

# Welcome to your CDP Water Security Questionnaire 2019

## W0. Introduction

### W0.1

**(W0.1) Give a general description of and introduction to your organization.**

Johnson Matthey is a leader in sustainable technologies. Today, some 87% of the group's sales represent products and services which provide sustainability benefits through their positive impact on the environment, resource efficiency or our health, as determined by their alignment with the UN SDGs.

Our business is divided into four sectors for reporting purposes, based around the four different applications of our products:

1. Clean Air Sector - catalysts for gasoline and diesel powered vehicles, including hybrids, trucks buses, non-road machinery and stationary equipment
2. Efficient Natural Resources Sector - Catalyst Technologies and additives, licenses process technology and services to the chemical and oil & gas industry; precious metal marketing, distribution, refining and recycling services to a wide variety sectors from chemicals to jewellery; Advanced Glass pastes and enamels primarily for the automotive industry
3. Health Sector - Leading provider of complex chemistry solutions to generic and innovator pharmaceutical companies; develops and manufactures active pharmaceutical ingredients (APIs) for a variety of treatments
4. New Markets Sector - provides battery materials for automotive applications and battery systems for a range of non automotive applications; fuel cell technologies for automotive and stationary applications; Medical Device Components and advanced catalysts derived from precious metals to the pharmaceutical and agricultural chemicals markets

We have operations in over 30 countries and employ around 15,000 people worldwide.

Our latest annual integrated report can be found at <https://matthey.com/investors/report-archive/annual-report-2019>

For more information about Johnson Matthey, see our corporate website : [www.matthey.com](http://www.matthey.com)

### W-CH0.1a

**(W-CH0.1a) Which activities in the chemical sector does your organization engage in?**

Specialty inorganic chemicals

Other, please specify

catalysts for the chemicals industry

### W0.2

**(W0.2) State the start and end date of the year for which you are reporting data.**

	Start date	End date
Reporting year	April 1, 2018	March 31, 2019

## W0.3

**(W0.3) Select the countries/regions for which you will be supplying data.**

Argentina  
Australia  
Brazil  
Canada  
China  
China, Hong Kong Special Administrative Region  
Finland  
Germany  
India  
Israel  
Japan  
Malaysia  
Mexico  
Netherlands  
Poland  
Republic of Korea  
South Africa  
Sweden  
Switzerland  
Thailand  
United Kingdom of Great Britain and Northern Ireland  
United States of America

## W0.4

**(W0.4) Select the currency used for all financial information disclosed throughout your response.**

GBP

## W0.5

**(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.**

Companies, entities or groups over which financial control is exercised

## W0.6

**(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?**

No

## W1. Current state

### W1.1

**(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.**

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Important	Important	All our manufacturing operations require a supply of clean water. In many cases we can, and do, use recycled water and perform the final purification step on site. All our strategic suppliers use water to perform their own mining or manufacturing operations to produce our raw materials; Some of our customers require large volumes of water for their manufacturing or processing operations using our products
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Vital	All our manufacturing operations require a supply of clean water. In many cases we can, and do, use recycled water and perform the final purification step on site. All our strategic suppliers use water to perform their own mining or manufacturing operations to produce our raw materials; Some of our customers require large volumes of water for their manufacturing or processing operations using our products

### W1.2

**(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?**

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	100%	All sites operated Johnson Matthey are required to report their total water withdrawals to JM Group annually, These data are typically collected from meter readings and then verified against water billing information.
Water withdrawals – volumes from water stressed areas	100%	This includes all JM manufacturing facilities sites that are "water stressed" as defined using the WBCSD Water stress tool 2015. All JM manufacturing sites where the annual

		renewable water supply in 1995 was less than 1,700 m3 per person per year are included.
Water withdrawals – volumes by source	100%	All sites operated Johnson Matthey are required to report their total water withdrawals by source to JM Group annually, These data are typically collected from meter readings and then verified against water billing information.
Water withdrawals quality	100%	All sites monitor the quality of their incoming water to ensure it is fit for purpose. However, we do not collate information on water withdrawal quality at Group level, as it is not a useful KPI. All sites locally determine whether the water they are withdrawing of adequate quality to use for the purpose they require
Water discharges – total volumes	100%	All sites operated Johnson Matthey are required to report their total water discharges to JM Group annually, These data are typically collected from meter readings and then verified against water billing information.
Water discharges – volumes by destination	100%	All sites operated Johnson Matthey are required to report their total water discharges by destination to JM Group annually, These data are typically collected from meter readings and then verified against water billing information
Water discharges – volumes by treatment method	100%	All sites operated Johnson Matthey are required to report their total water discharges to JM Group annually, These data are typically collected from meter readings and then verified against water billing information.
Water discharge quality – by standard effluent parameters	76-99	The majority of our manufacturing sites monitor water discharge quality using the COD method . Our sites manufacturing active pharmaceutical ingredients perform more detailed speciation analysis of wastewater on discharge. during FY2018/19
Water discharge quality – temperature	Not monitored	This occurs at some manufacturing sites according to local permit requirements, but we do not collate information about it at Group level.

Water consumption – total volume	100%	All sites operated Johnson Matthey are required to report their total water consumption to JM Group annually, These data are typically collected from meter readings and then verified against water billing information.
Water recycled/reused	100%	We monitor the recycling of water on our manufacturing sites, where the water passes through one of our on-site wastewater treatment facilities. We do not monitor re-use of water on a plant where there is no water treatment step necessary between uses.
The provision of fully-functioning, safely managed WASH services to all workers	100%	All JM manufacturing sites offer fully-functioning, safely managed WASH services to all workers. In most of our facilities which handle chemicals, changing, washing and showering is a mandatory requirement for all workers before leaving a facility.

## W1.2b

**(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, and how do these volumes compare to the previous reporting year?**

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	2,630	Lower	The drop in water withdrawals is due to us closing one of our pharmaceutical manufacturing facilities in USA
Total discharges	1,682	Higher	Total discharges have increased by 5% this year because our largest water-using manufacturing site, which is in the UK, was not able to recycle as much effluent through its on-site water treatment plant this year.
Total consumption	948	Lower	The drop in water withdrawals is due to us closing one of our pharmaceutical manufacturing facilities in USA.

## W1.2d

**(W1.2d) Provide the proportion of your total withdrawals sourced from water stressed areas.**

	% withdrawn from stressed areas	Comparison with previous reporting year	Identification tool	Please explain
Row 1	55	About the same	WBCSD Global Water Tool	This includes all JM sites that are "water stressed" as defined using the WBCSD Water stress tool 2015. All JM manufacturing sites where the annual renewable water supply in 1995 was less than 1,700 m3 per person per year are included. The percentage has increased by 3% but the absolute value has decreased. The percentage has increased due to the closure of a manufacturing site in a non-water stressed area.

## W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	47	Lower	5% decrease on last year due to less withdrawals at one site.
Brackish surface water/Seawater	Not relevant			We don't use any brackish surface water/seawater
Groundwater – renewable	Relevant	91	Lower	This has decreased by 31% due to 1 site reclassifying its groundwater supply as "non renewable"
Groundwater – non-renewable	Relevant	70	Higher	This has increase by 23% due to 1 site reclassifying its groundwater supply from "renewable" to "non renewable."
Produced/Entrained water	Not relevant			We do not produce any water according to CDP definition..

Third party sources	Relevant	2,423	Lower	This is clean water purchased from municipal authorities. It has decreased by 3% this year.
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## W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	279	Higher	34% increase due to reduction in amount of water recycled through on-site water treatment plant.
Brackish surface water/seawater	Relevant	25	Lower	14% reduction in freshwater leakage to local area
Groundwater	Not relevant			We do not discharge any water to ground water
Third-party destinations	Relevant	1,385	Lower	This number has decrease by 2% which is within the error margins of the measurement globally. At some sites this number is influenced by variations in rainfall.

## W1.2j

(W1.2j) What proportion of your total water use do you recycle or reuse?

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	11-25	Lower	The was a decrease in the total amount recycled this year at one plant.

## W-CH1.3

(W-CH1.3) Do you calculate water intensity for your activities in the chemical sector?

Yes

## W-CH1.3a

(W-CH1.3a) For your top five products by production weight/volume, provide the following water intensity information associated with your activities in the chemical sector.

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**Product type**

Specialty inorganic chemicals

**Product name**

vehicle emissions exhaust catalysts

**Water intensity value (m3)**

5.9

**Numerator: water aspect**

Total water withdrawals

**Denominator: unit of production**

Ton

**Comparison with previous reporting year**

Lower

**Please explain**

It has decreased by 5% due to water efficiency projects.

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**Product type**

Specialty inorganic chemicals

**Product name**

catalysts for the bulk chemicals industry

**Water intensity value (m3)**

35.8

**Numerator: water aspect**

Total water withdrawals

**Denominator: unit of production**

Ton

**Comparison with previous reporting year**

Higher

**Please explain**

Water use in catalyst production as increased by 3%, due to lower levels of water recycling at one plant.

## W1.4

**(W1.4) Do you engage with your value chain on water-related issues?**

Yes, our suppliers



## W1.4a

**(W1.4a) What proportion of suppliers do you request to report on their water use, risks and/or management information and what proportion of your procurement spend does this represent?**

### Row 1

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**% of suppliers by number**

1-25%

**% of total procurement spend**

1-25

**Rationale for this coverage**

In 2018/19, 78 supplier sustainability assessments were undertaken across our sectors. These comprised formal on-site audits, desktop assessments and supplier self-assessments.

It is early days in our supplier sustainability development program and we have not yet reached all our suppliers with it. We have a public target is to have 100% of our strategic suppliers compliant with our code of conduct by 2025.

These sustainability assessments look at all aspects of supplier's sustainability performance. Information about water impacts and risks forms part of our EHS assessment of our suppliers.

**Impact of the engagement and measures of success**

Measure of success is that we do not suffer an issues with product quality or supply due to water-related issues at the supplier's manufacturing facilities. We also do not suffer any negative reputational impact from being associated with a supplier that does not manage its water activities to be benefit of its local communities.

**Comment**

## W1.4b

**(W1.4b) Provide details of any other water-related supplier engagement activity.**

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**Type of engagement**

Onboarding & compliance

**Details of engagement**

Requirement to adhere to our code of conduct regarding water stewardship and management

**% of suppliers by number**

Unknown

**% of total procurement spend**

Unknown

**Rationale for the coverage of your engagement**

In 2018/19, 78 supplier sustainability assessments were undertaken across our sectors. These comprised formal on-site audits, desktop assessments and supplier self-assessments.

It is early days in our supplier sustainability development program and we have not yet reached all our suppliers with it. We have a public target is to have 100% of our strategic suppliers compliant with our code of conduct by 2025.

**Impact of the engagement and measures of success**

Measure of success is that we do not suffer an issues with product quality or supply due to water-related issues at the supplier's manufacturing facilities. We also do not suffer any negative reputational impact from being associated with a supplier that does not manage its water activities to be benefit of its local communities.

**Comment**

## W2. Business impacts

### W2.1

**(W2.1) Has your organization experienced any detrimental water-related impacts?**

Yes

### W2.1a

**(W2.1a) Describe the water-related detrimental impacts experienced by your organization, your response, and total financial impact.**

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**Country/Region**

China

**River basin**

Other, please specify  
Chang Jiang

**Type of impact driver**

Regulatory

**Primary impact driver**

Increased difficulty in obtaining withdrawals/operations permit

**Primary impact**

Diminished ability to reduce GHG emissions

**Description of impact**

Increased use of electricity to run a new on-site water treatment facility which reduces the salt content and eliminates chloride ions from the site's wastewater, before discharge to municipal sewer.

Renewable electricity supplied from the grid is not available in this region of China.

**Primary response**

Water-related capital expenditure

**Total financial impact**

0

**Description of response**

This year we have installed new waste water treatment at our Shanghai, China sites. Mechanical vapour recompression systems have been installed to reduce the salt content and eliminate chloride ions in the sites' waste water. A similar system is being considered at the Taloja site in India.

The capital cost of this equipment is confidential, but it is not material in our total CAPEX expenditure across Johnson Matthey.

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## W2.2

**(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?**

No

## W3. Procedures

### W-CH3.1

#### **(W-CH3.1) How does your organization identify and classify potential water pollutants associated with its activities in the chemical sector that could have a detrimental impact on water ecosystems or human health?**

JM's manufactures and trades in chemicals and finished products into a number of sectors, e.g. pharmaceuticals, catalysis, precious metals, automotive, medical devices etc. Our manufacturing operations around the world are ISO14001 certified, or are working towards achieving certification following acquisition.

JM has corporate policies that require operations to actively manage discharges to surface and ground waters, minimising polluting releases. This requires maintaining an inventory of actual and potential discharges, developing an understanding of their toxicity and potential impacts, and establishment of targets for improvement. Our corporate EHS assurance team undertakes comprehensive audits of our site's compliance with these policy requirements and associated procedures on a regular basis (sites are generally audited every 2-3 years depending on size and type of operation, risk profile etc.). Audit findings are reported via our Group EHS Leadership Committee (Chaired by a JM Board Member) into the Group Management Committee.

Sites will specifically target substances identified on the basis of toxicity, persistence and bioaccumulation, also taking into account specific criteria and substances laid down in applicable legislation, e.g. Water Framework Directive in the EU and site permits. Again, we have corporate policies (which are subject to regular audit), e.g. New Product Introduction – Product Stewardship, which require sites to review toxicity of raw materials, intermediates and finished products as part of the product development process. Materials are classified, by experienced toxicology and regulatory affairs teams, according to the prevailing hazard classification system in the country of operation, which is generally to UN-GHS. As products move to commercial scale, (eco)toxicity data will be generated according to applicable test guidelines in support of chemical notifications/registrations such as EU-REACH. In addition, these data and the associated chemical safety assessments will directly impact the guidance (safety data sheets) issued to customers on how to minimise impacts of potential water pollutants from our products during their use-phase.

Given the nature of our business, it is inorganic and heavy metal substances that constitute the predominant potential water pollutants on our sites. Through our memberships at trade associations such as Eurometaux and Cefic, we are able to monitor developments in regulations, hazard characterisation methodologies e.g. HERAG and MERAG, and risk management measures across relevant sectors to JM.

In 2016/17 we introduced a more detailed reporting system for waste disposal across the group, allowing us the better track and report the considerable efforts our sites are making in minimising their waste streams and disposing of waste in the most responsible way. These data are also helping to highlight areas where additional focus is required, e.g. it has led to the drive to reduce the amount of dilute aqueous hazardous waste from one of our refineries requiring third-party (off-site) treatment.

In 2017 we implemented a programme to review chemistries relevant to JM that may be considered high hazard, or potentially facing regulatory or stakeholder pressures, with an aim of developing a list of substances that require prior approval from senior management before entering into new product R&D with that substance. Potential water pollutants would be candidates for review by the Prior Approval Required Substances (PARS) List Committee, and in fact Chromium compounds were recently reviewed and included on the PARS List.

## W-CH3.1a

**(W-CH3.1a) Describe how your organization minimizes adverse impacts of potential water pollutants on water ecosystems or human health. Report up to ten potential pollutants associated with your activities in the chemical sector.**

Potential water pollutant	Value chain stage	Description of water pollutant and potential impacts	Management procedures	Please explain
COD	Direct operations	COD = Indirect measure of organic compounds in aqueous effluent & is a useful measure of water quality.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages	There are regulated local emission limits at each facility. We ensure that we comply with our legal obligations and (as a minimum) meet or (preferred) surpass the required standards.
Chromium and its compounds	Direct operations Supply chain	Listed under e.g. EU Water Framework Directive, based on toxicological properties.	Compliance with effluent quality standards Providing best practices instructions on product use R&D into less harmful alternative products	Compliance with permits and effluent quality standards. Materials are shipped in compliant packaging as appropriate. Ensuring customers receive robust guidance on product use. Listing of chromium(VI) on our Prior Approval Required Substances list to ensure senior management approve development of any new products involving this substance
mercury	Direct operations	Listed under e.g. EU Water Framework Directive, based on PBT properties. Mercury can be a component of some	Compliance with effluent quality standards	Compliance with permits and effluent quality standards. Materials are shipped in

		pgm refinery feedstocks and will be part of our refinery wastestreams. We also utilised mercury in quality control tests in some parts of JM	Measures to prevent spillage, leaching, and leakages	compliant packaging as appropriate. Ensuring customers receive robust guidance on product use.
lead	Direct operations Supply chain Product use	Listed under e.g. EU Water Framework Directive, based on toxicological properties. Lead can be a component of some pgm refinery feedstocks and will form part of the refinery process waste. Lead is also a constituent of one JM product.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use R&D into less harmful alternative products	Site permits and quality standards are in place to minimise the impacts from our direct operations. Safety data sheets provide clear information to customers on the hazards and how best to mitigate these.
cobalt	Direct operations Supply chain Product use	Listed under e.g. EU Water Framework Directive, based on toxicological properties. Also subject to regulatory scrutiny under EU-REACH etc. Cobalt compounds feature in our product portfolio, for use in catalytic applications under controlled conditions.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use R&D into less harmful alternative products	Site permits and quality standards are in place to minimise the impacts from our direct operations. Safety data sheets provide clear information to customers on the hazards and how best to mitigate these.
silver	Direct operations Supply chain Product use	Listed under e.g. EU Water Framework Directive, based on toxicological properties. Silver products for part of our product portfolio.	Compliance with effluent quality standards Measures to prevent spillage,	Site permits and quality standards are in place to minimise the impacts from our direct operations. Safety data sheets provide clear information

			leaching, and leakages Providing best practices instructions on product use R&D into less harmful alternative products	to customers on the hazards and how best to mitigate these.
nickel	Direct operations Supply chain Product use	Listed under e.g. EU Water Framework Directive, based on toxicological properties. nickel products for part of our product portfolio.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use R&D into less harmful alternative products	Site permits and quality standards are in place to minimise the impacts from our direct operations. Safety data sheets provide clear information to customers on the hazards and how best to mitigate these.
copper	Direct operations Supply chain Product use	Listed under e.g. EU Water Framework Directive, based on toxicological properties. copper products for part of our product portfolio.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use R&D into less harmful alternative products	Site permits and quality standards are in place to minimise the impacts from our direct operations. Safety data sheets provide clear information to customers on the hazards and how best to mitigate these.
zinc	Direct operations	Listed under e.g. EU Water Framework Directive, based	Compliance with effluent	Site permits and quality standards are in place to

	Supply chain Product use	on toxicological properties. Zinc products for part of our product portfolio.	quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use R&D into less harmful alternative products	minimise the impacts from our direct operations. Safety data sheets provide clear information to customers on the hazards and how best to mitigate these.
chlorine	Direct operations Supply chain	Listed under e.g. EU Water Framework Directive, based on PBT properties. Chlorine can be a component of some pgm refinery feedstocks and will be part of our refinery waste streams.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages	Compliance with permits and effluent quality standards. Materials are shipped in compliant packaging as appropriate. Ensuring customers receive robust guidance on product use.

### W3.3

**(W3.3) Does your organization undertake a water-related risk assessment?**

Yes, water-related risks are assessed

### W3.3a

**(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.**

#### Direct operations

##### Coverage

Full

##### Risk assessment procedure

Water risks are assessed as a standalone issue

##### Frequency of assessment

Not defined

##### How far into the future are risks considered?

>6 years



### Type of tools and methods used

Tools on the market

### Tools and methods used

WBCSD Global Water Tool

### Comment

The risk assessment will be updated each time the WBCSD tool is updated, which is not defined, or if we have a significant change in the geographical locations of our operations.

### Supply chain

#### Coverage

None

#### Comment

We have not yet assessed water risks as a standalone issue in our supply chains. Availability of a secure supply of sufficient freshwater may be assessed as part of our normal due diligence processes with strategic suppliers on a case by case basis.

### Other stages of the value chain

#### Coverage

None

#### Comment

We have not yet assessed water risks as a standalone issue in our any parts of our value chain beyond our own operations.

## W3.3b

**(W3.3b) Which of the following contextual issues are considered in your organization's water-related risk assessments?**

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	We use the World Business Council for Sustainable Development's Global Water Tool version 1.3, to identify which Johnson Matthey sites are located in areas of high baseline water stress as defined by the World Resources Institute (WRI) model and those that are located in areas of extreme water scarcity as defined by their annual renewable water supply per head of population.
Water quality at a basin/catchment level	Not relevant, included	Local water quality is not a significant issue for our business as 91% of all the water we purchase is domestic grade tap water from local municipal supply.
Stakeholder conflicts concerning water	Not relevant, included	Risk assessment for stakeholder conflicts is ongoing at a local site level. Each site has a locally based EHS manager

resources at a basin/catchment level		responsible for tracking local issues with water availability and quality and will engage local stakeholders if appropriate. Any issues will be presented to the quarterly meeting of the Group global EHS leadership committee by the local management. They will also be included in the 6-monthly general site risk assessment review. He/she will report any significant issues to the local site manager on an ad hoc basis. We do not have any sites where we are involved in stakeholder conflicts at the moment. As we don't use significant quantities of water at any of our locations, this is a low risk topic for us.
Implications of water on your key commodities/raw materials	Relevant, always included	Strategic suppliers are identified as those who supply us with an ingredient critical to the functional performance of our products, and one not readily available from alternative sources and/or derived from natural resources in conflict-prone regions of the world, All strategic suppliers have a dedicated supply chain manager responsible for monitoring and discussing all risks relevant to maintaining security of supply, including water risks.
Water-related regulatory frameworks	Relevant, always included	Risk assessment is ongoing at a local site level. Each site has a locally based EHS manager responsible for tracking national / local regulatory matters and will report any significant issues to the Global EHS Leadership Committee on an ad hoc basis.
Status of ecosystems and habitats	Not relevant, included	All sites, as part of their ISO 14001 registration must include an assessment of biodiversity. This has also been assessed using the World Business Council of Sustainable Development's Global Water Tool version 3.1. We only manage one small site of high biodiversity interest globally; it is adjacent to our plant in Billingham UK.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	We offer fully functioning WASH facilities at all our manufacturing sites. These are always factored into Risk assessment as they have a substantial impact on our total water usage.
Other contextual issues, please specify	Not considered	We don't believe there are any specific contextual issues relevant to our industry.

### W3.3c

**(W3.3c) Which of the following stakeholders are considered in your organization's water-related risk assessments?**

	Relevance & inclusion	Please explain
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Customers	Not relevant, explanation provided	We do not manufacturing any products that have a significant impact on our customers use of water. Most of our products are components for the automotive industry and are assembled into vehicles.
Employees	Relevant, always included	We provide fully functioning WASH facilities to all our employees and they represent a significant proportion of our total water usage. Our employees needs are always included in water risk assessment. JM employees are made aware of water-based issues as part of their awareness training on broader sustainability issues.
Investors	Not relevant, included	We have never had any questions directly from investors about our water risk assessment. Nevertheless, we provide information through CDP and through our company Annual Report to shareholders. see page 55 of <a href="https://matthey.com/investors/report-archive/annual-report-2019">https://matthey.com/investors/report-archive/annual-report-2019</a>
Local communities	Not relevant, explanation provided	We are not a significant water user in any of the communities where we operate.
NGOs	Not relevant, explanation provided	We have not received any requests or comments from NGOs about our water risks. We would include them if we did receive any specific, relevant requests to do so.
Other water users at a basin/catchment level	Relevant, sometimes included	WE consider the impact our water use or discharge has on our neighbours, where we believe any reputational risk could arise.
Regulators	Relevant, always included	Water supply and discharge is always regulated by local environment agencies, and is part of our license to Operate. We always consider the impact change in local regulation could have on our license to operate as well as on our operating costs.
River basin management authorities	Not relevant, explanation provided	We are not a large user of water in any river basin and so do not have any direct interaction with rain basin management authorities. Any interaction would be indirect and come through the local regulators e.g. The UK Environment Agency or the EPA.
Statutory special interest groups at a local level	Not relevant, explanation provided	We are not a large water user in any location and have not received any requests to join or engage with statutory special interest groups. We would include them if we did receive any specific, relevant requests to do so.
Suppliers	Relevant, always included	When we assess the sustainability of any of our suppliers, we always consider water risks on product quality and security of supply. This is described in more detail in our Supplier Code of Conduct, which can be downloaded from <a href="https://matthey.com">matthey.com</a> .

Water utilities at a local level	Relevant, always included	We purchase water from local water utilities at all our sites, so they are always included in our risk assessments. 92% of all our water purchases and 86% of our effluent discharges are with water utility companies.
Other stakeholder, please specify	Not considered	We don't believe we have any other relevant stakeholders.

## W3.3d

### (W3.3d) Describe your organization's process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.

We assess water risks using two independent processes: 1. water risk assessment is fully integrated into multi-disciplinary company-wide risk identification, assessment, and management processes. At site level we continually review the level of risk throughout the business and complete a formal submission every six months for reporting purposes. Our Risk process is described in full on pages 91-97 of our 2019 Annual Report <https://matthey.com/investors/report-archive/annual-report-2019>

2. We also perform a separate regular assessment (every 3-5 years) of longer-term water related risks through in-house analysis using open source evaluation tools principally the WBCSD global water tool. This is done for all our manufacturing sites based on their geographical location and current water usage. The findings are then communicated to our business sectors and sites so they can be integrated into the multi-disciplinary company-wide risk assessment process that occurs every 6 months. This is was last performed in 2016. It will be performed again when an updated version of the tool is launched by WBCSD or when we have a substantial change in our portfolio of manufacturing operations, whichever happens sooner.

## W4. Risks and opportunities

### W4.1

#### (W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes, both in direct operations and the rest of our value chain

#### W4.1a

#### (W4.1a) How does your organization define substantive financial or strategic impact on your business?

All risks are scored using a standardised scoring methodology (1-5), which operates on two levels:

1. Principal risk level

## 2. Operational business risk level

Both of these methodologies require risk to be scored on both financial and strategic level.

Water availability or cost is not a principal business risks to our company. as we are relatively low user of water in all the regions in which we operate, and none of our products requires large amounts for production (see responses elsewhere in disclosure for evidence) in our own operations.

Water risks are only identified at the Operational risk level. Therefore, operational risks identified at strategic sites are the only ones that meet the criteria to be included in response to W1.4.

We have 8 (out of 53) sites that are classified as "strategic " because their failure could have a substantive financial impact on the business.

These substantive sites are comprised of :

1. our platinum group metal refineries, which are strategic because they supply precious metal (as a critical raw material) to the rest of our global manufacturing facilities;
2. our global research centre because of its importance to our long term profitability
3. those manufacturing facilities that are our largest individual contributors to our revenues/profits (as a percentage of total profits) . The individual financial contributions to the Group profits for each of these manufacturing sites is commercially sensitive and thus confidential.

We define strategic suppliers as those suppliers of raw material that are critical to the operation of our strategic products. We assess them for water risk as we do our own operations.

## W4.1b

**(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?**

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	1	1-25	Only one of our Strategic sites is situated in a region of extreme water stress, as defined by the WBCSD risk assessment tool.

## W4.1c

**(W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive impact on your business, and what is the potential business impact associated with those facilities?**

**Country/Region**

United Kingdom of Great Britain and Northern Ireland

**River basin**

Thames

**Number of facilities exposed to water risk**

1

**% company-wide facilities this represents**

1-25

**% company's total global revenue that could be affected**

1-25

**Comment**

**W4.2**

**(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.**

---

**Country/Region**

United Kingdom of Great Britain and Northern Ireland

**River basin**

Thames

**Type of risk**

Physical

**Primary risk driver**

Drought

**Primary potential impact**

Disruption to sales

**Company-specific description**

WBCSD Global Water Tool identifies sites in the Greater London Area as in a region of extreme water scarcity (<500 m<sup>3</sup> renewable water available per person per year). However, the water network in the UK is very advanced and so the risk of disruption to supply is extremely as disrupted due to prolonged drought, then production would cease and this would have a knock on effect on other JM sites, which use precious metals from our Brimsdown refinery as part of their supply chain. At a local level this risk is extremely low, but the impact would be severe due strategic nature of the site.

**Timeframe**

Current up to 1 year

**Magnitude of potential impact**

Medium-high

**Likelihood**

Exceptionally unlikely

**Are you able to provide a potential financial impact figure?**

**Potential financial impact figure (currency)**

**Potential financial impact figure - minimum (currency)**

**Potential financial impact figure - maximum (currency)**

**Explanation of financial impact**

This is confidential.

**Primary response to risk**

Amend the Business Continuity Plan

**Description of response**

The Business Continuity plans are our principal management tool to reduce the risk of "Failure of a significant site", along with annual testing of the plan. They includes a plan to transfer operations to one of our other refineries in the event of a long shut down due to lack of water availability. Other Johnson Matthey sites that use precious metals from our Brimsdown refinery as an input raw material also take this risk into account in their Business Continuity plans. The risk of failure of the refinery is taken into account when deciding how much reserves of precious metal to hold in reserve stock, both physically and on accounts. We also insure our strategic sites against a wide variety of failures.

**Cost of response**

**Explanation of cost of response**

This is confidential, but it is considered a part of normal business management.

**W4.2a**

**(W4.2a) Provide details of risks identified within your value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.**

---

**Country/Region**

South Africa

**River basin**

Limpopo

**Stage of value chain**

Supply chain

**Type of risk**

Regulatory

**Primary risk driver**

Increased difficulty in supplier obtaining withdrawals/operations permit

**Primary potential impact**

Disruption to sales due to value chain disruption

**Company-specific description**

Virgin precious metals from South African platinum group metal mining companies are a strategic raw material for Johnson Matthey. If mining operations were disrupted for a long period due to lack of water, it would have an impact on our ability to procure raw materials for our own manufacturing processes. More likely is that a short disruption would cause the metal price to rise on global markets.

**Timeframe**

Current - up to 1 year

**Magnitude of potential financial impact**

Medium-low

**Likelihood**

Unlikely

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure - minimum (currency)**

**Potential financial impact figure - maximum (currency)**

**Explanation of financial impact**

Disruption to supply of virgin platinum from South Africa is most likely to impact Johnson Matthey via the metals trading price on global markets. Johnson Matthey, through its metal trading activities is well placed to manage the impact of fluctuating metal prices on its revenues.



**Primary response to risk**

Include in Business Continuity Plan

**Description of response**

Strengthening supplier relationship management, regular reviews to discuss supplier capacity constraints.

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

**Cost of response**

0

**Explanation of cost of response**

This is part of "normal business" and is not assigned a cost.

**W4.3**

**(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

Yes, we have identified opportunities but are unable to realize them

**W4.3b**

**(W4.3b) Why does your organization not consider itself to have water-related opportunities?**

	Primary reason	Please explain
Row 1	Judged to be unimportant	We had a small business selling water purification technology, which we sold during the year - after a management review which indicated it did not have the potential to have a substantive positive impact on our business.

**W5. Facility-level water accounting**

**W5.1**

**(W5.1) For each facility referenced in W4.1c, provide coordinates, total water accounting data and comparisons with the previous reporting year.**

**Facility reference number**

Facility 1

**Facility name (optional)**

Brimsdown

**Country/Region**

United Kingdom of Great Britain and Northern Ireland

**River basin**

Thames

**Latitude**

51.65

**Longitude**

-0.03

**Total water withdrawals at this facility (megaliters/year)**

320

**Comparison of withdrawals with previous reporting year**

Higher

**Total water discharges at this facility (megaliters/year)**

112

**Comparison of discharges with previous reporting year**

Higher

**Total water consumption at this facility (megaliters/year)**

208

**Comparison of consumption with previous reporting year**

Higher

**Please explain**

There was a 31% increase in water withdrawal over the year, and a 15% increase in water discharged. About half of this was due to an increase in product and half due to leak in old pipework. To combat this, during late 2018 we have built a new, above-ground freshwater ring main at our Brimsdown facility in the UK to replace the ageing pipework buried deep below the plant. It came into operation early in 2019 and we have already seen a significant decrease in water withdrawals at the plant. Therefore we anticipate we will be reporting a significant reduction in demand next year at this site. Annual Report 2019 page 55.

**W5.1a**

**(W5.1a) For each facility referenced in W5.1, provide withdrawal data by water source.**

**Facility reference number**

Facility 1

**Facility name**

Brimsdown

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

0

**Brackish surface water/seawater**

0

**Groundwater - renewable**

0

**Groundwater - non-renewable**

0

**Produced/Entrained water**

0

**Third party sources**

320

**Comment**

All numbers are from municipal billing information.

## W5.1b

(W5.1b) For each facility referenced in W5.1, provide discharge data by destination.

---

**Facility reference number**

Facility 1

**Facility name**

Brimsdown

**Fresh surface water**

0

**Brackish surface water/Seawater**

0

**Groundwater**

0

**Third party destinations**

112

**Comment**

All numbers are from municipal billing information.

**W5.1c**

**(W5.1c) For each facility referenced in W5.1, provide the proportion of your total water use that is recycled or reused, and give the comparison with the previous reporting year.**

---

**Facility reference number**

Facility 1

**Facility name**

Brimsdown

**% recycled or reused**

Not monitored

**Comparison with previous reporting year**

**Please explain**

There is no water metering within the plant to measure how much water is re-used.  
There is a water treatment plant on site but its water is discharge to municipal sewer rather than recycled within the facility.

**W5.1d**

**(W5.1d) For the facilities referenced in W5.1, what proportion of water accounting data has been externally verified?**

**Water withdrawals – total volumes**

---

**% verified**

76-100

**What standard and methodology was used?**

Johnson Matthey's water disclosures have been externally assured by Carbon Smart Ltd using ISAE 3000. It has been completed in accordance with the WRI best practice reporting principles of relevance, completeness, consistency, transparency, accuracy and the subject matter adheres to the ISAE 3410 principles

**Water withdrawals – volume by source**

---

**% verified**

Not verified

**What standard and methodology was used?**

not applicable

**Water withdrawals – quality**

---

**% verified**

Not verified

**What standard and methodology was used?**

not applicable

**Water discharges – total volumes**

---

**% verified**

76-100

**What standard and methodology was used?**

Johnson Matthey's water disclosures have been externally assured by Carbon Smart Ltd using ISAE 3000. It has been completed in accordance with the WRI best practice reporting principles of relevance, completeness, consistency, transparency, accuracy and the subject matter adheres to the ISAE 3410 principles

**Water discharges – volume by destination**

---

**% verified**

Not verified

**What standard and methodology was used?**

not applicable

**Water discharges – volume by treatment method**

---

**% verified**

Not verified

**What standard and methodology was used?**

not applicable

**Water discharge quality – quality by standard effluent parameters**

---

**% verified**

Not verified

**What standard and methodology was used?**

not applicable

**Water discharge quality – temperature**

**% verified**

Not verified

**What standard and methodology was used?**

not applicable

**Water consumption – total volume**

**% verified**

76-100

**What standard and methodology was used?**

Johnson Matthey’s water disclosures have been externally assured by Carbon Smart Ltd using ISAE 3000. It has been completed in accordance with the WRI best practice reporting principles of relevance, completeness, consistency, transparency, accuracy and the subject matter adheres to the ISAE 3410 principles

**Water recycled/reused**

**% verified**

Not verified

**What standard and methodology was used?**

not applicable

**W6. Governance**

**W6.1**

**(W6.1) Does your organization have a water policy?**

Yes, we have a documented water policy, but it is not publicly available

**W6.1a**

**(W6.1a) Select the options that best describe the scope and content of your water policy.**

	Scope	Content	Please explain
Row 1	Company-wide	Description of business dependency on water	We have a waste water management policy, which is attached here.

		Description of water-related performance standards for direct operations	
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## W6.2

**(W6.2) Is there board level oversight of water-related issues within your organization?**

Yes

### W6.2a

**(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.**

Position of individual	Please explain
Director on board	The EHS Leadership Committee is chaired by a member of the Board. They oversee all aspects of water management within the company. Annual Report 2019 page 109.

### W6.2b

**(W6.2b) Provide further details on the board's oversight of water-related issues.**

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Sporadic - as important matters arise	Monitoring implementation and performance Reviewing and guiding business plans Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy	

## W6.3

**(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).**

**Name of the position(s) and/or committee(s)**

Chief Executive Officer (CEO)

**Responsibility**

Assessing water-related risks and opportunities

**Frequency of reporting to the board on water-related issues**

Annually

**Please explain**

The CEO chairs the JM Group Management Committee (GMC) - the highest governance body below the board.

At least annually the group sustainability function provides an update to the GMC and board on all sustainability related matters including issues relating to water.

**W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4**

**(W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?**

No, and we do not plan to introduce them in the next two years

**W6.5**

**(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?**

Yes, trade associations

**W6.5a**


**(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?**

A company expert is assigned to manage our relationship with each trade Association to which we subscribe. It is their responsibility to monitor and participate in consultations on policy with the Trade Association and to highlight to the JM's EHS leadership committee if the Trade Association is carrying out activities that contravene JM's internal policy and values. We review our membership of all trade associations on an annual basis when the membership fee is due.

**W6.6**

**(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?**

Yes (you may attach the report - this is optional)

 JM\_AR2019 final.pdf

**W7. Business strategy**

**W7.1**

**(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?**

	Are water-related issues integrated?	Long-term time	Please explain
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		horizon (years)	
Long-term business objectives	No, water-related issues were reviewed but not considered as strategically relevant/significant	5-10	Although water use was identified in our most recent stakeholder engagement process (materiality mapping), it is not considered our highest priority category of issues.
Strategy for achieving long-term objectives	No, water-related issues were reviewed but not considered as strategically relevant/significant	5-10	Although water use was identified in our most recent stakeholder engagement process (materiality mapping), it is not considered our highest priority category of issues.
Financial planning	No, water-related issues were reviewed but not considered as strategically relevant/significant	5-10	Although water use was identified in our most recent stakeholder engagement process (materiality mapping), it is not considered our highest priority category of issues.

## W7.2

**(W7.2) What is the trend in your organization’s water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?**

Row 1

**Water-related CAPEX (+/- % change)**

0

**Anticipated forward trend for CAPEX (+/- % change)**

0

**Water-related OPEX (+/- % change)**

0

**Anticipated forward trend for OPEX (+/- % change)**

0

**Please explain**

Water-related CAPEX and OPEX expenditure is not tracked as a stand alone item in our corporate systems.

## W7.3

**(W7.3) Does your organization use climate-related scenario analysis to inform its business strategy?**

	Use of climate-related scenario analysis	Comment
Row 1	Yes	We use 2DS scenario analysis tools to inform our business strategy. Johnson Matthey runs a detailed, yearly planning and budgeting process for management purposes. As part of this process we explore the evolution of our major markets. We consider potential pathways to meet the 1.5-2C climate change target, netzero legislation and specific country / city restrictions. As an organisation whose activities span automotive, chemicals and raw materials we believe we are well placed to understand legislative evolution and its impact on technology, customer demand and the timing of market evolution (incl., the introduction of disruptive technology). For JM we use these pathways to consider how our own products and services into these markets will need to evolve along with the investments required to meet future customer demand. Our insights also inform customer and legislator discussions around what transitions and scale of change may be possible and over what timeframes

### W7.3a

**(W7.3a) Has your organization identified any water-related outcomes from your climate-related scenario analysis?**

No

### W7.4

**(W7.4) Does your company use an internal price on water?**

Row 1

**Does your company use an internal price on water?**

No, and we do not anticipate doing so within the next two years

**Please explain**

Although availability of sufficient freshwater supplies is critical to maintaining operations in all our factories, we are not considered large users of water in any of local communities where operate. Cost of water is not a material issue to our operations either. Therefore, we don't anticipate a benefit from the administrative burden of introducing an internal price of water.

## W8. Targets

### W8.1

**(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.**

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Site/facility specific targets and/or goals	Goals are monitored at the corporate level	In 2017 we completed a 10 year program to halve our water usage per unit sales. We successfully reached this target in 2017. We continue our ambition to use water as efficiently as possible but have not set a new company-wide water reduction target. All business and sites are being encouraged to set their own targets for water efficiency locally. As our businesses are very diverse the level of opportunity for reduction is also varied. We continue to monitor and publicly report water use at the corporate level.

### W8.1b

**(W8.1b) Provide details of your water goal(s) that are monitored at the corporate level and the progress made.**

#### Goal

Other, please specify

Maximise water efficiency per mass of manufactured product sold

#### Level

Company-wide

#### Motivation

Water stewardship

#### Description of goal

Our goal is to minimise the amount of water withdrawn from the environmental by our operations per unit production. We understand that freshwater is a valuable and often scarce resource that we need to use wisely. Whilst it is not material compared to many of our other production costs, we recognise our role as a responsible corporate citizens in safeguarding it for future generations.

#### Baseline year

2017

#### Start year

2017

**End year**

2025

**Progress**

In FY2018/19 our water efficiency was 18.6 m<sup>3</sup>/tonnes manufactured product sold. This was a 10% improvement on the previous year. This is publicly reported in our Annual Report 2019, page 52.

## W9. Linkages and trade-offs

### W9.1

**(W9.1) Has your organization identified any linkages or tradeoffs between water and other environmental issues in its direct operations and/or other parts of its value chain?**

Yes

### W9.1a

**(W9.1a) Describe the linkages or tradeoffs and the related management policy or action.**

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**Linkage or tradeoff**

Tradeoff

**Type of linkage/tradeoff**

Increased energy use

**Description of linkage/tradeoff**

In order to decrease the amount of effluent we discharge for treatment by third parties, we need to do more water treatment on site, and that requires additional energy purchases. Additional energy purchases can lead to a larger operational (scope 1+2) carbon footprint, depending on the local availability of green energy.

**Policy or action**

The decision on whether to treat effluent on site or discharge it for treatment by 3rd parties is governed by our normal CAPEX investment rules, unless there is an legislative imperative.

## W10. Verification

### W10.1

**(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?**

Yes

 Johnson Matthey Assurance Statement\_Carbon Smart\_2019\_05\_22 v2.0 (002).pdf

### W10.1a

**(W10.1a) Which data points within your CDP disclosure have been verified, and which standards were used?**

Disclosure module	Data verified	Verification standard	Please explain
W1. Current state	Total water withdrawal	ISAE3000	Our Total water withdrawals were third party verified by Carbon smart Ltd. The verification statement can be found on our website, as well as attached to this question.
W1. Current state	Net fresh water consumption. This is the water withdrawals minus freshwater discharges back to rivers and water courses	ISAE3000	This is better measure of our total impact on local water availability and environment. It excludes all freshwater withdrawals that are immediately returned to the same source at equal or cleaner quality that they were withdrawal.

## W11. Sign off

### W-FI

**(W-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.**

### W11.1

**(W11.1) Provide details for the person that has signed off (approved) your CDP water response.**

	Job title	Corresponding job category
Row 1	Chief Executive Officer and Board representative	Chief Executive Officer (CEO)

