

Other information

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Basis of reporting – non-financial data

This integrated report has been prepared in accordance with the GRI Standard: Core option. It covers the period from 1st April 2021 to 31st March 2022. Our last annual report was published in June 2022.

Johnson Matthey compiles, assesses and discloses non-financial information for a number of reasons:

- where there is a legal obligation (UK Companies Act, UK Stream-lined Energy and Carbon reporting (SECR) regulations, UK Modern Slavery Act);
- to help drive improved business performance;
- to demonstrate to institutional investors that Johnson Matthey's business approach is responsible, ethical, sustainable and offers a sound value proposition;
- to demonstrate to our customers that Johnson Matthey's business conduct meets or exceeds all of the required standards and expectations;
- to demonstrate to other stakeholders that Johnson Matthey conducts its business in an ethical, responsible and sustainable manner; and
- to benchmark our corporate performance against peer group companies.

This report has been developed to incorporate the group's significant economic, environmental and social impacts and is set within the context of the United Nations Brundtland definition of sustainability (1987) and our own sustainable business goals to 2030. The principles of inclusivity, materiality and responsiveness help to shape the structure of the report and in setting priorities for reporting. The report also explains how we are continuing to build sustainability into our business planning and decision making processes and how, through our governance processes, we manage social, environmental and ethical matters across the group.

Performance data covers all sites that are under the financial control of the group, including all manufacturing, research and warehousing operations of the parent company and its subsidiaries. Joint ventures are not included.

For the purposes of reporting, separate business units resident at the same location are counted as separate sites.

Data from 83 sites was included in this report, 53 are manufacturing sites, 18 are R&D sites and 16 are offices.

Data from new facilities is included from the point at which the facility becomes owned by the company and operational. All non-financial performance data is reported on a financial year basis unless otherwise stated.

The process in place to independently verify the reported non-financial data are described on page 221. Certain employee data is included in the financial accounts and is also subject to the financial data third party audit see page 221.

Restatements of previous year's data in AR2022

Previous years' data is restated, where necessary, to account for improvements in coverage and quality of available data. JM's materiality threshold for environmental data variance is 5%. We have made restatements of environmental performance data for five KPIs this year:

- Our NOx emissions to Air have been restated following a review of the methodology that we were previously using to calculate this KPI. Where sites are not operating continuous monitoring, we have improved the calculations to calculate against batch chemistry rather than periodic monitoring. We developed the more consistent methodology with our current year data set and have also applied the new methodology to our 2019/20 and 2020/21 data which we have restated this year (see page 47).
- Scope 3 emissions from purchased goods and services for 2019/20 and 2020/21 have been restated after the collection of more granular purchasing data. This has allowed us to apply more accurate GHG intensity factors.

- Scope 3 emissions from capital goods has been restated after reallocating emissions using an improved geographical basis. We have amended the totals for 2019/20 and 2020/21.
- Scope 3 emissions from upstream transportation and distribution has been restated to account for our full logistics operations in 2019/20 and 2020/21. Previously, this data was only representative of emissions where the mode of transportation was known. The restated figures now include emissions where the mode of transport was unknown.
- Scope 3 emissions from investments has been restated following a data review in which we discovered an error in emissions allocation in 2020/21. Previously this data accounted for the entire emissions for each entity and has been corrected to reflect JM's share for 2020/21.

Definition of employees and contractors

A standard definition of employees and contractors has been implemented since 2017/18 across the group for all reporting of people-related goals. These definitions are used when reporting the relevant KPIs on page 31, and in the Sustainability report on pages 34-59 of this report.

Reported as "Employees"			Reported as "Contractors"		
Permanent employees	Temporary employees	Agency employees	Outsourced function	Specialist service	Projects
Continuously site based.	Continuously site based.	Continuously site based.	Continuously or regularly site based.	One-off project or regularly based on site.	One-off project.
Contract signed directly between JM and individual and paid regular salary and other benefits by JM.	Fixed term contract signed directly between JM and individual. Paid regular salary and other benefits by JM.	Person employed by an agency performing tasks that would normally be expected to be undertaken by a JM employee.	Facility management – catering, cleaning or grounds maintenance; IT and occupational health, if outsourced.	Small scale building or ground works; repairing specialist plant or equipment; low level maintenance; small scale repairs to offices or other buildings; stack monitoring.	Construction work, capital project work, major maintenance activities.
Work is directly supervised by JM.	Work is directly supervised by JM.	Work is directly supervised by JM.	Work is supervised by contractor and monitored by JM.	Work is supervised by contractor and monitored by JM.	Work is supervised by contractor and monitored by JM.

Calculation methodologies for KPIs relating to our sustainable business goals to 2030

Products and services

Goal: Produce and innovate products for a cleaner, healthier world

We measure and track the positive impact of our products towards a cleaner, healthier world, aligned with our strategic aims. We focus on the products in our portfolio that support our four priority UN Sustainable Development Goals (SDGs): SDG 3 (Good Health and Wellbeing), SDG 7 (Affordable and Clean Energy), SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action).

We use a financial lens to quantify impacts in two ways:

- i. We measure the correlation and classification of annualised sales of our products, services and technologies against our four priority UN SDGs. Sales are excluding precious metals. By increasing the percentage of JM's sales that contribute to our priority UN SDGs we will be increasing our societal value.
- ii. We classify all our R&D spend according to the contribution any resulting commercial offering would bring to society in line with our four priority UN SDGs.

A judgement is made as to whether our products or R&D activities contribute to our four priority UN SDGs, either directly or by enabling others to contribute. This is done by considering the attributes of the products, or the intended outcome of the R&D work, and cross-referencing these against the priority UN SDGs and their accompanying targets.

Goal: Drive lower greenhouse gas emissions

This KPI is a measure of the tonnes of greenhouse gas (GHG) emissions avoided during the year using technologies enabled by JM's products and solutions, compared to conventional offerings. The KPI is expressed as tonnes of carbon dioxide equivalent (CO₂ eq) and captures one year's impact for all qualifying technologies that have been operational during the year, as sold since 2020/21.

Our methodology for calculating avoided GHG emissions was developed in-house. For each qualifying technology, we first determine its functional unit, which is a quantified description of the performance requirements that our product or solution enables the technology to fulfil. The functional unit is then used as a reference to consider the boundary of the analysis, to ensure that the scope of the calculation covers the relevant life-cycle stages leading to the avoided emissions.

Performance comparisons are made against identified counterfactuals, which represent actual and significant products and solutions in the market, thus preventing us from overstating the avoided emissions. The lifetime of the technology is also considered to discount any impacts from the sale of previous years' technologies if these are no longer operational and, where applicable, adjustments to capture changing performance over time are made.

No allocation between value chain partners is applied, since there are no established guidelines for this; however, our products and solutions are vital to realising the benefits of the technologies being used, and our KPI aims to accurately reflect JM's role, in that we enable avoided GHG emissions via the use of such technologies.

We have also identified revenues aligned to the SASB Chemicals Sustainability Accounting Standard definition of products designed for use-phase resource efficiency, which includes products that "through their use – can be shown to improve energy efficiency, eliminate or lower greenhouse gas (GHG) emissions, reduce raw materials consumption, increase product longevity, and/or reduce water consumption". Qualifying products are those that either:

- increase the efficiency of a product during its use phase (for example, our battery materials and fuel cell components); or
- increase the efficiency of the manufacturing process used to make a product (for example, our catalysts and additives for the chemical, oil and gas industries).

Products beyond the scope of this assessment include those specifically designed to meet environmental regulatory requirements, our pharmaceutical and medical-related products, and any product where a use-phase resource efficiency benefit is unclear. Revenues aligned to the use-phase resource efficiency criteria represent sales excluding precious metals.

Goal: Enable less harmful air pollution globally

This KPI is a measure of the additional tonnes of nitrogen oxides (NO_x) removed from vehicle tailpipes during the year using technologies enabled by JM's products, compared to the regulated tailpipe limits in 2020/21. The KPI captures one year's impact for all products that have been sold during the year to meet tighter tailpipe NO_x limits, as enforced by different geographical regions for different vehicle categories.

Our methodology for calculating the additional NO_x removed was developed in-house. For each qualifying technology, we consider the vehicles that the technology is fitted to, and any change in tailpipe NO_x regulations enforced during the year; this determines the difference between the tailpipe NO_x limits in the baseline year and the current year, for every vehicle where a new NO_x limit must be met. Any difference in the tailpipe NO_x limit is then multiplied by the corresponding number of vehicles that have been fitted with JM's products during the year. The corresponding number of vehicles is calculated from our market share of the number of vehicles sold each year, which is based on the number of emission control systems we supply to each geographical region and vehicle category. Lastly, we apply different vehicle characteristics, including annual distances, kilowatts per cycle and drive speed, to accurately represent the additional NO_x being removed from the different vehicles included in the calculation. For vehicles sold since 2020/21 still operating in the current year, an adjustment may also be applied to the annual distances, depending on the age of the vehicle.

No allocation between value chain partners is applied, since there are no established guidelines to determine this; however, our products are vital to realising the benefits of the technologies being used, and our KPI aims to accurately reflect JM's role, in that we enable additional NOx removal via the use of such technologies.

Goal: Conserve Scarce Resources

Our KPI to monitor how we are advancing the circular economy is a measurement of all % recycled platinum group metals in our manufactured goods on a mass basis. We include use of five PGMs – platinum, palladium, rhodium, ruthenium and iridium in our target. This is defined as the weighted global average of all goods manufactured in our plants over the course of the reporting year and includes metal that is both sourced and funded by JM and metal sourced and funded by our customers.

We define primary metal as metal from a mine or originating outside of the refining loop. This is measured by recording the amount of metal matching this description that has been used in product manufacturing over the given time-period.

We define recycled metal as metal from non-primary sources. This makes up the balance of metal that has been used in product manufacturing over the given time-period.

Operations

Goal: Achieve net zero by 2040

Our operational carbon footprint, reported in tonnes of carbon dioxide (CO₂) equivalent, includes Scope 1 and Scope 2 emissions.

Our Scope 1 greenhouse gas (GHG) emissions are calculated in tonnes CO₂ equivalent using conversion factors for each energy source as published by Defra in July 2020. We include carbon dioxide (CO₂), nitrous oxide (N₂O), refrigerant and methane (CH₄) process emissions to air in our Scope 1 calculations.

Our Scope 2 emissions are calculated using the 'dual reporting' methodology outlined in the GHG Protocol corporate standard 2015 revision, www.ghgprotocol.org. For the location based method of Scope 2 accounting, for all facilities outside of the US, we use national carbon intensity factors related to the consumption of grid electricity in 2019 made available in the 2021 edition of the world CO₂ emissions database of the International Energy Agency. They were purchased under licence in February 2022 for sole use in company reporting. For US facilities we use regional carbon factors published by the Environmental Protection Agency in January 2022 edition of, eGRID data 2020. For the market based method of Scope 2 accounting, we have applied the hierarchy of sources for determination of appropriate carbon intensity factors, as outlined in Table 6.3 on page 43 of the GHG Protocol 2015 edition guidance. We have successfully obtained carbon intensity factors directly from our grid electricity suppliers in the EU, USA and Australia. However, it has not been possible to obtain this from suppliers in China, India, South Africa and non-OECD Europe.

Our total operational carbon footprint is based on:

- Scope 1 emissions – generated by the direct burning of fuel (predominantly natural gas) and process derived greenhouse gas emissions (CO₂, N₂O, CH₄ and refrigerants) on our premises and company-owned or leased vehicles.
- Scope 2 emissions – generated from grid electricity and steam procured from third parties for use at our facilities.

Under the UK Stream-lined Energy and Carbon Reporting (SECR) April 2019 requirements, we are required to ensure that the quantification of GHG emissions and data reliability are sufficient to meet our obligation under the UK Companies Act 2006 (Strategic and Directors' Reports) Regulations 2013. The legislation indicates that all fuel used in company-owned and leased vehicles driven on public roads should be included and we report this in our 2021/22 Scope 1 data.

Scope 3 GHG emissions

Our annual Scope 3 GHG emissions are reported according to the methodology of the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. A variety of accounting techniques were used depending on the availability of data. All value chain emissions over which JM has financial control are included; the key exclusion from this is raw materials where JM is a toll manufacturer i.e. when raw materials being used in our factories but remain in the financial ownership of our customer at all times.

When calculating the GHG footprint of each Scope 3 category, our principle of using the most accurate data sources was applied in the following order:

1. GHG footprint data obtained directly from value chain partners.
2. Mass based calculations using carbon intensity factors from respected databases, such as Defra's GHG reporting conversion factors and Ecolnvent.
3. Financial allocation based using Avieco's proprietary Input-Output model (EIO). This combines economic data from central banks and treasury departments with research data from the World Bank, OECD and other leading environmental agencies.

Scope 3 GHG category as defined by GHG Protocol	Calculation methodology
1. Purchased goods and services	Where mass of purchased goods was available, this was used in combination with GHG intensity factors obtained either from suppliers or Ecolnvent. For the remaining goods and for purchased services a financial allocation (EEIO model) was used
2. Capital goods	Financial allocation (EEIO model) using geographical breakdown of data shown in Accounting note 12 "Property, plant & equipment" on page 174
3. Fuel- and energy-related activities	Defra's GHG reporting conversion factors 2021 were used to calculate well-to-tank GHG emissions from fuel usage, transmission and distribution losses from purchased electricity, and well-to-tank and transmission and distribution losses of energy from steam
4. Upstream transportation and distribution	Emissions data was provided by our suppliers where available. Where only mass and distance of goods transported was available, this was used in combination with Defra's GHG reporting conversion factors 2021. Otherwise, a financial allocation was made based on spend and intensity factors from the EEIO model
5. Waste generated in operations	Where GHG footprints were available from waste service providers they were used, otherwise Defra's GHG reporting conversion factors 2021 were used according to mass of waste disposal by destination see page 46
6. Business travel	Footprint business travel for air and rail was obtained from our business travel service providers. Where available mileage for personal car, taxi and public transport use was used in combination with Defra's GHG reporting conversion factors 2021. In the absence of mileage, a financial allocation was made based on expenses spend and intensity factors from the EEIO model. Accounting is by date of financial transaction
7. Employee commuting	Data is obtained by employee survey of miles travelled per week by modes of transport. Defra's GHG reporting conversion factors 2021 are used to calculate the GHG intensity of each transport type
8. Upstream leased assets	Financial allocation (EEIO model) using floor space and geographical location
9. Downstream transportation and distribution	Where JM takes responsibility for the downstream distribution of goods, it was included in the upstream category calculation. Where our customers takes responsibility, no data is available
10. Processing of sold products	No quantitative data available, but not expected to be material based on our knowledge of how our customers use our products
11. Use of sold products	We have removed Use of sold products from our footprint by agreement with SBTi, as it determined that the emissions we reported in this category were 'indirect' and should not, therefore, be included.
12. End of life treatment of sold products	Many of JM's products are returned to the company for recovery of the precious metals and thus end of life treatment is included in our Scope 1 + 2 footprint. JM does not have visibility of other end of life treatments
13. Downstream leased assets	Included in Upstream leased assets category
14. Investments	Financial allocation (EEIO model) using geographical breakdown of investment revenues from each entity

Goal: Reduce water consumption and waste

Net fresh water consumption

This KPI is a record of how much water we withdraw through our operations. The KPI includes all freshwater sources – mains supplied water that we receive from municipalities, public or private utility companies, ground water that is extracted from below the earth's surface and fresh surface water that we extract from rivers, wetlands, lakes etc. We do not include rainwater or any brackish surface water. We subtract any water that is returned to the source from which it is extracted at the same or better quality.

Hazardous waste

This KPI is a record of how much hazardous waste we generate from our operations that can no longer be used by Johnson Matthey and has to be sent off site for treatment. We define hazardous waste in line with local regulatory requirements in the particular territory where the waste is generated. For example, in Europe we consider the EU Waste Framework Directive (Directive 2008/98/EC of the European Parliament and of the Council). We measure the amount of solid and liquid hazardous waste and report in metric tonnes of material. We measure the total weights sent off site, including any entrained water, and we consider all material waste no longer of use to Johnson Matthey. We categorise its destination in the following ways:

- Sent outside JM for beneficial reuse.
- Sent outside JM for recycling.
- Sent outside JM for incineration with energy recovery.
- Sent outside JM for incineration or treatment without energy recovery.
- Sent outside JM for landfill disposal.

NOx emissions

This KPI is a record of direct emissions of harmful nitrogen oxides to the environment from our manufacturing facilities. NOx is a generic term which includes nitric oxide (NO) and nitrogen dioxide (NO₂), but excludes nitrous oxide (N₂O). We measure this KPI in metric tonnes. The value is derived from continuous monitoring equipment where present, or from stoichiometric calculations based on our knowledge of NOx generation from our chemical processes. We consider all sources of NOx from the combustion of fuel in steam boilers to the gaseous output of our processes that emit NOx. We report the value after any abatement or treatment has taken place within our chimney stacks.



People

Goal: Keep people safe

Total recordable injury and illness rate (TRIIR) is defined as the number of recordable cases per 200,000 hours worked in a rolling year and includes cases affecting both our employees and contractors.

A recordable case (as defined under the US Occupational Safety and Health Administration (OSHA) Regulations) is defined as a work related accident or illness that results in one or more of the following: absence of more than one day; medical treatment beyond first aid; death; loss of consciousness and restricted work or transfer to another job.

The OSHA severity rate is a calculation that gives a company an average of the number of lost days and restricted days per recordable incident.

OSHA severity rate = (total lost days and restricted days in the year x 200,000 ÷ total hours worked during the year).

Process safety rate definition

Johnson Matthey has adopted International Council of Chemical Association's (ICCA) process safety metric. The metric first requires a determination that the event is to be included in the process safety event severity rate (PSESR) calculation and then determining the severity using the severity table.

In determining this rate, 1 point is assigned for each Level 4 incident attribute, 3 points for each Level 3 attribute, 9 points for each Level 2 attribute, and 27 points for each Level 1 attribute. The PSESR is recorded as a 12 month rolling number. Total worker hours include employees, temporary employees and contractors.

Theoretically, a process safety event could be assigned a minimum of 1 point (i.e. the incident meets the attributes of a Level 4 incident in only one category) or a maximum of 135 points (i.e. the incident meets the attributes of a Level 1 incident in each of the five categories).

A Tier 1 Process Safety Event (T-1 PSE) is a loss of primary containment (LOPC) with the greatest consequence as defined American Petroleum Institute recommended practice 754.

**ICCA process safety severity rate (Level 1 to Level 4) =
Total severity score for all events per 200,000 hrs worked**

Goal: A diverse, inclusive and engaged company

Johnson Matthey invites all its permanent and fixed term contract employees to voluntarily complete its employee survey every one to two years to determine the wellbeing of its staff using a standard methodology defined and audited by Korn Ferry. All responses are submitted confidentially to a third party and results are independently analysed and reported back to JM management. Through the survey we measure attributes on a scale of 0 to 100%:

- employee engagement = how committed and motivated employees are to give their best to Johnson Matthey; and
- employee enablement = how well employees' jobs and work environment support peak performance in Johnson Matthey.

Goal: Invest in our local communities

Our target KPI is an annual record of the total number of employee volunteering days undertaken by permanent employees within their local communities, in accordance with JM's global Employee Volunteering Policy.

The volunteering is recorded in days, assuming that the standard full-time equivalent employee day is 8 hours. The recorded volunteering days may have been completed either on company time or on paid company leave. Volunteering done on unpaid leave, or outside normal working hours, is not included in the reported numbers.

In determining the in-kind contribution of employees' volunteering we take the number of volunteering days reported in the year and multiply it by the group average cost of one day of employee time.

Calculation for indirect expenditure in community investment

Number of working days in a year is five days per week for 50 weeks per year.

$$\text{Average cost of one day of employee time} = \frac{\text{Total employee benefits expense in year}}{\text{Number of working days in year} \times \text{Average number of permanent employees}}$$



Sustainability. More than a word.

Independent greenhouse gas, environment and health & safety assurance statement

Independent Assurance

In 2021/22 we appointed sustainability consultancy Avieco to provide independent external assurance of our 2021/22 GHG emissions and our key metrics quantifying our environmental, health and safety performance. Avieco has provided the following summary assurance statement:

"Avieco confirms that Johnson Matthey's global reported Scope 1, 2 and 3 greenhouse gas (GHG) emissions, specified environmental performance indicators related to total and source of energy consumption, waste disposed, water consumption, emissions to air and specified health and safety indicators have received limited assurance for the time period: 1st April 2021 to 31st March 2022. The engagement was performed in accordance with the requirements of the International Standard on Assurance Engagements (ISAE) 3000 revised, 'Assurance engagements other than audits or reviews of historical financial information', including the specificities of ISAE 3410 for assuring GHG emissions data, and key health and safety definitions from the OHSa Regulations."

Objectives And Methodology

The objectives of this engagement were to ensure that the Johnson Matthey values in scope were free of material misstatements within an acceptable, agreed materiality threshold and to provide the relevant, material information required by stakeholders for the purpose of decision making.

Johnson Matthey's GHG inventory and quantification of environmental performance indicators has been completed in accordance with the WRI / WBCSD GHG Corporate Accounting and Reporting Standard (revised) best practice reporting principles of relevance, completeness, consistency, transparency, accuracy. The subject matter also adheres to the ISAE 3410 principles related to both the quantification of emissions and presentation of disclosures.

Avieco has been independently appointed by Johnson Matthey and no member of the assurance team has a business reason for bias with regards to the limited assurance engagement. Avieco applies quality control and management approaches equivalent to ISO 9001 International Standard as encompassed its Quality and Ethics Policies.

Assurance Conclusion

Based on the assurance procedures followed by Avieco on the scope of Johnson Matthey's data across the 2020/21 reporting period, we have found no material evidence to suggest that the data is not:

- Prepared in accordance with the WRI / WBCSD GHG Corporate Accounting and Reporting Standard (revised) and OHSa Regulations as relevant.
- Prepared in accordance with Johnson Matthey's relevant internal health and safety and environmental data collection guidelines.
- Materially correct and a fair representation of their GHG emissions, specified environmental impacts and health and safety incident rates.
- Worthy of the award of limited assurance

This conclusion should be read in conjunction with Avieco's full assurance statement available at matthey.com/product-stewardship