the Statement of directors' responsibilities in respect of the Annual Report and Accounts, the directors are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view. The directors are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the group's and the parent company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the group or the parent company or to cease operations, or have no realistic alternative but to do so.

Auditors' responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud, is detailed below.

Based on our understanding of the group and industry, we identified that the principal risks of non-compliance with laws and regulations related to the failure to comply with international tax regulations, environmental regulations, health and safety regulations (EHS), and anti bribery and corruption laws, and we considered the extent to which non-compliance might have a material effect on the financial statements. We also considered those laws and regulations that have a direct impact on the financial statements such as the Companies Act 2006. We evaluated management's incentives and opportunities for fraudulent manipulation of the financial statements (including the risk of override of controls), and determined that the principal risks were related to posting inappropriate journal entries, management bias in accounting estimates including those related to capitalised development costs, expected credit losses, timing of recognition of litigation provisions and metal gains and losses. The group engagement team shared this risk assessment with the component auditors so that they could include appropriate audit procedures in response to such risks in their work. Audit procedures performed by the group engagement team and/or component auditors included:

- Discussions with management, internal audit and the group's legal advisors, and the head of ethics and compliance including consideration of known or suspected instances of non-compliance with laws and regulations and fraud;
- Reading the minutes of board meetings and the Ethics Committee, and assessment of "SpeakUp" matters through the ethics reporting line and the results of management's investigation into these matters;
- Reviewing financial statement disclosures to supporting documentation to assess compliance with applicable laws and regulations;
- Challenging management's significant judgements and estimates in particular those relating to the carrying value of goodwill, other intangibles and other assets, post-employment benefits, tax provisions, deferred tax assets, refining processes and stocktakes, climate change, metal accounting and provisions and contingent liabilities; and
- Identifying and testing manual journal entries, in particular any journal entries posted with unusual account combinations, and all material consolidation journals.

There are inherent limitations in the audit procedures described above. We are less likely to become aware of instances of non-compliance with laws and regulations that are not closely related to events and transactions reflected in the financial statements. Also, the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

Our audit testing might include testing complete populations of certain transactions and balances, possibly using data auditing techniques. However, it typically involves selecting a limited number of items for testing, rather than testing complete populations. We will often seek to target particular items for testing based on their size or risk characteristics. In other cases, we will use audit sampling to enable us to draw a conclusion about the population from which the sample is selected.

A further description of our responsibilities for the audit of the financial statements is located on the FRC's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditors' report.

Use of this report

This report, including the opinions, has been prepared for and only for the parent company's members as a body in accordance with Chapter 3 of Part 16 of the Companies Act 2006 and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

Other required reporting

Companies Act 2006 exception reporting

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- we have not obtained all the information and explanations we require for our audit; or
- 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
- certain disclosures of directors' remuneration specified by law are not made; or
- the parent company financial statements and the part of the Directors' remuneration report to be audited are not in agreement with the accounting records and returns.

We have no exceptions to report arising from this responsibility.

Appointment

Following the recommendation of the Audit Committee, we were appointed by the directors on 26 July 2018 to audit the financial statements for the year ended 31 March 2019 and subsequent financial periods. The period of total uninterrupted engagement is three years, covering the years ended 31 March 2019 to 31 March 2021.

Mark Gill (Senior Statutory Auditor)
for and on behalf of PricewaterhouseCoopers LLP
Chartered Accountants and Statutory Auditors
London

27 May 2021