

# CDP Water 2016 Questionnaire Drafting Document

# Introduction

## W0. Introduction

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

#### About

The supply of energy and related services is fundamental to people's lives and society's progress - from keeping homes warm and well-lit to fuelling industrial processes. As an international energy and services company focused on satisfying the changing needs of our customers, we have a vital role in society.

Our 38,800 employees work hard at every stage of the energy value chain - from sourcing and generating to servicing and supplying energy in our chosen markets. We serve our 28 million customer accounts through strong brands with distinctive capabilities which include British Gas in the UK, Bord Gáis Energy in the Republic of Ireland and Direct Energy in North America. Through these brands we are concentrating our growth efforts in five key areas – Energy Supply, Services, the Connected Home, Distributed Energy & Power (DE&P) and Energy Marketing & Trading (EM&T). The role of Exploration & Production (E&P) in our portfolio is to provide diversity of cash flow and the balance sheet strength required to supply energy to our customers.

#### Impact on water

We recognise that water availability is an increasingly significant issue for global stakeholders and we are committed to increasing the visibility of our water footprint as well as reducing our water impact through robust environmental management.

Water however remains a non-material risk for our business because for a company our size and within our sector, we consume a relatively small amount of water and do not operate water-intensive activities in water-stressed areas. Moreover, using the Water Footprint Networks or Ceres definition, the vast majority of water we withdraw is used rather than consumed as it is returned to the same water catchment area within the same cycle period while ensuring minimal changes to the water's characteristics.

Most of our water-related risks and opportunities lie within our power generation and E&P businesses, where cooling and process water represent more than 99% of the total water we use. As a result, risk and opportunities relating to water are not considered to have a substantial impact on our business, operations or revenue.

Our water use falls into four main categories:

- Cooling water - Water that is used rather than consumed as it is redirected through pipes to cool power generation or gas processing facilities, before returning to the same water source over a short period of time. Our cooling water is sourced from seas, rivers and estuaries (98% is saline).
- Process water - Consumed water which is then subject to on or offsite treatment before being used again or returned to a water source.
- Operational water - Water consumed within E&P activities, such as hydraulic well-stimulation or enhanced gas recovery.
- Office water - Water consumed at our buildings.

Within this disclosure, the following definitions are employed:

- Use - Where we withdraw and return water to the same catchment area and within the same water cycle period (e.g. cooling water).
- Consumption - Where we withdraw and use water but do not return it, or where we return it within a different cycle period (e.g. steam generation).

- Discharge - Where water is returned to a water source or sent for offsite treatment (e.g. a sewer or treatment plant).

As worldwide sources of clean water become increasingly under threat, we remain steadfast in our commitment to ensure water is used both efficiently and responsibly not only in our business, but across our supply chain too.

**W0.2 Please state the start and end date of the year for which you are reporting data**

Reporting year	
From: 01/01/2015	To: 31/12/2015

**W0.3 Please indicate the category that describes the reporting boundary for companies, entities or groups for which water impacts are reported.**

Reporting boundary
Other, Companies, entities or groups in which we have both equity share and operational control

**W0.4 Are there any geographies, facilities or types of water inputs/outputs within this boundary of which are not included in your disclosure?**

Yes

**W0.4a Please report the exclusions in the following table**

Exclusion	Please explain why you have made the exclusion
Water consumed in six minor offices	<p>Centrica has six small offices with less than 100 full time employees which are not included within the scope of our water reporting.</p> <p>We do not undertake measurement at these sites as water consumption values are deemed immaterial and therefore, we cannot justify the financial expenditure to complete measurement.</p> <p>We calculate that the volumes involved in this exclusion represent less than 0.001% of our total water withdrawals and will therefore not impact our performance.</p>

# Current State

## W1. Context

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

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	<p>Access to suitable quality freshwater is important to our business. The primary use of freshwater in direct operations is process water which we use in our offices as well as our gas-fired power stations in processes such as steam generation . Demand for freshwater is however in decline, following a number of divestments and closures of power stations during 2015.</p> <p>With this decline, coupled with our offices not being water intensive and being diversified in location and design, the potential risk of not having sufficient amounts of good quality freshwater is unlikely to have a significant financial impact on our business.</p> <p>Reliable freshwater sources are also important in our indirect water use, as most of the power generators we purchase energy from require it for their processes. Consumption across generators does however vary and is dependent on technology employed alongside regional location. We mitigate the risk of insufficient access to freshwater through diversity of supply.</p>

Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Important	<p>Direct access to saline water is important to the success of our business because it is used for cooling water at several of our power stations and upstream operations.</p> <p>The vast majority of saline water used is abstracted from estuaries or the open sea. These sources are associated with very low risks regarding quantity and quality and consequently, we do not consider our activities as water-intensive.</p> <p>For indirect use, recycled, produced and brackish water is important for some of our gas and electricity suppliers, whose power we purchase for resale to our customers. Sufficient availability of these water types therefore remains important to our business but their importance will vary depending on the technology employed at each power station or energy asset. We mitigate the risk of our suppliers not having access to sufficient amounts of water through diversification of our supply chain.</p>
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## W1. Company-wide water accounting

**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	We measure and monitor water input volumes across 96% our sites which use or consume water. In a small number of cases, it is not possible to undertake measurements because we only occupy part of the building (offices only) and are therefore not responsible for building management, which means we do not have access to water-use data, or the water consumption values are deemed immaterial and therefore we cannot justify the financial expenditure for completing measurement.
Water withdrawals – volume by sources	76-100	Centrica measures and monitors water input volumes by source category at 96% of our sites. In a small number of cases, we do not have access to water-use data because we only occupy part of the building (offices) and are therefore not responsible for building management or the water consumption values are deemed immaterial and we therefore cannot justify the financial expenditure for enabling measurement.
Water discharges – total volumes	76-100	We routinely measure water discharge volumes at 96% of our sites. In a small number of cases, we are unable to undertake measurement because we only occupy part of the building (offices only) and are therefore not responsible for building management so we do not have access to water-use data. We believe the majority of our water discharge volumes are captured as we focus on sites with the greatest volume and estimate that the sites we are unable to monitor have immaterial discharge.
Water discharges – volume by destination	76-100	Where we measure discharge volumes, we do so by destination so the coverage is the same. As such, discharge volumes are measured at 96% of our sites. A small number of sites are not monitored because we only occupy part of the building (offices only) and are therefore not responsible

		for building management which means we do not have access to water-use data, or the water consumption values are deemed immaterial and therefore we cannot justify the financial expenditure required for measurement.
Water discharges – volume by treatment method	76-100	By recording our discharge volumes by destination, we are able to monitor how our discharges are being treated. We measure 96% of our sites' discharges by volume. 4% of our sites are not monitored because we do not have access to water-use data due to only occupying part of the building so we are not responsible for how the building is managed or the water consumption values are deemed immaterial and we therefore cannot justify the financial expenditure to carry out measurement.
Water discharge quality data – quality by standard effluent parameters	1-25	Centrica routinely measures the quality of our water discharge at power assets, platforms and gas terminal sites, where we have a legal or contractual requirement to monitor and/or report pursuant to consented quality limits. Although this requirement covers the majority of our discharges by volume, it is not a requirement at more than 75% of our sites.
Water consumption – total volume	76-100	We are able to calculate the total volume of water consumption across our business because we measure 99.9% of our input and output water volumes from 96% of our sites, while also recording the water discharge routes for all discharges.
Facilities providing fully-functioning WASH services to all workers	76-100	As part of our duty of care to our people and through our Health, Safety and Environment assurance activities, we ensure and verify that all employees have access to WASH services at their normal place of work.

**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	241.73	Much Lower	A reduction in production at our gas exploration assets in Canada alongside a reduction in output at our Glanford Brigg Power Station in the UK, has resulted in a reduction in freshwater use for cooling processes compared to 2014.
Brackish surface water/seawater	435094.88	Much Lower	Brackish surface water/seawater is used for cooling at our coastal power stations and offshore oil and gas assets. The volume of withdrawn brackish water has lowered as a result of reduced power output at the largest consumer, South Humber Bank power station.
Rainwater	6.75	About the same	We use harvested rainwater at our gas-fired power station at Langage which is located in Plymouth, UK.
Groundwater - renewable	342.01	Higher	Centrica's volume of withdrawn groundwater has increased due to the inclusion of Canada E&P in our reporting for the first time during

			2015. We also calculate withdrawals have increased in our Canada operations compared to 2014.
Groundwater – non-renewable	0.00	Not applicable	Centrica does not withdraw non-renewable groundwater across its operations.
Produced/process water	379.56	Higher	Produced water or formation water is a by-product brought to the surface with natural gas and oil, as part of the hydrocarbon production process. This water is separated from the hydrocarbon products and then discharged to the sea or ground. The second half of 2015 saw a rise in the volume of produced water due to increased production at the North Sea asset, Chestnut.
Municipal supply	900.54	About the same	Municipal water is primarily used for our office sites, although approximately 30% of it is 'non-potable' and used as process water in some of our UK power stations.
Wastewater from another organization	0.00	Not applicable	Centrica does not use waste water across its operations.
Total	436965.47	Much lower	Our total water withdrawals have lowered by 57% compared to 2014.

**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	35.33	Much lower	A reduction in output from Glanford-Brigg Power Station has resulted in a lower discharge into the River Ancholme compared to 2014.
Brackish surface water/seawater	435456.60	Much lower	The volume of discharged brackish water has lowered as a result of reduced power output at our largest consuming asset, South Humber Bank power station.
Groundwater	575.87	Much higher	Groundwater includes wastewater disposed via injection wells and water used for enhanced recovery in our Canadian gas production operations. We have reported an increase in total Centrica volumes compared to 2014 because Canada E&P was included in reported data for the first time.

Municipal/industrial wastewater treatment plant	390.06	Higher	Waste water from certain operational assets and all our office locations is sent to municipal water treatment facilities. An increase in volumes has occurred due to the inclusion of office water discharges in our reporting for the first time.
Wastewater for another organization	0.00	Not applicable	Centrica does not use waste water across its operations.
Total	436456.85	Much lower	Our total water discharges have lowered by 57% compared to 2014.

**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
507	Much lower	<p>We calculate our water consumption in accordance with Ceres Aqua Gauge's definition as the 'amount of water that is used but not returned to its original source'. This also aligns with the Water Footprint Networks definition.</p> <p>For Centrica, water consumption primarily comprises of water that is lost through evaporation. Our total water consumption was significantly lower in 2015 compared to 2014. This was largely due to a reduction in output from our power assets which have relatively high levels of consumption (mainly brackish water) for cooling and process requirements.</p>

## W1.Supplier reporting

**W1.3 Do you request your suppliers to report on their water use, risks and/or management?**

Yes



**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
1-25	1-25	<p>We focus our assessment of water risks in our supply chain for new and existing suppliers whose contracts are either due for renewal or review after two years, based on the risk associated with the supplier’s sector, size and location. This is a more effective approach than focusing purely on our spend profile because it enables us to detect potential risks where they are likely to be more material.</p> <p>Suppliers are principally engaged through our supply chain risk management process which spans social, ethical and environmental issues. This includes an online supplier self-assessment tool provided by independent supply chain sustainability experts, EcoVadis. The tool evaluates the adequacy of current actions in place for water management which includes employee awareness, monitoring of consumption and measures to reduce pollutants rejected into water.</p> <p>Following an analysis by EcoVadis, we receive risk scores for completing suppliers. Where a supplier is deemed to have inadequate performance (a medium or high risk rating), we work collaboratively with them to develop corrective action plans that improve and embed sustainable behaviours. Progress against action plans is monitored through the online platform with reassessment occurring after a maximum of 12 months to evaluate whether required changes have been implemented. Where suppliers fail to meet required standards, we reserve the right to terminate their contracts.</p>

## W1.Business impacts

**W1.4 Has your organization experienced any detrimental impacts related to water in the reporting year?**

No

# Risk Assessment

## 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 suppliers	<p>Identifying and understanding our most significant risks and developing strategies to mitigate them, is essential to managing our business responsibly.</p> <p>At our Barrow and Easington gas terminals, we are required to undertake a flood risk assessment as part of the Control of Major Accident Hazards (COMAH) compliance regulations, which makes sure we have effective processes in place to manage water risks.</p> <p>At our power stations and offices, water-related risks are controlled through inclusion within business risk management procedures to ensure they are subject to the highest levels of rigour and governance. Each identified risk from asset to company level together with related controls, are consistently assessed and reported according to the Group Risk Management Policy, Standards and Guidelines.</p> <p>Water risk in our supply chain is managed through our supply chain risk management programme. A core element of this is our self-assessment tool for suppliers, which includes assessment of water risks. The platform is provided and managed by independent supply chain sustainability experts, EcoVadis. Suppliers identified as medium or high risk are required to put in place corrective action plans and demonstrate they have corrected risk areas that have been highlighted through the assessment.</p>

**W2.3 Please state how frequently you undertake water risk assessments, 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
Six-monthly or more frequently	River basin	3 to 6 years	Our routine risk assessments generally consider risks up to three years in the future. When considering our growth strategy, we take a longer perspective which is typically between 5-10 years into the future.

**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 5 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?**

Due to the variability of water accessibility and the impacts of its use over time and by location alongside the diversity of our business activities, we continue to evaluate the effects of water risks on our growth plans at an individual site and river basin level. For new projects, a high-level strategic assessment of the activity and intended location will be undertaken, including any material water-related risks and impacts. If viable, developments such as power stations or oil and gas assets undergo detailed planning and/or licensing applications, which involves the completion of environmental impact assessments to receive approval from the appropriate regulators, authorities and other interested parties. This process evaluates our potential water requirements, the various options for meeting those requirements and the possible impacts and mitigations of resource use, consumption and discharge.

An example of this is Centrica’s 25% non-operating share in the proposed Bowland shale gas sites in the UK. Centrica has worked closely with its partners in developing controls to ensure the effective management of potential environmental impacts, including the requirement for suitable water for hydraulic fracturing in addition to the availability of waste water treatment capacity.

Similarly, detailed due diligence processes are undertaken when new assets are acquired to evaluate both current and future water-related risks relevant to the activity or organisation.

This approach forms part of our capital allocation process and is an input into our strategic planning process. In 2015, water-related risks, although fully considered, did not materially affect Centrica’s growth strategy. This is principally due to our current growth plans being low risk for water in terms of both activity and location.

**W2.5 Please select the methods used to assess water risks**

Method	Please explain how these methods are used in your risk assessment
Internal company knowledge	Internal company knowledge - Our environmental specialists are integrated into the assessment and management of risks at a site, business and corporate level. Specialist input is captured via methods like quarterly risk reviews and peer review quality checks.

<p>WBCSD Global Water Tool</p>	<p>WBCSD Global Water Tool - The tool assists us to understand the proportion of our current and planned operations located in water-stressed regions, enabling us to take special measures if required.</p>
<p>Other: Environmental Impact Assessment (EIA)</p>	<p>Environmental Impact Assessment (EIA) - EIAs are a detailed method of evaluating potential water requirements of a proposed activity or asset, options for meeting those requirements and possible impacts and mitigations of resource use, consumption and discharge or treatment. This informs understanding of our planned or likely impacts while material water-related risks are integrated into risk assessments to ensure sufficient controls are in place. We generally employ use of EIAs for high hazard, high impact facilities such as gas terminals, rather than low hazard, low impact facilities like offices.</p>
<p>EcoVadis Sustainable Supply Chain Management tool</p>	<p>EcoVadis Sustainable Supply Chain Management Tool - We use self-assessment tool for suppliers provided by sustainability specialist, EcoVadis, to assess water-related risks against sector appropriate criteria. Where a supplier has inadequate performance (a medium or high risk rating), we work collaboratively to develop corrective action plans. Identified risks are integrated into our risk assessment process.</p>

**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	Local water quality and availability will always be relevant across our facilities where water is required. Where surface or ground water is abstracted from the natural environment, this is factored into local EIAs and permits or license applications. Material risks associated with reduced local water quality and availability does not currently exist but we will continue to assess this as a potential risk to the business should this change in the future.
Current water regulatory frameworks and tariffs at a local level	Relevant, included	Water regulatory frameworks and tariffs at a local level are relevant at all of our facilities which require water. Our assessments using internal company knowledge, indicate that our operational facilities which require relatively large volumes of municipal water or which abstract from and discharge to freshwater, are most at risk from current and future regulatory and financial costs associated with water. We continually review these risks at quarterly risk meetings. As we do not have many operational facilities that require large volumes of municipal or freshwater, we have yet to change our operations materially as a consequence.
Current stakeholder conflicts concerning water resources at a local level	Relevant, included	Where appropriate, we will always consider stakeholder conflicts when assessing water resources and our requirements, at a local level. A current example is the proposed Bowland shale gas sites in the UK of which we have a 25% non-operating stake. Any concerns raised are being assessed and dealt with through EIAs alongside the planning and permitting process.
Current implications of water on your key commodities/raw materials	Relevant, included	Our key commodities and raw materials are gas and power, both for our own consumption as well as for supply to our customers. As such, we limit our water risk assessment to these suppliers alongside other key suppliers through our supply chain risk management process, including the EcoVadis online supplier self-assessment which spans social, ethical and environmental issues including water management, consumption and employee awareness. Water is recognised as one of a number of key considerations that may affect their ability to supply us, which we aim to mitigate by developing a diverse supply chain to ensure continuity of supply.
Current status of ecosystems and habitats at a local level	Relevant, included	It is vital that our upstream and power operational facilities that abstract from and discharge to freshwater, consider the local ecosystems and habitats they interact with. These considerations are included in EIA's where appropriate and within permitting requirements as well as being subject to ongoing assessments, reporting and monitoring. Other facilities, such as offices, do not have material considerations or impacts on local ecosystems and habitats.
Current river basin management plans	Not relevant, included	Current river basin management plans will be factored into our risk assessments for operational assets that require significant volumes of freshwater. We do this using internal company knowledge and EIA's if necessary in order to understand any potential impacts on the quantity or quality of water available to us. Our E&P and power assets do not presently face any material risks relating to river basins and it is not relevant for our low risk sites such as offices.
Current access to fully-functioning WASH services for all employees	Relevant, included	As part of our duty of care to our employees and through our internal company knowledge across our Health, Safety and Environment assurance activities, Centrica ensures and verifies that all its employees have access to water, sanitation and hygiene (WASH) services at their normal place of work. At the strategic level, any new proposal or change in our external environment which may prevent us from fulfilling this commitment will be included in risk assessments. At the site level, risk assessments include welfare considerations for our people.

Estimates of future changes in water availability at a local level	Relevant, included	Changes in water availability are commonly reviewed at quarterly risk review meetings using internal company knowledge and external input from engagement with water suppliers. If required any issues will be escalated from a site, to a business or corporate level. Any concern of potential changes would be dealt with promptly at the local level to reflect the facilities future requirements. Other facilities, such as offices, generally do not have material considerations regarding future changes in water availability.
Estimates of future potential regulatory changes at a local level	Relevant, included	We primarily focus on our operational facilities that abstract from and discharge to rivers and estuaries. In these cases, we must consider current and future regulatory and financial costs associated with water within our routine risk assessment process using internal company knowledge. Other facilities, such as offices, do not have material considerations regarding future potential regulatory changes.
Estimates of future potential stakeholder conflicts at a local level	Relevant, included	Using internal company knowledge and third party experts, we make estimations of future potential stakeholder conflicts but only when assessing potentially contentious activities which include sensitivities regarding water use and consumption. For example, we analysed potential conflicts that could arise regarding our 25% non-operating stake in the proposed Bowland shale gas sites in the UK so that we can better mitigate negative impacts should they arise.
Estimates of future implications of water on your key commodities/raw materials	Relevant, included	Our key commodities/raw materials are gas and power for our own consumption and for supply to our customers. We therefore limit our water risk assessment to these suppliers. Water is one of a number of key considerations that may affect their ability to supply us in the future, which we aim to mitigate by developing a diverse supply chain. Future risks are estimated using internal company knowledge as part of contract negotiations or renewals.
Estimates of future potential changes in the status of ecosystems and habitats at a local level	Relevant, included	Our operational facilities that abstract from and discharge to freshwater (rivers and estuaries), must consider not just the current local ecosystems and habitats of the abstraction and discharge environments, but also predictable changes and impacts over the life of the asset or operation. For example, at our largest water discharge site, South Humber Bank power station, we work with the Humber Nature Partnership to ensure any adverse impact on the local ecosystem is kept to a minimum while seeking ways we can enrich local biodiversity. These considerations are subject to assessment and monitoring as required. Other facilities such as offices, do not have material considerations regarding future potential changes in the status of ecosystems and habitats.
Scenario analysis of availability of sufficient quantity and quality of water relevant for your operations at a local level	Relevant, included	At assets or operations where water availability is important, we will consider future changes in water availability in our risk assessments using internal company knowledge. This may take the form of supply continuity risk which will involve liaison with utility companies and the careful structuring of supply agreements, or liaison with regulators on permitted withdrawal volumes. We have additionally undertaken climate change adaptation risk assessments in the UK which model potential water-related risks and scenarios for our power stations.
Scenario analysis of regulatory and or tariff changes at a local level	Relevant, included	Scenario analysis of regulatory changes is undertaken in relation to potential, new or revised water-related legislation which may impact our assets or EIAs. For example, we were required to model the implications and costs of various potential outcomes following regulation implemented in the UK which aimed to protect the native eel population. Legislation is generally applicable to our operational assets rather than low-risk sites like offices.
Scenario analysis of stakeholder conflicts concerning water	Relevant, included	Centrica uses internal company knowledge and third party expert support to undertake scenario analysis of stakeholder conflicts when analysing the viability of potentially controversial development options. For instance, we used scenario analysis in relation to the proposed Bowland shale gas exploration sites in the UK.

resources at a local level		
Scenario analysis of implications of water on your key commodities/raw materials	Not relevant, explanation provided	Our key commodities and raw materials are gas and power for our own consumption and for re-sale to our customers. Centrica operates in relatively stable supply markets which include Europe and North America, and seeks to reduce risks further by developing a stable and diverse supply base with manageable and predictable water-risk exposure. Consequently, we do not currently consider scenario analysis with regard to our key commodities and raw materials as necessary.
Scenario analysis of potential changes in the status of ecosystems and habitats at a local level	Relevant, included	Centrica undertakes scenario analysis in relation to the status of ecosystems for assets that pose a potential risk to water resources and habitats. These operations are generally regulated and require ongoing monitoring of local ecosystems to ensure impacts are within our planned scenario's modelled at the time of permit/planning application (often through EIA). We may also model changes in the status of ecosystems and commit to undertaking action, should agreed limits be exceeded.

**W2.7 Which of the following stakeholders are always factored into your organization's water risk assessments?**

Stakeholder	Choose option	Please explain
Customers	Relevant, included	Customers are factored into our organisation's water risk assessment to ensure continuity of both gas and power supply. Any material risks to water availability which could impact operational output have the potential to negatively impact our security of supply for customers. Where customers may be negatively affected, they will be contacted through phone, email or letter.
Employees	Relevant, included	Employees are included in the organisation's water risk assessment in order to assess the risk of not meeting our duty of care by providing suitable WASH facilities. The availability of water is a key component of upholding this commitment. If this was to change, for example if a water supply was disrupted at an office, employees would be informed through automated text messages and by phone. Employees would be moved to one of our work area recovery sites or told to work from home until the issue was resolved.
Investors	Relevant, included	Investors are factored into Centrica's water risk assessment because any disruption to planned operations or change in future risk exposure, has the potential to impact negatively on revenue and profitability alongside shareholder perception towards the company. Any relevant updates would be shared with investors through public announcements, investor meetings or capital market days.
Local communities	Relevant, included	Where a facility extracts or discharges significant volumes of fresh water, other stakeholders such as local communities and special interest groups will, if applicable, be engaged to discuss issues through local town hall meetings, via letters or by phone.
NGOs	Relevant, included	NGO positions on our activities, especially where a facility extracts or discharges significant volumes of freshwater, are materially important to us and where applicable, we will engage directly with the NGO community and factor their views and insights into our risk assessments. Examples include the shale gas roundtable we organised and held in 2015 with a group of environmental NGO's to discuss the environmental issues relating to shale gas development,

		including water use. NGO engagement on water does not currently apply to our low risk sites like offices.
Other water users at a local level	Relevant, included	Where a facility extracts or discharges significant volumes of freshwater, other water users will be factored into our risk assessment where appropriate. This does not currently apply to low risk sites such as our offices.
Regulators	Relevant, included	<p>We operate numerous highly regulated assets, many of which are subject to water-related permits, licenses or consents.</p> <p>The relevant regulator is always factored into our risk assessments as their evaluation of our operational performance is important to the continuity of our business.</p> <p>Regular inspections are carried out by Environmental Regulators such as the UK Environment Agency for onshore facilities at our Easington Gas Terminal and the UK Department of Energy and Climate Change (DECC) for our offshore gas platforms.</p> <p>Routine reports are submitted to both regulators. The Environment Agency requires six monthly data on discharges to sewer as well as annual data on gross and net water usage. DECC require monthly data on oil concentrations in produced water.</p> <p>Additionally, a regular dialogue exists for routine operations and planned projects with regulatory bodies, which are consulted and informed on an ad-hoc basis through meetings and other correspondence as required to ensure compliance.</p>
River basin management authorities	Relevant, included	Where a facility extracts or discharges significant volumes of freshwater, river basin management authorities and their plans will be factored into our risk assessments where applicable. For example the river basin management authority make regular site visits to South Humber Bank power station, to ensure there is minimal impact to local habitats mainly relating to fish.
Statutory special interest groups at a local level	Relevant, included	Where a facility extracts or discharges significant volumes of freshwater, other stakeholders such as local communities and special interest groups will also be engaged where applicable. This does not currently apply to our office locations.
Suppliers	Relevant, included	Suppliers are initially assessed on sector, geography and size. Those identified as potentially high risk are requested to complete our more detailed risk assessment on their social and environmental performance which includes a component on water impacts managed by supply chain sustainability experts, EcoVadis). An overall supply chain risk profile is subsequently developed and maintained through this process, which is factored into our risk management process. Assessments are repeated every two years or when the contract is renewed.
Water utilities/suppliers at a local level	Relevant, included for some	Where a facility extracts or discharges significant volumes of freshwater, the water utilities or suppliers are factored into the water risk assessment as any disruption to their operations could negatively impact their ability to meet our water demand. For example, when works need to be carried out by the water utilities company, Centrica Storage Limited will be informed through phone calls or in person, to ensure any discharges to sewer from the terminal are timed accordingly. This occurs on an ad-hoc basis, as



		required by the service provider Yorkshire Water. Power stations are also in contact with utilities companies as required to discuss industrial water requirements.
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## Implications

### 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?**

No

**W3.2 Please provide details as to how your organization defines substantive change in your business, operations, revenue or expenditure from water risk**

Individual risks across our direct operations and our supply chain are ranked by assessing potential financial and non-financial impacts alongside the likelihood of materialisation. A 1-5 impact and likelihood scale is used, with the overall rating (1-25) calculated through multiplying impact by likelihood. Substantive risks are defined as those with a score of 15 or over, alongside those with a lower score but which are likely to cause catastrophic loss (High Impact/Low Likelihood). Financial impacts are relative to operating profit targets while non-financial impacts include a range of issues such as safety and environment, brand and reputation, legal and regulatory. Further statistical modelling, scenario planning and commercial analyses are carried out where applicable.

At least quarterly, Business Units and Group Functions review the internal and external environment for new and emerging risks or changes to existing risks which incorporate water-related risks and could impact the delivery of our strategy. Risks are reported to a Risk, Assurance and Control Committee (RACC) or equivalent management meeting to evaluate, challenge and advise on material risks as well as consider the adequacy of mitigating controls.

The most material risks including High Impact/Low Likelihood risks are reported to the Group Risk, Assurance and Control Committee (GRACC), to ensure it has a clear understanding of our risk profile and the effectiveness of controls which are informed by assurance activity. The GRACC is chaired by the Chief Executive, with membership comprising of the Centrica Executive Committee (CEC). The Audit Committee then receives a risk update which includes a CEC approved assessment of our principal risks and the adequacy of associated controls. These reports, supplemented by management discussions, enable the Committee to monitor performance and ensure remedial action is taken if significant failings or weaknesses are identified.

Ultimately, the Board, the Safety, Health, Environment, Security and Ethics Committee (SHESec) and CEC are responsible for identifying and prioritising risks and opportunities. Meetings occur throughout the year to continually evaluate the Group strategy in relation to the external economic, competitive, regulatory and policy context which includes water-related risks and opportunities.

**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	<p>Centrica is not currently exposed to substantive water-related risks. This is primarily because we do not operate water-intensive activities in water-stressed areas, assessed using the WBCSD Global Water Tool and internal company knowledge.</p> <p>The most significant risk we are exposed to is the availability of water for cooling requirements at our upstream assets. The supply of large volumes of water is important to these activities, however the vast majority of this water is abstracted from estuaries or the open seas, which are sources associated with very low risks regarding quantity and quality. Moreover, the vast majority of water we withdraw is used rather than consumed, as it is returned to the same water catchment area within the same cycle period, further reducing the risks of supply interruption. This can be demonstrated by our climate change adaptation assessments undertaken for our UK power assets, which rate flooding and water availability risks as low, although this and other risks are reviewed at quarterly risk meetings with input from environmental managers.</p> <p>Another inherent risk relates to the cost of water to our business. This is however currently immaterial when compared with other commodity costs such as gas, but we nevertheless review the risk annually.</p> <p>We do not foresee material tightening of relevant regulations and have strong operational systems and process controls to manage and mitigate pollution risks.</p>

**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
Risks exist, but no substantive impact anticipated	<p>Gas and power sales are the most important components in our supply chain, both of which are reliant to varying degrees on the availability of water for their operations. As such, an inherent risk of water-related supply interruption exists. This risk is however not substantive as we purposely procure power from multiple generators in the open market, while gas is purchased from various sources including international supply contracts. This flexibility reduces our exposure to water-related risks.</p> <p>Water-related risks also exist in the supply chains of other services and products we procure. Identification of high risk suppliers occur through our comprehensive supply chain risk management programme including the use of EcoVadis and to date, no suppliers have been found to have substantive water-related risks. High risk and tier 0 suppliers are asked to complete an EcoVadis assessment every two years or when a contract is renewed.</p>

## W4. Water opportunities

**W4.1 Does water present strategic, operational or market opportunities that substantively benefit/have the potential to benefit your organization?**

No

**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
<p>Opportunities exist, but nothing substantive</p>	<p>Water is not material to the growth or cost saving opportunities for the business. The cost of water is not significant enough to present substantive saving opportunities.</p> <p>We have yet to identify major commercial, competitive or other opportunities related to water. While our approach to water-related biodiversity and habitat protection provides local engagement opportunities, these are not substantive.</p> <p>We hold an annual Board Planning Conference during which opportunities are examined including those related to water in new markets, potential investments and technologies. Due diligence to assess commercial viability, market landscapes and future regulation is then conducted before strategies are presented to the Centrica Executive Committee for review.</p>

# Response

## W6. Governance & 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 individual/Sub-set of the Board or other committee appointed by the Board	Scheduled - monthly	<p>The Chief Executive has responsibility for the Group Environment Policy. The Centrica Executive Committee, of which the Chief Executive is Chair, are briefed monthly by the Group Director of Health, Safety, Environment and Security (HSES) on performance whereby any material water-related issues are raised and discussed.</p> <p>The Chief Executive where applicable, will also attend the Safety, Health, Environment, Security and Ethics Committee (SHESEC) which may discuss water-related issues and is Chair of SHESEC's sub-Committee, the HSES Committee, which tables environmental issues in more detail on a bi-monthly basis.</p> <p>Significant water-related incidents are reported within 24 hours to the Chief Executive.</p>

**W6.2 Is water management integrated into your business strategy?**

Yes

**W6.2a Please choose the option(s) below that best explain how water has positively influenced your business strategy**

Influence of water on business strategy	Please explain
Greater due diligence	<p>Factoring water risks and management into our due diligence, investment and procurement decisions, ensures we have full visibility of water risks and obligations. This in turn enables these risks and opportunities to be effectively managed and mitigated, thus enhancing our business resilience and protecting our licence to operate.</p> <p>This leads to our strong water stewardship, delivered by embedding high operational standards and driving continued improvements through setting and measuring targets and KPIs.</p> <p>Our transparent disclosure of our performance, sends a clear message to our stakeholders that we take our water-related risks and opportunities seriously and that we are effective in managing our impact on water.</p>

**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
No measurable influence	<p>In general, we experience only localised operational constraints relating to access to water supplies or waste water discharge in our Exploration and Production (E&amp;P) and power assets. These are managed through design, technology and innovation and in agreement with the relevant regulators or authorities.</p> <p>We have not experienced negative impacts on our business strategy relating to water. It is unlikely that this situation will change in the future based on our existing activities and assets, as the majority of our water intensive activities are located in areas where water scarcity is not an issue such offshore., Negative impacts on our strategy could however occur if we enter new geographies, activities or technologies.</p>

**W6.3 Does your organization have a water policy that sets out clear goals and guidelines for action?**

Yes

**W6.3a Please select the content that best describes your water policy (tick all that apply)**

Content	Please explain why this content is included
Publicly available Company-wide Performance standards for supplier, procurement and contracting best practice Incorporated within group environmental, sustainability or EHS policy Acknowledges the human right to water, sanitation and hygiene	<p>Our Group Environment Policy includes a key commitment to protect the environment and the efficient use and effective management of resources such as water. Our Procurement and Corporate Responsibility Policy for Suppliers requires active management of their own environmental impacts including measuring and periodic performance reviews. This is because the transparent and efficient use of resources is a key part of our commitment to being a good corporate citizen, which helps us meet our environmental goals and stakeholder expectations. Access to clean water is also a requirement for all suppliers to provide for employees.</p> <p>We do not include performance standards for direct operations as this level of detail is contained within Business Unit standards and procedures. We include a commitment to customer education on energy use as this is our core product. We do not extend this commitment to water as we are not involved in the provision of water-related products to customers.</p>

**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
	+8.5%	Centrica does not collect a total OPEX spend.  Values are however captured at individual power stations. For example, at our Langage Energy Centre, Water OPEX was +8.5% in 2015, which demonstrates an increase in spend from 2014 as a result of improvements to rainwater harvesting, filters, pipes and small value consumables.

## 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

## W8. Targets and initiatives

**W8.1 Do you have any company-wide targets (quantitative) or goals (qualitative) related to water?**

Yes, target and goals

**W8.1a Please complete the following table with information on company-wide quantitative targets (ongoing or reached completion during the reporting year) 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
Reduction in consumptive volumes	Water stewardship	Our target was to reduce British Gas office water use by 3% in 2015, compared to 2014. Although we lowered our water consumption by 1.95% in 2015, we failed to meet our 3% reduction target. In 2016, we aim to reduce our UK office water use by 1%.	% reduction per business unit	2014	2015	65

**W8.1b Please describe any company-wide qualitative goals (ongoing or reached completion during the reporting year) and your progress in achieving these**

Goal	Motivation	Description of goal	Progress
Other: Rainwater harvesting	Cost savings, Water Stewardship	At our Langage Energy Centre we increased rainwater harvesting to displace town water supply for industrial use.	New filters and pipes were fitted to reduce strain from heavy rainfall on the filter, which used to impact effectiveness of the filter and result in murky water.
Other: Full compliance with our prescribed limits on water management	Recommended sector best practice	Where we have site-specific limits on the quality of discharge and quantity of abstraction, our goal is to ensure ongoing compliance with those limits. We set this goal pursuant to our policy commitment to prevent pollution, be compliant and continually improve. We track performance against this goal daily and report progress to senior management monthly. Performance is reported externally as an annual calendar year total.	In 2015, no significant incidents arose that resulted in legal action. However, there were a number of reportable incidents that were water-related, involving minor leaks or spills of hydrocarbons to the sea.
Other: Absolute reduction of water withdrawals	Cost savings	Killingholme and Brigg power stations seek to achieve Maximum Daily Demand (MDD) Reductions for water withdrawal.	The goal is under review as part of the optimisation of site processes.

# Linkages and trade-offs

## 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?

Yes

**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
Management of site effluent from gas processing terminal	Trade-off	<p>Due to improvement conditions required by the regulator, Centrica Storage Limited is currently unable to discharge effluent via the gas terminal site sea outfall facility. Although this means there is no local environmental impact through effluent release, all effluent needs to instead be tankered offsite on a routine basis for treatment. This results in regular bulk transport of the liquids, as well as the required treatment and disposal of waste at an alternative facility.</p> <p>The improvement conditions regarding the sea outfall are currently being pursued, which necessitate that the environmental impacts of this activity are understood, assessed and quantified. Once this work has completed, it will be possible to compare the impact of this activity against the tankering of effluent offsite, which will help us determine the best solution for limiting impact on the environment going forward.</p>



# Sign off

## W10. 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
Grant Dawson	General Counsel and Company Secretary	Board/Executive board

**W10.2** Please select if your organization would like CDP to transfer your publicly disclosed response strategy data from questions W1.4a, W3.2c and W3.2d to the CEO Water Mandate Water Action Hub.

No