

Basis of reporting – non-financial data

This report has been prepared in accordance with the GRI Standard: Core option.

It covers the period from 1st April 2020 to 31st March 2021. Our last annual report was published in June 2020.

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.

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 29, and in the Sustainable business section on pages 60 to 85 of this report.

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 85 sites was included in this report, 55 of which are manufacturing sites.

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

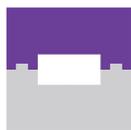
The processes in place to internally and externally verify the reported non-financial data are described on page 265. Certain employee data is included in the financial accounts and is also subject to separate external audit.

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 one KPI this year:

- Our NOx emissions to air has been restated following a data review in which we discovered an error in our NOx calculations at one of our biggest emitting sites in India. We have subsequently amended our internal calculation procedures to correct the calculations and restated our NOx totals for 2018/19 and 2019/20 (see page 268).

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

We are still developing our overarching metric to report the contribution of our products to net zero. In this report we continue to report two metrics that we have been using since 2017 which can be found on page 65 and are defined as follows:

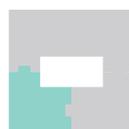
- **The tonnes of greenhouse gases avoided using our products and services**, expressed as tonnes of carbon dioxide equivalent (CO₂ eq). This includes CO₂ eq avoided from the use of Johnson Matthey's battery materials and fuel cell components in key automotive and stationary energy applications. The calculation is based on emission savings compared with conventional technologies used in their respective applications and considers any CO₂ associated with fuelling the products.
- **The tonnes of greenhouse gases removed using our products and services**, expressed as tonnes of carbon dioxide equivalent (CO₂ eq). This includes CO₂ eq removed by Johnson Matthey's installations of nitrous oxide abatement catalyst in nitric acid plants, as operating in a given year. Calculations are made using the ACM0019 Case 2 methodology of the Clean Development Mechanism, United Nations Framework Convention on Climate Change (UNFCCC).

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.



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 2018 made available in the 2020 edition of the world CO₂ emissions database of the International Energy Agency. They were purchased under licence in January 2021 for sole use in company reporting. For US facilities we use regional carbon factors published by the Environmental Protection Agency in February 2021 edition of, eGRID data 2019. For the market based method of Scope 2 accounting, we have applied the hierarchy of sources for determination of appropriate carbon intensity factors, as outlined in Table 6.3 on page 48 of the GHG Protocol 2015 edition guidance. We have successfully obtained carbon intensity factors directly from our grid electricity suppliers in the EU, USA and Australia. However, it has not been possible to obtain this from suppliers in China, India, South Africa and non-OECD Europe.

Basis of reporting – non-financial data continued

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 2020/21 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	Calculation methodology
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 (EIO model) was used
Capital goods	Financial allocation (EIO model) using geographical breakdown of data shown in Accounting note 12 "Property, plant & equipment" on page 203
Fuel- and energy-related activities	Defra's GHG reporting conversion factors 2020 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 losses of energy from steam
Upstream transportation and distribution	Where mass and distance of goods transported was available, this was used in combination with Defra's GHG reporting conversion factors 2019. Otherwise, a financial allocation was made based on spend and intensity factors from the EIO model
Waste generated in operations	Where GHG footprints were available from waste service providers they were used, otherwise Defra's GHG reporting conversion factors 2020 were used according to mass of waste disposal by destination see page 268
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 2020. In the absence of mileage, a financial allocation was made based on expenses spend and intensity factors from the EIO model. Accounting is by date of financial transaction
Employee commuting	Data is obtained by employee survey of miles travelled per week by modes of transport. Defra's GHG reporting conversion factors 2020 are used to calculate the GHG intensity of each transport type
Upstream leased assets	Financial allocation (EIO model) using floor space and geographical location
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
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
Use of sold products	JM is a B2B manufacturer. Financial allocation (EIO model) using market sector (automotive, industrial chemicals and energy generation) and geographical breakdown of data
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
Downstream leased assets	Included in Upstream leased assets category
Investments	Financial allocation (EIO 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.

Basis of reporting – non-financial data continued



People

Goal: Keep people safe

Total recordable injury and illness rate (TRIR) 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 = $(\text{total lost days and restricted days in the year} \times 200,000) \div \text{total hours worked during the year}$.

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.

$$\text{Process safety performance indicator (PSPI) 2} = \frac{\text{Process safety event severity rate (PSESR) Level 1 to 4} \times 200,000}{\text{Total severity score for all events} \times 200,000}$$

(Total worker hours)

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

Goal: 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.

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

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

Independent greenhouse gas and health and safety assurance statement



Independent assurance

In 2020/21 Johnson Matthey appointed sustainability consultancy Avieco to provide independent external assurance of our 2020/21 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 2020 to 31st March 2021. 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 OHS 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

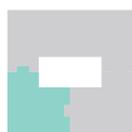
Based on the assurance procedures followed by Avieco on the scope of Johnson Matthey's data across the 2020/21 reporting period, we have found no material evidence to suggest that the data is not:

- Prepared in accordance with the WRI / WBCSD GHG Corporate Accounting and Reporting Standard (revised) and OHS 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/avieco-assurance

Additional non-financial performance information

This section should be read in conjunction with the Sustainable business section pages 60 to 85. All performance data is for the year ended 31st March. Data relating to greenhouse gas emissions, energy generation and consumption water and waste management, emissions to air, contractor injury and illness rates and Tier 1 process safety incidents have been externally assured as described on page 265.



Operations

Scope 1 and 2 greenhouse gas (GHG) footprint and efficiency¹

	2020/21			2019/20			% change (global)
	Global	UK only	Global (excl UK)	Global	UK only	Global (excl UK)	
Scope 1 (tonnes CO ₂ eq)	203,930	66,634	137,296	199,125*	59,669	139,456	+2.4%
Scope 2 – market based method (tonnes CO ₂ eq)	184,974	3,969	181,005	192,334*	3,761	188,572	-3.8%
Scope 2 – location based method (tonnes CO ₂ eq)	227,381	34,871	192,510	252,757*	40,407	212,350	-10.0%
Total operational carbon footprint – Scope 1 and 2 market based method (tonnes CO₂ eq)	388,904	70,603	318,301	391,459*	63,430	328,028	-0.6%
Total operational carbon footprint – Scope 1 and 2 location based method (tonnes CO ₂ eq)	431,311	101,505	329,806	451,882*	100,075	351,807	-4.5%
Total Scope 1 and 2 carbon intensity – market based (tonnes CO ₂ eq/tonnes sales)	3.4	7.1	3.1	3.2	2.6	3.3	+16.3%

Energy efficiency and consumption

	2020/21			2019/20			% change (global)
	Global	UK only	Global (excl UK)	Global	UK only	Global (excl UK)	
Total energy consumption ('000kWh)	1,312,084	431,466	880,618	1,355,295*	421,979	933,316	-3.2%
Total energy efficiency (kWh/tonne)	11,548	43,468	8,492	11,000*	17,222	9,444	+5.0%

* Restated following review and reclassification of data submitted by some sites after the year end (below our 5% materiality threshold).

Five-year performance

	2020/21	2019/20	2018/19	2017/18	2016/17
Total energy consumption ('000 GJ)	4,724	4,879	5,202	5,104	5,147
Total energy consumption ('000 kWh)	1,312,084	1,355,295	1,444,890	1,431,360	1,475,472
Total Scope 1 and Scope 2 (market based) GHG emission (tonnes CO ₂ eq)	388,904	391,459	423,130	445,509	468,489

¹ As part of our continuous improvement effort for energy efficiency, our manufacturing site in North Macedonia and our major sites in Germany are ISO 50001 compliant (comprising 9% of our manufacturing sites). Our UK sites also carried out their 2014 Energy Savings Opportunities Scheme (ESOS) Phase 2 assessment via third party audit.

Scope 3 greenhouse gas (GHG) emissions

Scope 3 GHG category	Tonnes CO ₂ eq 2020/21	Tonnes CO ₂ eq 2019/20	% change vs baseline
TOTAL	4,578,945	5,255,320	-13%
Purchased goods and services	3,139,540	3,859,969	-19%
Capital goods	266,513	341,441	-22%
Fuel- and energy-related transport and distribution losses	40,515	42,200	-4%
Upstream transportation and distribution	37,859	37,859	0%
Waste generated in operations	5,273	5,303	-1%
Business travel	67	9,202	-99%
Employee commuting	29,957	29,957	0%
Upstream leased assets	602	5,094	-88%
Downstream transportation and distribution**			
Processing of sold products**			
Use of sold products	1,057,318	913,297	16%
End of life treatment of sold products**			
Downstream leased assets**			
Franchises**			
Investments	1,302	10,997	-88%

** Not calculated or included in another category. Please refer to basis for reporting on page 262.

Water management

		2020/21	2019/20	2018/19	2017/18	2016/17
2030 target: reduce Net freshwater consumption	Total '000 m ³	2,039	2,254			
Water withdrawal	Total '000 m ³	2,144	2,372	2,611	2,729	2,643
	m ³ /tonne product sold	18.9	19.2	18.5	20.6	21.6
Water sources	Municipal authorities ('000 m ³)	1,984	2,201	2,427	2,489	2,438
	Ground water ('000 m ³)	114	108	156	189	161
	Fresh surface water ('000 m ³)	47	63	47	50	44
Waste water discharged	Total '000 m ³	1,777	1,679	1,780	1,592	1,630
	Discharged to municipal authorities ('000 m ³)	1,665	1,547	1,476	1,355	1,396
	Discharged to fresh surface water ('000 m ³)	105	118	272	208	223
	Discharged to brackish surface water ('000 m ³)	7	14	25	29	11
Average COD of waste water discharge	mg/l	103.05	240	171	197	n/a
	% waste water discharge covered by COD data	72.5	72	71	65	n/a

Additional non-financial performance information continued



Operations continued

Waste management

		2020/21	2019/20	2018/19	2017/18	2016/17
2030 target: reduce total hazardous waste	Tonnes hazardous waste generated and sent off site to third party	57,213	56,751			
Waste disposed by third parties	tonnes	87,546	79,831	86,370	71,788	87,887
	tonnes per unit production	0.78	0.69	0.61	0.54	0.72
Type of waste (tonnes)	Liquid hazardous waste	54,170	53,777	59,823	44,519	43,284
	Solid hazardous waste	3,043	2,973	2,432	1,823	2,363
	Liquid non-hazardous waste	18,166	7,903	8,050	11,909	11,936
	Solid non-hazardous waste	12,167	15,178	16,065	13,537	30,304
Treatment type (tonnes)	Reuse	1,895	2,912	4,553	3,801	3,142
	Recycling	25,845	22,133	25,391	17,996	22,422
	Off site incineration with energy recovery	3,314	4,264	4,306	6,134	5,376
	Off site treatment or incineration without energy recovery	52,890	47,115	48,195	37,585	32,371
	Landfill	3,601	3,407	3,925	6,271	24,576
Destination (tonnes)	Total hazardous waste sent internationally	1,598	1,569	1,585	751	624

Defining hazardous waste: As a UK listed company, Johnson Matthey defines hazardous waste in its internal reporting systems in line with EU Waste Framework Directive (Directive 2008/98/EC on waste, including its subsequent amendments).

Emissions to air

	2020/21	2019/20	2018/19	2017/18	2016/17
NOx (tonnes)	299	301 ¹	409 ¹	383	348
SOx (tonnes)	51.0	28	61	44	51
VOC (tonnes)	81.9	99	107	100	132
Sites covered	74%	67%	60%	39%	39%

In general, hazardous air pollutants (HAPs) are not a significant part of our process chemistry and we do not routinely collate data on this list of materials. We are currently investigating how best to monitor and report on HAPs and we expect to include a fuller report on our HAP emissions next year.

Production

Segment	Clean Air	Efficient Natural Resources	Health	New Markets	Total group
Production (tonnes)	65,567	40,079	94	7,833	113,623

¹ Our NOx emissions to air have been restated following a data review in which we discovered an error in our NOx calculations at one of our biggest emitting sites in India. We have subsequently amended our internal calculation procedures to correct the calculations and restated our NOx totals for 2018/19 and 2019/20.



People

Health and safety

Contractor health and safety

		2020/21	2019/20	2018/19	2017/18	2016/17
Contractor LTIIR	Number of injuries and illnesses / 200,000 hours	0.23	0.27 ¹	0.40	0.74	3.15
Contractor TRIIR	Number of injuries and illnesses / 200,000 hours	0.45	0.80	0.53	1.29	4.72

Trade union health and safety representation

We have 39 active trade unions on our sites and 27 have representation on their local health and safety committee. A total of 27 sites have formal trade union agreements that cover health and safety topics, as shown in the table below:

Topic	% sites covered
Use of personal protective equipment	– 96
Participation of worker representatives in health and safety inspections and investigations	– 85
Training and education	– 89
Complaints mechanisms	– 85
The right to refuse unsafe work	– 85
Periodic inspections	– 85

Measuring our process safety events

		2020/21	2019/20	2018/19	2017/18
Tier 1	Number of events / 1 million hours	0.154	0.110	0.091	0.035

Our process safety severity rate data is given on page 79.

How we classify process safety events

A Tier 1 Process Safety Event is a loss of primary containment with consequence. It is an unplanned or uncontrolled release of any material, including non-toxic and non-flammable materials, from a process that results in consequences as listed, per the API 754 Guide. A Tier 1 Process Safety event may involve a significant actual or potential impact.

Speak Up reports

Concern / allegation raised	Number of cases
Bribery and corruption	18
Business and financial reporting	4
Competition / anti-trust	1
Confidential information and intellectual property	1
Conflict of interest	15
Discrimination, including harassment and retaliation	44
Employee rights	18
Enquiry	3
Environmental protection, product stewardship or health and safety	12
Insider trading	1
Misconduct or inappropriate behaviour	5
Physical assets	1
Theft	1
Violence or threats	5
Total	129

¹ Restated following review and reclassification of data submitted by some sites after the year end.

Additional non-financial performance information continued



People

Our people

Number of staff* as of 31st March 2021

	Permanent employees		Temporary employees		Total (excluding agency staff)		Agency staff		Total	
	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
Europe	7,573	7,445	257	316	7,830	7,761	734	1,056	8,564	8,817
North America	2,738	3,099	55	34	2,793	3,133	38	33	2,831	3,166
Asia	2,354	2,423	27	96	2,381	2,519	169	110	2,550	2,629
Rest of World	593	665	43	74	636	739	1	1	637	740
Total group	13,258	13,632	382	520	13,640	14,152	942	1,200	14,582	15,352

* For definitions see page 260.

Employee turnover by region

	Voluntary employee turnover 2021	Voluntary employee turnover 2020	Total employee turnover 2021	Total employee turnover 2020
Europe	6.3%	8.3%	10.9%	10.0%
North America	13.8%	10.4%	27.5%	15.1%
Asia	9.8%	10.6%	20.4%	14.2%
Rest of World	5.1%	4.1%	12.8%	8.6%
Total group	8.2%	9.0%	15.7%	11.8%

Trade union representation

	Average number of employees represented*	% represented
Europe	2,134	27%
North America	494	18%
Asia	118	5%
Rest of World	320	50%
Total group	3,066	22%

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

Employees by gender and region as at 31st March 2021

	Permanent employees		Temporary employees		Total (excluding agency staff)	
	Male	Female	Male	Female	Male	Female
Europe	69%	31%	60%	40%	69%	31%
North America	76%	24%	93%	7%	76%	24%
Asia	81%	19%	48%	52%	81%	19%
Rest of World	67%	33%	56%	44%	66%	34%
Total group	73%	27%	63%	37%	72%	28%

New joiners by gender and region

	Total joiners	Joiners male	Joiners female	Total Joiners aged < 30	Total Joiners aged 30-50	Total Joiners aged > 50
Europe	839	64%	36%	37%	53%	10%
North America	344	74%	26%	46%	40%	14%
Asia	352	83%	17%	31%	68%	0%
Rest of World	57	54%	46%	46%	54%	0%
Total group	1,592	70%	30%	38%	53%	8%