

Module: Introduction**Page: W0. Introduction**

W0.1**Introduction****Please give a general description and introduction to your organization**

Johnson Matthey is a leader in sustainable technologies. We focus on clean air, clean energy and low carbon technologies and are experts in the application and recycling of precious metals.

Johnson Matthey is a global speciality chemicals company. We have operations in over 30 countries and employ around 13,000 people worldwide.

Johnson Matthey's principal activities are the manufacture of autocatalysts, heavy duty diesel catalysts and pollution control systems, catalysts and components for fuel cells, batteries for electric vehicles, catalysts and technologies for chemical processes, fine chemicals, chemical catalysts and active pharmaceutical ingredients and the marketing, refining, and fabrication of precious metals.

Johnson Matthey has continued to develop its technology for almost 200 years, demonstrating the company's ability to maintain world leadership by adapting constantly to rapidly changing customer needs. Rigorous in its own environmental policies, many of Johnson Matthey's products have a major beneficial impact on the environment and enhance the quality of life for millions of people around the world.

We invest in R&D to develop high technology products that enhance the quality of life for millions of people around the world.

Johnson Matthey is focused on developing products that deliver sustainability benefits to our customers and to society. Today, some 88% 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.

Our latest (2015) annual integrated report can be found at : <http://www.matthey.com/documents/pdfs/2014-15/annual-report/johnson-matthey-annual-report-2015.pdf>
For more information about Johnson Matthey, see our corporate website : www.matthey.com

W0.2**Reporting year**

Please state the start and end date of the year for which you are reporting data

| Period for which data is reported |
|-----------------------------------|
| Fri 01 Apr 2016 - Fri 31 Mar 2017 |

W0.3**Reporting boundary**

Please indicate the category that describes the reporting boundary for companies, entities, or groups for which water-related impacts are reported

Companies, entities or groups over which financial control is exercised

W0.4**Exclusions**

Are there any geographies, facilities or types of water inputs/outputs within this boundary which are not included in your disclosure?

No

W0.4a**Exclusions**

Please report the exclusions in the following table

| Exclusion | Please explain why you have made the exclusion |
|-----------|--|
| | |

Further Information

Module: Current State

Page: W1. Context

W1.1

Please rate the importance (current and future) of water quality and water quantity to the success of your organization

| Water quality and quantity | Direct use importance rating | Indirect use importance rating | Please explain |
|--|------------------------------|--------------------------------|--|
| Sufficient amounts of good quality freshwater available for use | Important | Important | We need good quality water to support our agricultural operations, growing agro-crops for our opiate manufacturing business. However, this business represents less than 10% of our sales revenues |
| Sufficient amounts of recycled, brackish and/or produced water available for use | Vital for operations | 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 |

W1.2

For your total operations, please detail which of the following water aspects are regularly measured and monitored and provide an explanation as to why or why not

| Water aspect | % of sites/facilities/operations | Please explain |
|---|---|--|
| Water withdrawals- total volumes | 76-100 | All Johnson Matthey sites 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- volume by sources | 76-100 | All Johnson Matthey sites are required to identify their water sources when they report their total water withdrawals to JM Group annually, Sites chose from a drop down menu and select the type of water sources according to the definitions in question W1.2a |
| Water discharges- total volumes | 76-100 | All Johnson Matthey sites are required to report their total water discharges to JM Group annually, These data are typically collected from meter readings and then verified against billing information |
| Water discharges- volume by destination | 76-100 | All Johnson Matthey sites are required to identify the destination of their water discharges when they report to JM Group annually, These data are typically collected from meter readings and then verified against billing information. Sites chose from a drop down menu and select the type of water sources/discharge destination according to the definitions in question W1.2b. |
| Water discharges- volume by treatment method | 1-25 | We do not collect information on treatment methods beyond our own boundaries. 89% of all our wastewater discharged is sent to municipal treatment works, via public sewers. |
| Water discharge quality data- quality by standard effluent parameters | 76-100 | We use the chemical oxygen demand (COD) test to measure of water quality of discharged water at all JM sites and ensure it is within local legal limits. A year ago we stopped collating and reporting this information centrally, as local legislation affecting our sites globally is so diverse. |
| Water consumption- total volume | 76-100 | All Johnson Matthey sites are required to report their total water consumption to JM Group annually, with an explanation of where water is consumed on their site These data are typically collected from the difference between withdrawal and discharge meter information. |
| Facilities providing fully-functioning WASH services for all workers | Less than 1% | Many of our sites provide WASH facilities to our employees, but we do not collect data on this centrally. |

W1.2a

Water withdrawals: for the reporting year, please provide total water withdrawal data by source, across your operations

| Source | Quantity (megaliters/year) | How does total water withdrawals for this source compare to the last reporting year? | Comment |
|--------------------------------------|----------------------------|--|--|
| Fresh surface water | 44 | Much lower | 27% decrease due to increased water recycling within the plant. |
| Brackish surface water/seawater | 0 | Not applicable | We do not use any brackish water |
| Rainwater | 0.3 | About the same | We do not meter most of our rainwater collection. This number represents metering at 2 sites. (Last year the rainwater data was reported in the wrong units) |
| Groundwater - renewable | 101 | Higher | This is 8% higher than last year, due to acquisition of a new site in Scotland. It is still a very small proportion of our total water use |
| Groundwater - non-renewable | 59 | Lower | This is 20% lower than last year due to water efficiency projects at our site in India. |
| Produced/process water | 0 | Not applicable | We do not take process water from any other organisations |
| Municipal supply | 2438 | Higher | This has increased by 2.6% due to acquisitions of 2 new manufacturing sites. |
| Wastewater from another organization | 0 | Not applicable | We do not take wastewater from other companies |
| Total | 2643 | About the same | Our total water withdrawals have increased by 1% |

W1.2b

Water discharges: for the reporting year, please provide total water discharge data by destination, across your operations

| Destination | Quantity (megaliters/year) | How does total water discharged to this destination compare to the last reporting year? | Comment |
|---|----------------------------|---|---|
| Fresh surface water | 222 | Lower | 5% decrease due to water recycling project within the plant |
| Brackish surface water/seawater | 10 | This is our first year of measurement | This occurs at 1 site in the UK |
| Groundwater | 1 | This is our first year of measurement | This occurs at 1 site in India |
| Municipal/industrial wastewater treatment plant | 1836 | Much higher | This is a 26% increase due to improved metering of effluent discharge. The number is highly variable as it includes metering of rainwater runoff in a number of countries |
| Wastewater for another organization | 0 | Not applicable | We do not send wastewater to other organisations |
| Total | 2070 | Much higher | This is a 23% increase due to improved metering of effluent discharge. The number is highly variable as it includes metering of rainwater runoff in a number of countries |

W1.2c

Water consumption: for the reporting year, please provide total water consumption data, across your operations

| Consumption (megaliters/year) | How does this consumption figure compare to the last reporting year? | Comment |
|-------------------------------|--|--|
| 573 | Much lower | This is 38% lower than last year. This is primarily due to better metering of effluent, but is also highly variable due to the impact of inclusion of rainwater collection and discharge. Most of our genuine water consumption occurs in the production of steam for our CHP units. There is also some use of water for cooling of some of our manufacturing processes. |

W1.3

Do you request your suppliers to report on their water use, risks and/or management?

No

W1.3a

Please provide the proportion of suppliers you request to report on their water use, risks and/or management and the proportion of your procurement spend this represents

| Proportion of suppliers % | Total procurement spend % | Rationale for this coverage |
|---------------------------|---------------------------|-----------------------------|
| | | |

W1.3b

Please choose the option that best explains why you do not request your suppliers to report on their water use, risks and/or management

| Primary reason | Please explain |
|--|---|
| Important but not an immediate business priority | We assess water risk with our strategic suppliers, alongside all other risks. We have not found it to be a priority in any case. We began our Sustainable Supplier Development program 4 years ago in one division of our business. Our first priority focussed on issues of higher immediate importance to our business - legal, ethical, Health & Safety & human rights issues. This year we have been expanding this program across all our businesses. We plan to expand the program to include environmental questions beyond legal compliance, at a later date. |

W1.4

Has your organization experienced any detrimental impacts related to water in the reporting year?

No

W1.4a

Please describe the detrimental impacts experienced by your organization related to water in the reporting year

| Country | River basin | Impact driver | Impact | Description of impact | Length of impact | Overall financial impact | Response strategy | Description of response strategy |
|---------|-------------|---------------|--------|-----------------------|------------------|--------------------------|-------------------|----------------------------------|
|---------|-------------|---------------|--------|-----------------------|------------------|--------------------------|-------------------|----------------------------------|

W1.4b

Please choose the option below that best explains why you do not know if your organization experienced any detrimental impacts related to water in the reporting year and any plans you have to investigate this in the future

| Primary reason | Future plans |
|----------------|--------------|
|----------------|--------------|

Further Information

Module: Risk Assessment

Page: W2. Procedures and Requirements

W2.1

Does your organization undertake a water-related risk assessment?

Water risks are assessed

W2.2

Please select the options that best describe your procedures with regard to assessing water risks

| Risk assessment procedure | Coverage | Scale | Please explain |
|--|------------------------------------|-----------------------------------|--|
| Comprehensive company-wide risk assessment | Direct operations and supply chain | All facilities and some suppliers | Risks (including water risks) are assessed and prioritised based on both impact (financial and non-financial) and likelihood of them occurring using a 'five by five' reference scale i.e. five references for likelihood (ranging from rare i.e. 90% probability) and five references for impact based on financial and non-financial data. Each individual risk is considered, together with the effectiveness of current controls and the status and progression of mitigation actions and plans are monitored We have also undertaken an independent globalwaqter risk assessment of all our sites using the World Business Council for Sustainable Development's Global Water Tool in 2016. More information is given in W2.3 |

W2.3

Please state how frequently you undertake water risk assessments, at what geographical scale and how far into the future you consider risks for each assessment

| Frequency | Geographic scale | How far into the future are risks considered? | Comment |
|--------------------------|------------------|---|---|
| Annually | Facility | 1 to 3 years | Each Business Unit is required to present a three year plan for water usage at every facility under their financial control to the Chief Executive and his General management Committee as part of their annual budget review presentation. |
| Sporadically not defined | River basin | >6 years | A Ten year view of water is risk performed every 3-5 years: A review of Water Risk for all JM's operations is performed using external tools. In 2016 World Business Council for Sustainable Development's Global Water Tool version 1.3 was used. |
| Sporadically not defined | Business unit | 1 to 3 years | This occurs during an on-site audit at least triannually for all strategic suppliers in ECT division (61% JM's business by sales), and sporadically in other divisions. ECT ask all suppliers to demonstrate they are "managing compliance, minimising environmental impact and driving continual improvement through the implementation of ISO 14001, or a comparable standard". We expect them to disclose which environmental issues are key for them, and many do choose water use as a material issue. |

W2.4

Have you evaluated how water risks could affect the success (viability, constraints) of your organization's growth strategy?

Yes, evaluated over the next 10 years

W2.4a

Please explain how your organization evaluated the effects of water risks on the success (viability, constraints) of your organization's growth strategy?

We do not believe that water risks will have any substantive impact on the viability of our growth strategy over the next 10 years.

W2.4b

What is the main reason for not having evaluated how water risks could affect the success (viability, constraints) of your organization's growth strategy, and are there any plans in place to do so in the future?

| Main reason | Current plans | Timeframe until evaluation | Comment |
|-------------|---------------|----------------------------|---------|
| | | | |

W2.5

Please state the methods used to assess water risks

| Method | Please explain how these methods are used in your risk assessment |
|--|--|
| WBCSD Global Water Tool WRI water stress definition | In 2016 we used 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 extremely 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. The analysis of risk took into account a facility's employee numbers and total water withdrawals. 64 of the company's largest facilities, including 100% of its manufacturing sites, which represents 99+% of the company's total freshwater consumption were included in the assessment. |

W2.6

Which of the following contextual issues are always factored into your organization's water risk assessments?

| Issues | Choose option | Please explain |
|---|------------------------------------|--|
| Current water availability and quality parameters at a local level | Relevant, included | Risk assessment is ongoing at a local site level. Each site has a locally based EHS manager responsible for tracking local issues with water availability and quality and will report any significant issues to the CSR Compliance Committee on an ad hoc basis. |
| Current water regulatory frameworks and tariffs at a local level | Relevant, 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 CSR Compliance Committee on an ad hoc basis. |
| Current stakeholder conflicts concerning water resources at a local level | Not relevant, included | Risk assessment is ongoing at a local site level. Each site has a locally based EHS manager responsible for tracking local issues with water availability and quality and will engage local stakeholders if appropriate. 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. |
| Current implications of water on your key commodities/raw materials | Relevant, 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. |
| Current status of ecosystems and habitats at a local level | 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. |
| Current river basin management plans | Not relevant, explanation provided | Johnson Matthey does not extract water directly from any river basins. In general Johnson Matthey does not use large quantities of water for any of its operations. |
| Current access to fully-functioning WASH services for all employees | Relevant, included | These are factored in for any site where they are provided and have a substantive impact on local water usage. |
| Estimates of future changes in water availability at a local level | Relevant, included | Each site has a locally based EHS manager responsible for tracking local issues with water availability and quality and will report any significant future issues to the CSR Compliance Committee on an ad hoc basis. They feed information into the three year plan of water usage, presented by each Business Unit to the Senior management of JM on an annual basis. |
| Estimates of future potential regulatory changes at a local level | Relevant, included | Each site has a locally based EHS manager responsible for tracking local issues with water availability and quality and will report any significant future issues to the CSR Compliance Committee on an ad hoc basis. They feed information into the three year plan of water usage, presented by each Business Unit to the Senior management of JM on an annual basis. |
| Estimates of future potential stakeholder conflicts at a local level | Relevant, included | Each site has a locally based EHS manager responsible for tracking local issues with water availability and quality and will report any significant future issues to local management team and the CSR Compliance Committee on an ad hoc basis. They feed information into the three year plan of water usage, presented by each Business Unit to the Senior management of JM on an annual basis. |

| Issues | Choose option | Please explain |
|---|------------------------------------|--|
| Estimates of future implications of water on your key commodities/raw materials | Relevant, 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. We released a global supplier manual in 2013, which is applicable to all our suppliers in ECT Division (54% JM's business by sales). We ask all suppliers to demonstrate they are "managing compliance, minimising environmental impact and driving continual improvement through the implementation of ISO 14001, or a comparable standard". We expect them to disclose which environmental issues are key for them, and many do choose water use as a material issue. |
| Estimates of future potential changes in the status of ecosystems and habitats at a local level | Not relevant, explanation provided | Johnson Matthey's operations do not have substantive impact on any local ecosystems and habitats. |
| Scenario analysis of availability of sufficient quantity and quality of water relevant for your operations at a local level | Not relevant, explanation provided | We do not believe that we face a substantial risk of being unable to source sufficient quantities of water to supply our operations at any of our existing facilities. |
| Scenario analysis of regulatory and/or tariff changes at a local level | Not relevant, explanation provided | Our expenditure on water and water-related taxes is not significant component of our total operational spend at any facility. |
| Scenario analysis of stakeholder conflicts concerning water resources at a local level | Not evaluated | |
| Scenario analysis of implications of water on your key commodities/raw materials | Not evaluated | |
| Scenario analysis of potential changes in the status of ecosystems and habitats at a local level | Not evaluated | |
| Other | Not evaluated | |

W2.7

Which of the following stakeholders are always factored into your organization's water risk assessments?

| Stakeholder | Choose option | Please explain |
|--|------------------------------------|---|
| Customers | Not relevant, explanation provided | Our customers do not need to use water to utilise our products in the vast majority of cases. Most of our products are components for the automotive industry and are assembled into vehicles. |
| Employees | Relevant, included | JM employees are made aware of water-based issues as part of their awareness training on broader sustainability issues. Each site has targets for reduction in water consumption. |
| Investors | Not relevant, explanation provided | We have not received any requests or comments from Investors about our water risks. We would include them if we received any specific, relevant requests to do so. |
| 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 any specific, relevant requests to do so. |
| Other water users at a local level | Not relevant, explanation provided | Johnson Matthey is not a significant user of local water suppliers in any region where it operates. It therefore, does not materiality impact on the water supplies to other local water users.. |
| Regulators | Relevant, included | A review to identify all relevant regulations both present and upcoming are always included in our risk assessments. |
| River basin management authorities | Not relevant, explanation provided | We do not withdraw water directly from any river basins. |
| Statutory special interest groups at a local level | Not relevant, explanation provided | Johnson Matthey is not a substantial user of local water suppliers in any region where it operates. Therefore, it has not been asked to engage with any social interest groups at local level. We would always engage, on request. |
| Suppliers | Relevant, included | Built into strategic supplier assessments and also Life Cycle Analysis studies. We plan to use the World Business Council of Sustainable Development's Global Water Tool version 3.1. to begin to independently assess the long term water risks of our strategic suppliers over the next year. |
| Water utilities at a local level | Relevant, included | Price and availability of municipal water at a local level is included in all site risk assessments. |
| Other | Not evaluated | |

Please choose the option that best explains why your organisation does not undertake a water-related risk assessment

| | |
|----------------|----------------|
| Primary reason | Please explain |
|----------------|----------------|

Further Information

Module: Implications

Page: W3. Water Risks

W3.1

Is your organization exposed to water risks, either current and/or future, that could generate a substantive change in your business, operations, revenue or expenditure?

Yes, supply chain only

W3.2

Please provide details as to how your organization defines substantive change in your business, operations, revenue or expenditure from water risk

Risks (including water risks) are assessed and prioritised based on both impact (financial and non-financial) and likelihood of them occurring using a 'five by five' reference scale i.e. five references for likelihood (ranging from rare i.e. 90% probability) and five references for impact based on financial and non-financial data. Each individual risk is considered, together with the effectiveness of current controls and the status and progression of mitigation actions and plans are monitored.

W3.2a

Please provide the number of facilities* per river basin exposed to water risks that could generate a substantive change in your business, operations, revenue or expenditure; and the proportion of company-wide facilities this represents

| Country | River basin | Number of facilities exposed to water risk | Proportion of company-wide facilities that this represents (%) | Comment |
|---------|-------------|--|--|---------|
|---------|-------------|--|--|---------|

W3.2b

For each river basin mentioned in W3.2a, please provide the proportion of the company's total financial value that could be affected by water risks

| Country | River basin | Financial reporting metric | Proportion of chosen metric that could be affected | Comment |
|---------|-------------|----------------------------|--|---------|
|---------|-------------|----------------------------|--|---------|

W3.2c

Please list the inherent water risks that could generate a substantive change in your business, operations, revenue or expenditure, the potential impact to your direct operations and the strategies to mitigate them

| Country | River basin | Risk driver | Potential impact | Description of potential impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|---------|-------------|-------------|------------------|---------------------------------|-----------|------------|---|-------------------|----------------------------|-------------------------------|
|---------|-------------|-------------|------------------|---------------------------------|-----------|------------|---|-------------------|----------------------------|-------------------------------|

W3.2d

Please list the inherent water risks that could generate a substantive change in your business operations, revenue or expenditure, the potential impact to your supply chain and the strategies to mitigate them

| Country | River basin | Risk driver | Potential impact | Description of potential impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|--------------|---|---|-------------------------|---|-----------|------------|---|---------------------------|----------------------------|---|
| South Africa | SOUTH AFRICAN WATER MANAGEMENT AREAS (WMAs) | Physical-Increased water stress Regulatory-Increased difficulty in obtaining withdrawals/operations permit Regulatory-Lack of transparency of water rights Reputational-Inadequate access to water, sanitation and hygiene | Supply chain disruption | Virgin precious metals from South African mining companies are a strategic raw material for Johnson Matthey. If mining operations were disrupted due to lack of water, it would have an | 1-3 years | Unlikely | High | Engagement with suppliers | 0 | Part of "Business as Usual" in assessing the reliability of any one of our strategic suppliers. |

| Country | River basin | Risk driver | Potential impact | Description of potential impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|-----------|-----------------|---|-------------------------|---|-----------|------------|---|--|---|---|
| | | | | impact on our ability to procure raw materials for our own manufacturing processes | | | | | | |
| Australia | Other: Tasmania | Physical-Climate change Physical-Drought | Supply chain disruption | A principle raw material for Johnson Matthey's Pharmaceutical API business is raw poppy straw. 60% of the world's licensed supply has historically been grown in Tasmania. Changing weather patterns are increasing the risk of crop failure for our suppliers. | 1-3 years | Probable | Low | Infrastructure investment Re-siting of facilities Supplier diversification | Johnson Matthey does not own the agricultural land so capital costs in managing this risk are relatively low. Capital investment in additional storage and processing plants for raw poppy straw was £10-20m in 2014. | In 2009 we took a strategic decision to improve our security of supply and reduce our dependence on the weather in one geographical region by taking over the task of growing the majority our own poppy straw. We assessed a large number of new countries for their |

| Country | River basin | Risk driver | Potential impact | Description of potential impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|---------|-------------|-------------|------------------|---------------------------------|-----------|------------|---|-------------------|----------------------------|--|
| | | | | | | | | | | <p>suitability to grow poppies sustainably, taking into account the possibility of future climate change, and selected an alternative geographical region in the northern hemisphere with a natural source which can provide water to 120,000 hectares of good arable land. Our first crop was successfully harvested in June 2014. We also enlarged</p> |

| Country | River basin | Risk driver | Potential impact | Description of potential impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|---------|-------------|-------------|------------------|---------------------------------|-----------|------------|---|-------------------|----------------------------|--|
| | | | | | | | | | | <p>our storage facilities for poppy straw in 2014 in order to mitigate the risk of partial crop failure affecting production of APIs. We aim to keep excess stock in storage in future. We employ local weather/soil experts to monitor moisture levels in the soils during the growing season. We are incentivising our farmers with commercial contracts</p> |

| Country | River basin | Risk driver | Potential impact | Description of potential impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|----------|--------------------|------------------|-------------------------|--|-----------|------------|---|--|--|---|
| | | | | | | | | | | that encourage them to maintain yields and plan for adverse weather e.g. by using irrigation systems |
| Portugal | Other: Sado e Mira | Physical-Drought | Supply chain disruption | A principle raw material for Johnson Matthey's Pharmaceutical API business is raw poppy straw. Changing weather patterns are increasing the risk of crop failure for our suppliers. Prolonged drought in the region could cause water shortages in | 4-6 years | Unlikely | Medium | Infrastructure investment Re-siting of facilities Supplier diversification | Johnson Matthey does not own the agricultural land so capital costs in managing this risk are relatively low. Capital investment in additional storage and processing plants | In 2009 we took a strategic decision to improve our security of supply and reduce our dependence on the weather in one geographical region by taking over the task of growing the majority our own poppy straw. We now grow |

| Country | River basin | Risk driver | Potential impact | Description of potential impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|---------|-------------|-------------|------------------|------------------------------------|-----------|------------|---|-------------------|--|---|
| | | | | the reservoirs in the longer term, | | | | | for raw poppy straw was £10-20m in 2014. | <p>poppies in two countries in the Northern hemisphere as well as accessing supplies in the Southern Hemisphere (Tasmania). We also enlarged our storage facilities for poppy straw in 2014 in order to mitigate the risk of partial crop failure affecting production of APIs. We aim to keep excess stock in storage in future. We employ</p> |

| Country | River basin | Risk driver | Potential impact | Description of potential impact | Timeframe | Likelihood | Magnitude of potential financial impact | Response strategy | Costs of response strategy | Details of strategy and costs |
|---------|-------------|-------------|------------------|---------------------------------|-----------|------------|---|-------------------|----------------------------|---|
| | | | | | | | | | | local weather/soil experts to monitor moisture levels in the soils during the growing season. We are incentivising our farmers with commercial contracts that encourage them to maintain yields and plan for adverse weather e.g. by using irrigation systems |

W3.2e

Please choose the option that best explains why you do not consider your organization to be exposed to water risks in your direct operations that could generate a substantive change in your business, operations, revenue or expenditure

| Primary reason | Please explain |
|--|--|
| Risks exist, but no substantive impact anticipated | We have ~ 60 manufacturing sites distributed globally. Business Continuity plans exist for all sites. >90% of our sites are supplied by main water connection in their local areas. The WBCSD water risk assessment identified 4 sites that are in regions of extreme water scarcity and using close to the available amount of renewable water per head of population - 1 each in UK, USA, China & India. Of these only the site in India can be considered to be in a region where the municipal water network isn't stable. At this site we use water from municipal supply, and have high rates of water recycling on the plant. Sudden loss of water supply at this or one of our other plants would not adversely affect global profits. It would be managed by transferring production to existing Johnson Matthey facilities elsewhere in the world. |

W3.2f

Please choose the option that best explains why you do not consider your organization to be exposed to water risks in your supply chain that could generate a substantive change in your business, operations, revenue or expenditure

| Primary reason | Please explain |
|----------------|----------------|
|----------------|----------------|

W3.2g

Please choose the option that best explains why you do not know if your organization is exposed to water risks that could generate a substantive change in your business operations, revenue or expenditure and discuss any future plans you have to assess this

| Primary reason | Future plans |
|----------------|--------------|
|----------------|--------------|

Further Information**Page: W4. Water Opportunities**

W4.1

Does water present strategic, operational or market opportunities that substantively benefit/have the potential to benefit your organization?

Yes

W4.1a

Please describe the opportunities water presents to your organization and your strategies to realize them

| Country or region | Opportunity | Strategy to realize opportunity | Estimated timeframe | Comment |
|--|--|---|---------------------|---|
| Other: We are targeting sales globally, in all regions where we operate. Early sales have mainly been in Asia. | Competitive advantage Increased brand value Increased shareholder value Innovation R&D Sales of new products/services | Johnson Matthey Water Technologies was formed in 2012 as a business unit, and is housed in our New Business Development Division. We are also making targeted acquisitions to enhance our technology strengths in this area. In 2016 we acquired 2 small businesses specialising in water purification technology: MIOx Corporation for £15m and Finex for £6m. | 4-6 years | We invested just under £21million in other new opportunities, the most advanced being our Water Technologies business. As part of our strategy in this area, in April 2016 we completed the purchase of MIOX Corporation and in May 2016 we acquired Finex, both of which enable us to broaden our technology and commercial capabilities in this market. Water purification is one of our new business areas where we believe there is an attractive and growing market for high value technologies, developed using our chemistry and applications expertise. We anticipate that in 2017 the Water Technologies business will deliver sales |

| Country or region | Opportunity | Strategy to realize opportunity | Estimated timeframe | Comment |
|-------------------|---|--|---------------------|---|
| | | | | of around £15 million and, excluding integration costs, make a small operating loss. |
| Company-wide | Competitive advantage Cost savings Increased shareholder value Improved water efficiency | As part of Johnson Matthey's Ten-year sustainability Strategy we have a company target to halve the amount of water we use per unit sales. | 1-3 years | One of our key sustainability 2017 targets is to halve our water withdrawals over ten years, by 2017 when compared to our baseline year of 2007 : 2007 baseline 1.4 m3 / £M sales (excluding precious metals) 2016-17 performance 0.74 m3/ £M sales (excluding precious metals) 2017 target 0.7 m3 / £M sales (excluding precious metals) We achieved 96% of this challenging target on schedule. |

W4.1b

Please choose the option that best explains why water does not present your organization with any opportunities that have the potential to provide substantive benefit

| | |
|----------------|----------------|
| Primary reason | Please explain |
|----------------|----------------|

W4.1c

Please choose the option that best explains why you do not know if water presents your organization with any opportunities that have the potential to provide substantive benefit

| | |
|----------------|----------------|
| Primary reason | Please explain |
|----------------|----------------|

Further Information

Module: Accounting

Page: W5. Facility Level Water Accounting (I)

W5.1

Water withdrawals: for the reporting year, please complete the table below with water accounting data for all facilities included in your answer to W3.2a

| Facility reference number | Country | River basin | Facility name | Total water withdrawals (megaliters/year) at this facility | How does the total water withdrawals at this facility compare to the last reporting year? | Please explain |
|---------------------------|---------|-------------|---------------|--|---|----------------|
|---------------------------|---------|-------------|---------------|--|---|----------------|

Further Information

Page: W5. Facility Level Water Accounting (II)

W5.1a

Water withdrawals: for the reporting year, please provide withdrawal data, in megaliters per year, for the water sources used for all facilities reported in W5.1

| Facility reference number | Fresh surface water | Brackish surface water/seawater | Rainwater | Groundwater (renewable) | Groundwater (non-renewable) | Produced/process water | Municipal water | Wastewater from another organization | Comment |
|---------------------------|---------------------|---------------------------------|-----------|-------------------------|-----------------------------|------------------------|-----------------|--------------------------------------|---------|
|---------------------------|---------------------|---------------------------------|-----------|-------------------------|-----------------------------|------------------------|-----------------|--------------------------------------|---------|

W5.2

Water discharge: for the reporting year, please complete the table below with water accounting data for all facilities included in your answer to W3.2a

| Facility reference number | Total water discharged (megaliters/year) at this facility | How does the total water discharged at this facility compare to the last reporting year? | Please explain |
|---------------------------|---|--|----------------|
|---------------------------|---|--|----------------|

W5.2a

Water discharge: for the reporting year, please provide water discharge data, in megaliters per year, by destination for all facilities reported in W5.2

| Facility reference number | Fresh surface water | Municipal/industrial wastewater treatment plant | Seawater | Groundwater | Wastewater for another organization | Comment |
|---------------------------|---------------------|---|----------|-------------|-------------------------------------|---------|
|---------------------------|---------------------|---|----------|-------------|-------------------------------------|---------|

W5.3

Water consumption: for the reporting year, please provide water consumption data for all facilities reported in W3.2a

| Facility reference number | Consumption (megaliters/year) | How does this compare to the last reporting year? | Please explain |
|---------------------------|-------------------------------|---|----------------|
|---------------------------|-------------------------------|---|----------------|

W5.4

For all facilities reported in W3.2a what proportion of their water accounting data has been externally verified?

| Water aspect | % verification | What standard and methodology was used? |
|--------------|----------------|---|
|--------------|----------------|---|

Further Information

Module: Response

Page: W6. Governance and Strategy

W6.1

Who has the highest level of direct responsibility for water within your organization and how frequently are they briefed?

| Highest level of direct responsibility for water issues | Frequency of briefings on water issues | Comment |
|---|--|---|
| Board of individuals/Sub-set of the Board or other committee appointed by the Board | Scheduled-annual | Our board of directors & Chief Executive's General Management Committee (GMC) is ultimately responsible for Water strategy and is briefed annually by the Sustainability Director. The Group Policy & Compliance Committee (GPCC), a sub-committee of the GMC, has specific responsibility for the identification & monitoring of water risks. The Group Risk Register is reviewed 6-monthly by the GPCC. Every business unit is required to include water use targets in its annual budget presentation to the GMC and define the nature of projects to be undertaken to meet targets over a 3- year business cycle. |

W6.2

Is water management integrated into your business strategy?

Yes

W6.2a

Please choose the option(s) below that best explains how water has positively influenced your business strategy

| Influence of water on business strategy | Please explain |
|--|--|
| Introduction of water management KPIs | A 10-year water management KPI was introduced in 2007. To "halve to the use of water in our own operations per unit sales by 2017", against a 2007 baseline. |
| Water resource considerations are factored into location planning for new operations | Long-term water resource availability and usage is consider as part of the "due diligence process" for all acquisitions , any new manufacturing facilities and all plant expansion projects. |

| Influence of water on business strategy | Please explain |
|---|---|
| Publicly demonstrated our commitment to water | We made our commitment to our Water Reduction target public when our Sustainability 2017 strategy was launched in 2007. We report publically on progress towards this target in our annual report. In 2010 Water was announced as a key Global Driver for our Business Strategy. In 2012 we announced that we had established a Water Technologies Business Unit within our new Business Development Division to realise opportunities for our products and services in water purification. |

W6.2b

Please choose the option(s) below that best explains how water has negatively influenced your business strategy

| Influence of water on business strategy | Please explain |
|---|---|
| Increased capital expenditure | Changing precipitation patterns have increased risks in our supply chain for poppy straw, a key raw material for our API business. We have made plans to increase our storage of poppy straw from 2014 onwards in order to mitigate the risk of water-related partial crop failure affecting our production of APIs. This has involved a modest capital investment (< £50m) to enlarge our poppy straw processing and storage facilities. |

W6.2c

Please choose the option that best explains why your organization does not integrate water management into its business strategy and discuss any future plans to do so

| | |
|----------------|----------------|
| Primary reason | Please explain |
|----------------|----------------|

W6.3

Does your organization have a water policy that sets out clear goals and guidelines for action?

No

W6.3a

Please select the content that best describes your water policy (tick all that apply)

| | |
|---------|---|
| Content | Please explain why this content is included |
|---------|---|

W6.4

How does your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) during the most recent reporting year compare to the previous reporting year?

| Water CAPEX (+/- % change) | Water OPEX (+/- % change) | Motivation for these changes |
|----------------------------|---------------------------|---|
| 0 | 2 | There has not been any significant CAPEX expenditure projects implemented to reduce water usage. Across the company as a whole the purchasing of water from municipal authorities has increased by 2% in the last year. |

Further Information

Page: W7. Compliance

W7.1

Was your organization subject to any penalties, fines and/or enforcement orders for breaches of abstraction licenses, discharge consents or other water and wastewater related regulations in the reporting year?

No

W7.1a

Please describe the penalties, fines and/or enforcement orders for breaches of abstraction licenses, discharge consents or other water and wastewater related regulations and your plans for resolving them

| Facility name | Incident | Incident description | Frequency of occurrence in reporting year | Financial impact | Currency | Incident resolution |
|---------------|----------|----------------------|---|------------------|----------|---------------------|
|---------------|----------|----------------------|---|------------------|----------|---------------------|

W7.1b

What proportion of your total facilities/operations are associated with the incidents listed in W7.1a?

W7.1c

Please indicate the total financial impacts of all incidents reported in W7.1a as a proportion of total operating expenditure (OPEX) for the reporting year. Please also provide a comparison of this proportion compared to the previous reporting year

| Impact as % of OPEX | Comparison to last year |
|---------------------|-------------------------|
|---------------------|-------------------------|

Further Information

Page: W8. Targets and Initiatives

W8.1

Do you have any company wide targets (quantitative) or goals (qualitative) related to water?

Yes, targets only

W8.1a

Please complete the following table with information on company wide quantitative targets (ongoing or reached completion during the reporting period) and an indication of progress made

| Category of target | Motivation | Description of target | Quantitative unit of measurement | Base-line year | Target year | Proportion of target achieved, % value |
|---|-------------------|--|---|----------------|-------------|--|
| Other: Reduction in water intensity of operations | Water stewardship | Half the use of water in our own operations relative to sales revenues (excluding pgms) by 2017 compared to 2006 baseline. | Other: % reduction in water withdrawals from all sources per unit sales revenue | 2006 | 2017 | 96% |

W8.1b

Please describe any company wide qualitative goals (ongoing or reached completion during the reporting period) and your progress in achieving these

| Goal | Motivation | Description of goal | Progress |
|------|------------|---------------------|----------|
| | | | |

W8.1c

Please explain why you do not have any water-related targets or goals and discuss any plans to develop these in the future

Further Information

Module: Linkages/Tradeoff

Page: W9. Managing trade-offs between water and other environmental issues

W9.1

Has your organization identified any linkages or trade-offs between water and other environmental issues in its value chain?

No

W9.1a

Please describe the linkages or trade-offs and the related management policy or action

| Environmental issues | Linkage or trade-off | Policy or action |
|----------------------|----------------------|------------------|
| | | |

Further Information

Module: Sign Off

Page: Sign Off

W10.1

Please provide the following information for the person that has signed off (approved) your CDP water response

| Name | Job title | Corresponding job category |
|----------------|-------------------------|-------------------------------|
| Robert MacLeod | Chief Executive Officer | Chief Executive Officer (CEO) |

W10.2

Please indicate that your organization agrees for CDP to transfer your publicly disclosed data regarding your response strategies to the CEO Water Mandate Water Action Hub.

Note: Only your responses to W1.4a (response to impacts) and W3.2c&d (response to risks) will be shared and then reviewed as a potential collective action project for inclusion on the WAH website.

By selecting Yes, you agree that CDP may also share the email address of your registered CDP user with the CEO Water Mandate. This will allow the Hub administrator to alert your company if its response data includes a project of potential interest to other parties using water resources in the geographies in which you operate. The Hub will publish the project with the associated contact details. Your company will be provided with a secure log-in allowing it to amend the project profile and contact details.

Yes

Further Information

CDP