Centrica response: CDP Water Security Questionnaire 2019

W0. Introduction

W0.1

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

About us

Centrica is an international energy and services company. Everything we do is focused on satisfying the changing needs of our customers. Our areas of focus for growth are Energy Supply, Services, Connected Home, Distributed Energy & Power and Energy Marketing & Trading. We supply energy and services to over 25m customer accounts mainly in the UK, Ireland and North America through strong brands such as British Gas, Direct Energy, Centrica Business Solutions and Bord Gáis Energy, supported by around 15,000 engineers and technicians.

Following our strategic review in 2015 and the fundamental transformation of our business to focus on our customers, we have divested or decommissioned the majority of our power generation assets, placed our Exploration & Production assets into a joint venture and ceased gas storage at our Rough storage facility. As a result, we will continue to focus our CDP response and be scored under the Electric Utilities module.

Our impact on water

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

The divestment of our two largest power generation assets and our Canadian E&P assets, as well as our Exploration and Production business becoming a joint venture has led to a 96% decrease in total water withdrawals. This can mainly be attributed to a reduced demand for cooling water. As a result, water is an increasingly non-material risk for our business. 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 World Resources Institute definitions, 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 Exploration and Production businesses, where cooling and process water represent 99% of the total water we withdraw. Due to the nature of these withdrawals the risk and opportunities relating to water are not considered to have a substantial impact on our business, operations or revenue.

W-EU0.1a

(W-EU0.1a) Which activities in the electric utilities sector does your organization engage in?

Electricity generation

W-EU0.1b

(W-EU0.1b) For your electricity generation activities, provide details of your nameplate capacity and the generation for each power source.

	Nameplate capacity (MW)	% of total nameplate capacity	Gross generation (MWh)
Coal – hard	0	0	0
Lignite	0	0	0
Oil	0	0	0
Gas	1,019	36	1,885
Biomass	0	0	0
Waste (non-biomass)	0	0	0
Nuclear	1,784	64	11,704
Geothermal	0	0	0
Hydroelectric	0	0	0
Wind	0	0	0
Solar	0	0	0

Other renewable	0	0	0
Other non-renewable	0	0	0
Total	2,803	100	13,589

W0.2

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

	Start date	End date
Reporting year	January 1, 2018	December 31, 2018

W0.3

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

Belgium
Denmark
France
Germany
Hungary
Ireland
Italy
Netherlands
Singapore
Sweden
United Kingdom of Great Britain and Northern Ireland
United States of America

W0.4

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

GBP

W0.5

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

Companies, entities or groups in which an equity share is held

W0.6

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

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Assets that we have equity in but do not have operational control and other small sites where the volumes are immaterial to our totals. This includes our 20% interest in Nuclear and our non-operated exploration and production assets.	Our ability to manage water is limited at assets where we do not have operational control. Additionally, there are practical challenges on obtaining detailed water information at non-operated sites.

W1. Current state

W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Important	Important	Freshwater is important in our direct and indirect operations. Freshwater is primarily used in our direct operations for steam generation and cooling at power stations; for operational uses at our gas terminals; as well as for office water supply. Our primary indirect freshwater use relates to power generation at non-owned assets that we purchase power from for resale. Following the divestments of Langage and South Humber Power Stations and Canadian upstream assets in 2017, our demand for cooling water has significantly reduced, however access to significant volumes of good quality water remains necessary. Third party suppliers of gas and power represent the stakeholders in our value chain with the highest freshwater demand. Despite increasing volumes of renewables and market flexibility in where we source our gas and power, the continued requirement of good quality volumes of freshwater remains the same and thus, our importance rating remains 'important'.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Important	Direct access to saline or brackish water is also important in both direct and indirect operations. Saline or brackish water is principally used for cooling water at our power stations and, despite recent divestments of our Langage and South Humber Power Stations, considerable volumes of sufficient quality are still required. Recycled, produced and brackish water are still important for our indirect operations, where we purchase energy from third parties for resale to our customers. Our third-party suppliers will be the primary users of these water sources in their power generation assets. With reduction in direct energy supplies, we become more dependent on indirect power

			generation so availability of these water sources for indirect operations will remain important in future; however, this importance varies depending on technology employed and regional location so we mitigate risk by diversification of our supply chain.

W1.2

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

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	100%	We measure and monitor water input volumes across all our sites which use or consume water and have operational control. Office and upstream asset's water withdrawals are measured quarterly but upstream assets are monitored more regularly.
Water withdrawals – volumes from water stressed areas	100%	Assessed using the Electric Power overlay across the WRI Water Risk Atlas tool. Our King's Lynn and Peterborough power stations are located in Medium to Highly stressed areas; however the total water withdrawals of these sites contribute less than 1% of Centrica's water withdrawals. Withdrawals from stressed areas are monitored regularly but are only measured and reported annually.
Water withdrawals – volumes by source	100%	Centrica measures and monitors water input volumes by source category at all our sites which use or consume water and have operational control. Office and upstream asset's water withdrawals are measured quarterly but upstream assets are monitored more regularly.
Water withdrawals quality	Not monitored	At our power stations we measure water discharge quality in line with relevant specifications. If these were not to be met, then the withdrawal quality would be investigated. This process is likely to continue moving forward.
Water discharges – total volumes	100%	Where we measure discharge volumes, we do so by destination. As such, discharge volumes are measured at all of our sites which discharge water and have operational control. Office and upstream asset's water discharges are measured quarterly but upstream assets are monitored more regularly.

Water discharges – volumes by destination	100%	We routinely measure water discharge volumes from all of our sites which discharge water and we have operational control. We estimate single pass cooling water using pump rate and total pump hours and the discharge volume from our low water consumption sites. Office and upstream asset's water discharges are measured quarterly but upstream assets are monitored more regularly.
Water discharges – volumes by treatment method	100%	By recording our discharge volumes by destination and knowing the asset type, we know how our discharges are being treated. For example, offices are assumed to only discharge to the municipal water system, hence treated at municipal wastewater treatment plants. We measure discharges at all our sites where we have operational control. Office and upstream asset's water discharges are measured quarterly but upstream assets are monitored more regularly.
Water discharge quality – by standard effluent parameters	1-25	Centrica routinely measures the quality of our water discharge at power assets, oil and gas platforms and gas terminals, where we have a legal or contractual requirement to monitor and/or report pursuant to consented quality limits quarterly. It is important to note that this requirement covers the majority of our discharges by volume; however it is not a legal requirement at more than 75% of our sites.
Water discharge quality – temperature	1-25	We routinely monitor the temperature of all the power stations' discharged water to ensure it does not fall outside of any prescribed limits. Temperature measurement is not relevant at more than 75% of our sites. Our large upstream asset's water discharge quality is monitored and reported quarterly.
Water consumption – total volume	100%	We are able to calculate the total volume of water consumption across our business because we measure or accurately estimate our water consumption input from all our sites where we have operational control. Office and upstream assets are measured quarterly but upstream assets are monitored more regularly. Our consumption values are calculated as the volume we withdraw and use, but do not return to its original source, or return within a different cycle period after treatment or further use.
Water recycled/reused	Less than 1%	We have previously reported re-used industrial (non-potable) water for cooling at our South Humber Bank power station, however this asset has since been divested. As such, there is no re-used volumes of water to be monitored.

		However, we do recycle boiler blowdown water at our Whitegate power station. Our blowdown water is cooled and sent back to our raw water tank and recycled back through the water treatment system. This helps to reduce water import into the raw water tank. Volumes are monitored through monitoring of usage rates, with an increase above our target threshold indicating a reduction in recycling system efficiency.
The provision of fully-functioning, safely managed WASH services to all workers	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.

W1.2b

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

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	30,846.04	Much lower	The divestment of South Humber power station was a key contributor in reducing our water withdrawals, directly contributing to 89% of our withdrawal totals in 2017. We expect total withdrawals to remain materially similar in coming years.
Total discharges	30,644.27	Much lower	The divestment of South Humber power station was a key contributor in reducing our water discharges, directly contributing to 89% of our discharge totals in 2017. We expect total withdrawals to remain materially similar in coming years.
Total consumption	201.76	Much lower	Consumption is calculated using the above withdrawal and discharge values. The divestment of our Canadian exploration and production assets has significantly reduced consumption as we no longer undertake the process of enhanced gas recovery, which required the consumption of large volumes of fresh surface water and renewable groundwater. We expect total withdrawals to remain materially similar in coming years.

W1.2d

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

	% withdrawn from stressed areas	Comparison with previous reporting year	Identification tool	Please explain
Row 1	0.1	About the same	WRI Aqueduct	The Electric Power baseline water stress overlay was applied using the WRI Aqueduct Water Risk Atlas tool which categorises land into 5 water risk areas (Low Risk, Low to Medium Risk, Medium to High Risk, High Risk and Extremely High Risk) to compare to our asset locations. Centrica maintains an updated list of all assets with the ability to plot spatially via address. Our most water-intensive sites were then plotted on top of the WRI Risk Atlas to identify locations in areas of high water stress. King's Lynn and Peterborough power stations are located in Medium to High water-stressed areas; however the total water withdrawals of these sites contribute less than 1% Centrica's water withdrawals. This is the same as the previous year's submission where we had no material water intensive activities in water stressed areas.

W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	21.97	Much lower	Divestment of our E&P assets in Canada has significantly reduced the use of freshwater as it accounted for 90% of our fresh surface water withdrawals in 2017. Fresh surface water is still used as cooling water for our Glanford Brigg

				power station. We expect this withdrawal volume to remain similar in coming years.
Brackish surface water/Seawater	Relevant	29,896.65	Much lower	Divestment of our South Humber Bank power station has led to a significant reduction in brackish withdrawals, contributing to 90% of our previous years' total brackish withdrawals. Brackish surface water/seawater is used for cooling at our coastal power stations and oil and gas assets. We expect this withdrawal volume to remain similar in coming years.
Groundwater – renewable	Relevant	0	Much lower	Groundwater used for enhanced gas production by well injection is no longer required following the divestment of our Canadian exploration and production assets. We do not expect to use renewable groundwater sources in coming years.
Groundwater – non-renewable	Not relevant			Centrica does not withdraw non-renewable groundwater across its operations. We do not expect to use non-renewable groundwater sources in coming years.
Produced/Entrained water	Relevant	485.56	Lower	Formation water is produced as a by-product of extracted oil and gas from offshore hydrocarbon production platforms. The exploration of a new well at our Chestnut North Sea reservoir created a reduced reliance on older, water-producing wells. This facilitated a 30% reduction in North Sea formation water – our most material contributor in last year's submission. We expect this withdrawal volume to remain similar in coming years.
Third party sources	Relevant	441.86	Lower	68% of the reduction in municipal water withdrawals from third party sources can be attributed to the divestments of our centralised power generation assets of South Humber and Langage power stations. Additionally, the divestment of our Canadian exploration and production assets, supplemented by a 3-month outage at our Whitegate power

				station, led to the observed reduction. We can expect a slight uplift in municipal withdrawals with full operation of our Whitegate power station.

W1.2i

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	60.8		Cooling water withdrawn from fresh surface water sources are monitored, then returned to fresh water sources at our Glanford Brigg power station. In H1 2018, cooling water blowdowns were increased in order to maintain control of Legionella. This resulted in increased water abstraction and discharge. We expect this withdrawal volume to remain similar in coming years.
Brackish surface water/seawater	Relevant	30,412.53	Much lower	Cooling water withdrawn from brackish surface water sources are monitored, then returned to brackish water sources at our power stations. Divestment of our South Humber Bank power station in August 2017 caused a considerable decrease in the Brackish surface water discharge. South Humber was accountable for 89% of Brackish water discharged in 2017. We expect this withdrawal volume to remain similar in coming years.
Groundwater	Relevant	0	Much lower	Groundwater used for enhanced gas production by well injection is no longer required following the divestment of our Canadian exploration and production assets. We do not expect to discharge to groundwater sources in coming years.
Third-party destinations	Relevant	170.95	Lower	Waste water from certain operational assets and all our office locations is sent to municipal water treatment facilities. 64% of the change in third-party discharges can be accounted for by the divestment of Langage Energy Centre, while the remainder was primarily driven by a reduction in office water usage due to efficiency improvements and a reduction in overall headcount. We expect this

				trend to continue with future office water efficiency initiatives and consolidation of our assets.

W1.2j

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

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	Less than 1%	Lower	Industrial (non-potable) water supply was used at our South Humber Bank power station in a closed-loop cycle as cooling water, however volumes circulating are not monitored. This facility has since been divested, causing a reduction from the previous year's submission. We do recycle boiler blowdown water at our Whitegate power station. Our blowdown water is cooled and sent back to our raw water tank and recycled back through the water treatment system. This helps to reduce water import into the raw water tank. Over the next reporting year, the proportion of this impact will likely remain the same.

W-EU1.3

(W-EU1.3) Do you calculate water intensity for your electricity generation activities?

Yes

W-EU1.3a

(W-EU1.3a) Provide the following intensity information associated with your electricity generation activities.

Water intensity value (m3)	Numerator: water aspect	Denominator: unit of production	Comparison with previous reporting year	Please explain
0.01	Total water withdrawals	MWh	Much lower	The significant reduction in total water withdrawals has led to a reduced water intensity for electricity generation. This is principally due to divestments of relatively water intensive power generation assets in the second half of 2017. Langage Energy Centre and South Humber power station accounted for 89% of our total water withdrawals and 18% of our total power generation in 2017. This means that, while our power generation reduced by 29%, our total water withdrawals from power generation sites fell by 99.95%, creating the observed reduction in water intensity. We expect a reduction in water intensity with improvements in efficiency of future power generation technology.

W1.4

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

Yes, our suppliers

Yes, our customers or other value chain partners

W1.4a

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

Row 1

% of suppliers by number

1-25%

% of total procurement spend

1-25

Rationale for this coverage

As a responsible company with a responsible procurement programme, we aim to embed sustainable business practice, including social, ethical and environmental standards across our supply chain. As part of this we focus our assessment on water risks in our supply chain for new and existing suppliers whose contracts are either due for renewal or review after two years. Suppliers are incentivised to report as it is a mandatory requirement. We reserve the right to terminate their contracts where they fail to meet required standards

Impact of the engagement and measures of success

Suppliers are initially assessed using a Verisk Maplecroft tool on their sustainability performance associated with their countries and product category they provide. Depending on risk profile, they then engage in self-assessments of risk management via EcoVadis. This evaluates the adequacy of their current sustainability actions in place; including water management, monitoring of consumption and measures to reduce pollutants discharged into water. Where a supplier is deemed to have inadequate performance (medium/high risk rating), we work collaboratively with them to develop corrective action plans that improve and embed sustainable behaviours. As of 2018, on EcoVadis, we had a further 69 suppliers assessed on their social, ethical and environmental standards. Average supplier sustainability was 54 (low risk), which was better than the multi-industry average of 42 (medium risk). We use this as a measure of success.

W1.4b

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

Type of engagement

Innovation & collaboration

Details of engagement

Encourage/incentivize innovation to reduce water impacts in products and services
Educate suppliers about water stewardship and collaboration

% of suppliers by number

Less than 1%

% of total procurement spend

Less than 1%

Rationale for the coverage of your engagement

To drive our responsible procurement practices forward and ensure they are best practice, we joined the Responsible Sourcing Council (RSC). The RSC provides invaluable insight by bringing together different industries and stakeholders from across the world, to collaborate on enhancing supply chain transparency, driving strong supply chain risk management and embedding robust sustainability strategies. The RSC supports us with understanding how we can improve low performance supplier practice on the back of the EcoVadis assessment.

They engage in multiple indicators of Sustainability including water and where suppliers underperform, EcoVadis provides clear guidance on what steps the supplier could take to improve their performances

Impact of the engagement and measures of success

Beneficial outcomes are insights into benchmarking approaches, best practices and peer community networking to allow the upskilling of suppliers in their understanding of sustainable water management. We measure the success of this engagement with our suppliers with improved EcoVadis scores after joining of the Responsible Sourcing Council and follows the EcoVadis guidelines on how to improve their performances and/or by going through corrective action plan monitoring

W1.4c

(W1.4c) What is your organization's rationale and strategy for prioritizing engagements with customers or other partners in its value chain?

We collaborate with our suppliers to better manage environmental, social and economic impacts which include water management. This includes water withdrawals as well as pollution management.

Although we are primarily an energy management and services company, we have started to engage in key strategic partnerships on water related issues through the provision of remote water leak detection sensors to customers. These detect flow anomalies based on the temperature of the water pipes. In 2018, South East Water became one of the first UK companies to trial Hive's smart home technology to detect leaks, increase consumer awareness of water consumption and help meet water waste reduction targets. During the pilot, South East Water provided Hive Leak Sensors to 800 of its customers in a 12-month trial. Other water companies partnering with Hive smart home business include Northumbrian, Anglian and Portsmouth Water. We consider our Connected Home services to be our most effective method of customer engagement for enabling improved management of their resource consumption.

We engage with the wider value chain and society based on collective action initiatives. To drive our responsible procurement practices forward we joined the Responsible Sourcing Council which provides us with invaluable insight by bringing together different industries and stakeholders from across the world. The collaborative multisector approach of these sessions allows us to benchmark our activities with those of other organisations, export best practice and work out solutions together. During these sessions we cover workshops on a wide range of sustainable management topics including water. We measure the success of this engagement with our suppliers with improved EcoVadis scores after joining of the Responsible Sourcing Council and follows the EcoVadis guidelines on how to improve their performances and/or by going through corrective action plan monitoring.

W2. Business impacts

W2.1

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

No

W2.2

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

No

W3. Procedures

W-EU3.1

(W-EU3.1) How does your organization identify and classify potential water pollutants associated with your business activities in the electric utilities sector that could have a detrimental impact on water ecosystems or human health?

Prior to the building of our electric utility assets and in order to obtain operational activities permits, a comprehensive Environmental Impact Assessment must be completed. This will identify potential water pollutants that could have a detrimental impact on water ecosystems or human health and mitigations of risk. These pollutants will be identified based on the materials used and activities to be undertaken on the proposed sites; these will differ across the value chain, dependent on the site activity. Thermal pollution, hydrocarbons, biocides and boiler chemicals are all examples of typical pollutants that need to be managed. These can adversely affect aquatic life at low levels and impact humans at higher levels.

Where we discharge from these facilities to receiving waters, we operate highly regulated assets, which are subject to water-related permits, licenses or consents. These regulatory control mechanisms identify the pollutants; set limits on discharge levels and specify monitoring and reporting requirements for us to meet.

Water quality monitoring includes automatic monitoring and manually collected samples. The assets have water quality analysis capability and trained staff to undertake monitoring of a wide range of pollutants, where required.

Our key commodities and raw materials for electricity supply are gas and purchased electricity, both for our own consumption as well as for supply to our customers. As such, we limit our water risk assessment to high risk suppliers alongside other critical 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 and consumption. 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.

W-EU3.1a

(W-EU3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants associated with your activities in the electric utilities sector on water ecosystems or human health.

Potential water pollutant	Description of water pollutant and potential impacts	Management procedures	Please explain
Hydrocarbons	Pollutants from our power generation assets have the potential to pollute local groundwater, adjacent water streams or other water bodies. Hydrocarbons could reach these water bodies via on-site spillages to ground outside of bunded areas, discharges to streams or coastal waters via storm water drains. The inherent risk of impact from hydrocarbons is medium because it could impact a large area, sensitive	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement	Assets ensure compliance through strict adherence to the requirements of the licence issued by the regulatory body. Where applicable, we strive to implement guidance documents issued by the regulator and also seeks to follow industry best practice where applicable. We use number of events and water quality discharge as indicators of success.

	ecosystem or require remedial clean-ups however with controls in place and high levels of regulatory scrutiny, we believe the mitigated risk is low.	Emergency preparedness	
Contaminated cooling water	Pollutants from our power generation assets have the potential to pollute local ground water, adjacent water streams or other water bodies. Contaminated cooling water could reach these water bodies via discharges to streams or coastal waters via stormwater drains. Impact is likely to be minor with regulatory standards and monitoring of water discharge in place. Glycol used in closed cooling water systems and Chlorine added to saline cooling water in open systems have the potential to be harmful to water ecosystems, if discharged at high concentration. Leakages on land could also be harmful to the environment. The inherent risk of impact from contaminated cooling water is medium because it could impact a large area, sensitive ecosystem or require remedial clean-ups however with controls in place and high levels of regulatory scrutiny, we believe the mitigated risk is low.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness	Assets ensure compliance through strict adherence to the requirements of the licence issued by the regulatory body. Where applicable, we strive to implement guidance documents issued by the regulator and also seeks to follow industry best practice where applicable. We use number of events and water quality discharge as indicators of success. Areas which contain glycol and storage areas are bunded and located inside buildings at our power stations with closed system cooling water to prevent any chance of escape to the environment. This cooling water is not discharged into the water course as only used in closed systems. There is a comprehensive monitoring system which reports on the chlorine concentrations in all our saline cooling systems. This ensures that we stay within the permitted concentrations and do not pollute the watercourse. There is a robust maintenance schedule which prevents leaks from occurring, to both water bodies and land. There are also detection systems on the closed cooling systems which notify us of any water loss, this allows for immediate remedy. There are comprehensive emergency response procedures utilising spill kits and isolation valves where appropriate.
Thermal pollution	Potential to pollute adjacent stream water or other water bodies with warmed cooling water from power	Compliance with effluent quality standards	Assets ensure compliance through strict adherence to the requirements of the licence issued by the

	stations, such as Whitegate. This would be likely to occur via the release of discharge of cooling water into local streams or coastal waters. The inherent risk of impact from thermal pollution is medium because it could impact a sensitive ecosystem or require remedial clean-ups however with controls in place and high levels of regulatory scrutiny, we believe the mitigated risk is low.	Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness	regulatory body. Where applicable, we strive to implement guidance documents issued by the regulator and also seeks to follow industry best practice where applicable Regular monitoring of water discharge across all our power stations provides metrics to measure significant differences in temperature of the discharge to the water body, any significant differences are recorded.

W3.3

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

Yes, water-related risks are assessed

W3.3a

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

Direct operations

Coverage

Full

Risk assessment procedure

Water risks are assessed as part of an enterprise risk management framework

Frequency of assessment

Six-monthly or more frequently

How far into the future are risks considered?

3 to 6 years

Type of tools and methods used

Tools on the market
Other

Tools and methods used

WRI Aqueduct
Internal company methods

Comment

Risks are identified and mitigation strategies are developed across the business, from asset to company level. Business unit and functional level risk registers are regularly reviewed by senior management. Each identified risk together with related controls, are periodically assessed and reported according to the Group Risk Management Policy, Standards and Guidelines; classified with defined scoring methodology and 'out-of-appetite' criteria.

Our internal environmental specialists input to risk assessments and management at all levels via methods like quarterly risk reviews and peer review quality checks. Environmental Impact Assessments (EIA) are used to evaluate potential water requirements of a proposed activity or asset, options for meeting those requirements, possible impacts and mitigations of risk.

Supply chain

Coverage

Partial

Risk assessment procedure

Water risks are assessed as part of an enterprise risk management framework

Frequency of assessment

Every two years

How far into the future are risks considered?

1 to 3 years

Type of tools and methods used

Tools on the market

Databases

Tools and methods used

Maplecroft Global Water Security Risk Index

Other, please specify

EcoVadis Sustainable Supply Chain Tool

Other stages of the value chain

Coverage

None

W3.3b

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

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	Local water availability will always be relevant across our facilities where water is required to sustain operations. Where surface or ground water is abstracted from the natural environment, this is factored into local EIAs and permits or license applications. We are not currently exposed to material risks associated with reduced local water availability but we will continue to assess this as a potential risk to the business to allow for a suitable response should this change in the future. We used WRI Aqueduct Water Risk Atlas to assist in our assessment of water risks.

Water quality at a basin/catchment level	Relevant, always included	Local water quality is relevant across our facilities where water is required for operations. Where surface or ground water is abstracted from the natural environment, this is factored into local EIAs and permits or license applications. We are not currently exposed to material risks associated with local water quality but we will continue to assess this as a potential risk to the business at both withdrawal and discharge to allow for a suitable response should this change in the future.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	Where appropriate, we will always consider stakeholder conflicts when assessing water resources and our requirements, at a local level. An example is the Bowland shale gas sites in the UK of which we have a 25% non-operating stake. All stakeholder concerns were assessed and dealt with through EIAs alongside the planning and permitting process.
Implications of water on your key commodities/raw materials	Relevant, always 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 high risk suppliers alongside other critical 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 and consumption. 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.
Water-related regulatory frameworks	Relevant, always included	Water regulatory frameworks 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, have the highest potential risk from current and future regulations and financial costs associated with water. We continually review the status 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.
Status of ecosystems and habitats	Relevant, always included	It is vital that our hydrocarbon production and power facilities that abstract from and discharge to freshwater, consider the local ecosystems and habitats they interact with. The same applies to where we discharge into the marine environment. In our upstream operations, these considerations are included in EIA's where appropriate and within permitting requirements as well as being subject to ongoing assessments, reporting and monitoring as required. There are also examples in our downstream

		operations such as the surveys and management studies conducted by Hadlow College on a lake adjacent to our British Gas headquarters in Staines, UK. They addressed the flora and fauna of the surrounding site to improve the management and biodiversity of the water.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always 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.
Other contextual issues, please specify	Relevant, always included	Climate change is a contextual issue that is considered in our risk assessments. Climate change will potentially have significant impacts on water availability; water demand; operational disruption from flooding; and asset damage from sea level rises.

W3.3c

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

	Relevance & inclusion	Please explain
Customers	Relevant, always 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. We engage with our customers primarily by phone, email or letter.
Employees	Relevant, always 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 the 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, always 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 and reports or capital market days.
Local communities	Relevant, always included	Where a facility uses or consumes 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. For example, we held a number of Community Town Hall meetings for local residents regarding our proposed shale gas exploration site in Lancashire.
NGOs	Relevant, always 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 NGOs 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 basin/catchment level	Relevant, always 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, always included	We operate highly regulated assets, many of which are subject to water-related permits, licenses or consents. 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. Regular inspections are carried out by Environmental Regulators such as the UK Environment Agency for onshore facilities including Easington and Barrow Gas Terminal and the UK Department of Business, Energy and industrial Strategy (BEIS) for our offshore oil & gas platforms. Further evidence of this is demonstrated by the Environmental Protection Agency (EPA), Ireland, who carry out annual inspections on our Whitegate power station in Cork. Routine reports are submitted to regulators. In the UK the Environment Agency/ local authority require six monthly data on discharges to sewer as well as annual volumes on gross and net water usage. BEIS require monthly data on oil concentrations in produced water. In Ireland, the EPA requires a detailed Annual Environmental Reports from licenced assets including water related data. As part of the Annual Environmental Report, we submit data on water usage and water quality.

		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.
River basin management authorities	Relevant, always 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. River basin management authorities have made site visits to some of our assets, to ensure there is minimal impact to local habitats.
Statutory special interest groups at a local level	Relevant, always 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, always included	Suppliers are initially assessed on the country they operate in and the product category they provide to Centrica through a tool developed by Verisk Maplecroft. Those identified as potentially high risk are requested to complete our enhanced risk assessment on their social and environmental performance which includes a component on water impacts managed by supply chain sustainability experts, EcoVadis. Where water is identified as a potentially weak area, training and advice modules from the Supply Chain Sustainability School are offered to encourage improvement. 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.
Water utilities at a local level	Relevant, always included	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.
Other stakeholder, please specify	Not relevant, included	We consider other stakeholders if they are considered as relevant to our projects on a case-by-case basis, but currently there are no more additional to those reported here.

W3.3d

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

Risks are identified and mitigation strategies are developed across the business, from asset to company level. Business unit and functional level risk registers are regularly reviewed by senior management. Each identified risk together with related controls, are constantly assessed and reported according to the Group Risk Management Policy, Standards and Guidelines; classified with defined scoring methodology and 'out-of-appetite' criteria.

Our internal environmental specialists input to risk assessments and management at all levels via methods like quarterly risk reviews and peer review quality checks. Environmental Impact Assessments (EIA) are used to evaluate potential water requirements of a proposed activity or asset, options for meeting those requirements, possible impacts and mitigations of risk. Material water-related risks are integrated into risk assessments to ensure sufficient controls are in place. We generally use EIAs for high hazard, high impact facilities like gas terminals. At Barrow and Easington gas terminals, flood risk assessments are required as part of the Control of Major Accident Hazards (COMAH) compliance regulations to ensure we have effective processes in place to manage water risks.

We used the Electric Power overlay within the WRI Aqueduct Water Risk Atlas tool to compare to our asset locations. Centrica maintains an updated list of all assets used to monitor water risk at our most water-intensive sites. This is repeated annually.

Suppliers are initially assessed on the country they operate in and their product category using Verisk Maplecroft tool. We then use a self-assessment tool for suppliers, provided by independent sustainability specialist, EcoVadis, to assess water-related risks against sector appropriate criteria every 2 years. Suppliers identified as medium/high risk are required to implement corrective action plans and demonstrate they have corrected risk areas that were highlighted through the assessment.

W4. Risks and opportunities

W4.1

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

No

W4.1a

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

Centrica defines a substantive impact as one that will affect the everyday operations of the company in a material way, financially or strategically and applies to both our direct operations and supply chain. 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 6 (impact) and 8 (likelihood) scale is used, with the overall rating calculated through multiplying impact by likelihood to produce a maximum risk score of 48. 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. The relative score from the 6x8 evaluation will determine if a risk is substantive. Tolerance thresholds and bands are used to determine response, controls and review frequency. These tolerance thresholds and distribution of these risks determine whether a risk is deemed as substantive in relation to others. An example of a substantive risk assessed is the primary loss of containment at our CSL facilities which, without the necessary mitigation processes we have implemented, has the potential to have a substantive impact on our operations.

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 that could impact the delivery of our strategy. At this point a substantive change to our business from a water-related risk is evaluated through a comparison of previous and new risk registers. 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 Ethics, Risk, Assurance and Control Committee (GERACC), to ensure it has a clear understanding of our risk profile and the effectiveness of controls which are informed by assurance activity. The GERACC 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.

Ultimately, the Board, through the Safety, Health, Environment, Security and Ethics Committee (SHESEC) and the Health, Safety, Environment and Security (HSES) sub-committee of the CEC are responsible for identifying and prioritising risks and opportunities

W4.2b

(W4.2b) Why does your organization not consider itself exposed to water risks in its direct operations with the potential to have a substantive financial or strategic impact?

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	Centrica is not currently exposed to substantive water-related risks. This is primarily because we do not operate water-intensive activities in high water-stressed areas, assessed using the WRI Aqueduct Water Risk Atlas tool and Google Earth. When applying the Electric Power filter, two assets, our Peterborough and King's Lynn power stations, were classified as Medium to High Risk. We do not consider the water-related risks posed by these assets as substantive due to their water demand accounting for only 0.08% of our total water withdrawals. The most significant risk we are exposed to is the availability of water for cooling requirements at our upstream assets, for which the supply of large volumes of water is important. 98% of cooling water is abstracted from estuaries or the open seas, which are sources associated with low risks regarding quantity and quality. Moreover, 99% 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. 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. Looking ahead, we do not foresee material tightening of relevant regulations and our risk profile is falling as we reduce our involvement in large-scale power generation and oil & gas operations. In 2017 we sold 2 of our 3 remaining large CCGT power stations and placed our oil & gas operations into the joint venture, Spirit Energy.

W4.2c

(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	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. 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.

W4.3

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

No

W4.3b

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

	Primary reason	Please explain
Row 1	Opportunities exist, but none with potential to have a substantive financial or strategic impact on business	Centrica defines substantive opportunities as one that provides a material basis for the corporation to grow or become more efficient. Water is not material to the growth or cost saving opportunities for the business. The cost of water is not currently significant enough to present substantive saving opportunities. 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 as they do not provide a material basis for the corporation to grow or become more efficient. As detailed in W1.4c, we have started to engage with our customer base on water related issues through the provision of remote water leak detection sensors, however the associated commercial opportunity is not yet deemed financially substantive. We hold an annual Board Planning Conference during which opportunities are examined including any 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, who meet bi-annually, for review.

W6. Governance

W6.1

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

Yes, we have a documented water policy that is publicly available

W6.1a

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

	Scope	Content	Please explain
Row 1	Company-wide	Description of water-related performance standards for direct operations Description of water-related standards for procurement Reference to international standards and widely-recognized water initiatives	Our Group HSES policy includes a key commitment to protect the environment and the efficient use and effective management of resources such as water. We do not include performance standards for direct operations as this level of detail is contained within Business Unit standards and procedures.

		Commitments beyond regulatory compliance	

W6.2

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

Yes

W6.2a

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

Position of individual	Please explain
Chief Executive Officer (CEO)	The Chief Executive has board responsibility of water-related issues as they are responsible for the Group HSES Policy, which embodies our highest level water-related commitments. The Centrica Executive Committee, of which the Chief Executive is Chair, are briefed monthly by the Group Director of Health, Safety & Environment (HSE) on performance where any material water-related issues would be raised and discussed. The Chief Executive, will also attend the quarterly Safety, Health, Environment, Security and Ethics Committee of the Board (SHESEC) which may discuss water-related issues and is Chair of the Centrica Executive HSES Sub-Committee, which tables environmental issues in more detail on a quarterly basis. Major water-related incidents are reported within 24 hours to the Chief Executive.

W6.2b

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

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain

Row 1	Scheduled - some meetings	Monitoring implementation and performance Reviewing and guiding business plans Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Setting performance objectives	The Safety, Health, Environment, Security and Ethics Committee of the Board (SHESEC) sits quarterly. The committee's duties include reviewing the adequacy and effectiveness of the Company's internal controls and risk management systems in respect of, amongst other things, environmental matters including water. Each meeting will have a standing agenda item, presented by the Group Director of HSE on significant HSE incidents which will include water related issues as appropriate. A deeper review of environmental performance, which may include water related performance matters, is undertaken annually as presented by the Group Head of Environment. Performance data is captured through our global reporting tool 'MyHSES' and approved by the relevant Business Unit Director of HSE.

W6.3

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

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

Chief Executive Officer (CEO)

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

The Chief Executive has responsibility for the Group HSES Policy and has overall responsibility for water-related performance and risk management. The Centrica Executive Committee, of which the Chief Executive is Chair, are briefed monthly by the Group Director of Health, Safety and Environment (HSE) on performance whereby any material water-related issues are raised and discussed and actions agreed. The Chief Executive, is Chair of the Centrica Executive HSES Sub Committee, which tables environmental performance in more detail on a quarterly basis. Major water-related incidents are reported within 24 hours to the Chief Executive.

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

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

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

W6.5

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

No

W6.6

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

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

W7. Business strategy

W7.1

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

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	No, water-related issues were reviewed but not considered as strategically relevant/significant	16-20	In 2015 our Board undertook a major strategic review resulting in a fundamental transformation of Centrica with new long-term business objectives; moving the company from a centralised asset-based business towards a customer focussed energy services and supply model. This strategy is based on a world moving towards a low carbon future. We are investing £1.2bn in establishing market-leading business units such as Distributed Energy & Power (DE&P) and Centrica Hive which we believe will play a significant role in de-carbonising the energy sector. We have recently introduced our Responsible Business Ambitions which include our long term commitments on climate change aligned with Paris including performance goals out to 2030 to help our customers reduce their carbon emissions, to enable the energy system to de-carbonise and to reduce our own emissions. Water related issues were considered only insofar as they impact upon our target markets, products and services we aim to offer and capital investment we intend to make. As we transform Centrica, our exposure to water related issues such as freshwater quantity is significantly reducing particularly as we reduce our ownership of water intensive assets so investigating beyond 20 years would be irrelevant to our objectives.
Strategy for achieving long-term objectives	No, water-related issues were reviewed but not considered as strategically relevant/significant	16-20	The Board and the Executive have dedicated meetings each year to review and develop strategy. In line with our business objectives externalities are assessed including market, competitive, technology, regulatory and policy aspects primarily related to energy markets. Water related issues are only considered insofar that they

			influence energy markets. An example is when we review the individual aspects of energy markets within member EU states. Those with a significant and/or increasing hydroelectric sector are likely to have less attractive markets for low-carbon energy solutions compared with a member state with a largely fossil-fuel based system. Conversely, there may be opportunities for our route to market services for hydroelectric power generators. This will all be assessed through our long term strategic business planning, however beyond 20 years, the degree of uncertainty undermines the quality of the assessment. To date, no strategically significant water related issues have been identified within our target markets.
Financial planning	No, water-related issues were reviewed but not considered as strategically relevant/significant	16-20	Our financial planning and capital allocation is not significantly influenced by water related issues over the long term so investigating beyond 20 years would be irrelevant to our objectives. Water commodity costs are not significant for our business and reducing further as we transform. We plan to invest £1.2bn into growth businesses which are not associated with significant water risks or impacts.

W7.2

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

Row 1

Water-related CAPEX (+/- % change)

0

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

0

Water-related OPEX (+/- % change)

1.8

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

0

Please explain

OPEX

Our OPEX has remained similar to that reported for the last period, largely due to continued committed spend, particularly regional water suppliers for use in our power stations. A slight increase can be explained by development of our Enterprise Resource Planning (ERP) procurement tool to now capture expenditure for our assets in the Republic of Ireland. For example, payments to Irish Water in 2018 regarding supply of water to our Whitegate power station accounted for 2.2% of total OPEX, which would not have been previously captured.

CAPEX

This year's water-related CAPEX has remained at 0 as we haven't had any specific water-related project expenditure. Total CAPEX is anticipated to remain at 0 as we do not have any water-specific projects in this year's capital plan.

W7.3

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

	Use of climate-related scenario analysis	Comment
Row 1	Yes	We have completed a detailed analysis of our primary business, located in the UK, against several scenarios including 2 degrees, using National Grid's Future Energy Scenarios. This analysis has provided valuable insights into the range of risks and impacts associated with the energy transition on Centrica's core businesses whilst also highlighting the significant opportunities and potential growth areas that Centrica is already engaged in through its new strategy. A key conclusion was that our targeted

		growth businesses DE&P and Centrica Hive are both advantaged in a two-degree scenario against our central case due to increased demand for Storage, Demand Side Response, Smart technologies and Time of Use Tariffs.

W7.3a

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

No

W7.4

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

Row 1

Does your company use an internal price on water?

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

Please explain

We do not have an internal price on water as we do not operate in any water constrained areas and discharges are well regulated in the jurisdictions in which we work.

W8. Targets

W8.1

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

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals Business level specific targets and/or goals Site/facility specific targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	We have a company-wide goal of compliance with all legal and regulatory requirements. This is detailed in our HSE policy, HSE Standard and as a part of our company code. For example, our more water intensive assets are generally subject to site-specific limits on the quality of discharge and quantity of abstraction. In these cases, our goal is to ensure ongoing compliance with those limits rather than setting absolute reduction targets. We set these goals pursuant to our policy commitment to prevent pollution, and a strategic priority to be compliant. We track performance against this goal at a frequency agreed with the regulator and report progress to senior management bi-monthly. We also set quantitative targets to reduce our water use across our main office portfolio in the UK. We monitor usage, track performance and report to senior management on a quarterly basis.

W8.1a

(W8.1a) Provide details of your water targets that are monitored at the corporate level, and the progress made.

Target reference number

Target 1

Category of target

Water consumption

Level

Business activity

Primary motivation

Water stewardship

Description of target

Our target was to maintain 2017 office water use in 2018.

Quantitative metric

% reduction in total water consumption

Baseline year

2017

Start year

2017

Target year

2018

% achieved

100

Please explain

We surpassed this target having achieved a 5.22% reduction in our water usage. This target is reviewed year on year to reflect operational plans and remain appropriate and ambitious.

W8.1b

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

Goal

Other, please specify

Full compliance with our prescribed limits on water management

Level

Company-wide

Motivation

Other, please specify

Company-wide strategic priority on compliance

Description of goal

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, and a strategic priority to be compliant. We track performance against this goal at a frequency agreed with the regulator and report progress to senior management bimonthly. Performance is reported externally as an annual calendar year total.

Baseline year

2017

Start year

2017

End year

2018

Progress

In 2018, no significant incidents arose that resulted in legal action. However, there were 22 reportable incidents that were water-related, involving minor leaks or spills of hydrocarbons to the sea. This is a 39% reduction in comparison to the previous year's submission, explainable by the placement of our oil & gas operations into the JV, Spirit Energy. We measure success against the quantity of events and observations reported.

W9. Linkages and trade-offs

W9.1

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

Yes

W9.1a

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

Linkage or tradeoff

Tradeoff

Type of linkage/tradeoff

Increased wastewater treatment

Description of linkage/tradeoff

Management of site effluent water from gas processing terminal, Easington Terminal

Policy or action

Currently Centrica Storage Limited do not operate their water marine outfall pipe. The non-operation of the outfall pipe means there is no direct local marine impact through effluent release; all effluent is instead bulk transported by tankers offsite on a routine basis for treatment and disposal. The transport, treatment and disposal of the effluent adds environmental impacts through increased carbon, particulate and noise pollution associated with transport, in addition to the impact of discharging waste water to an alternative receiving environment.

W10. Verification

W10.1

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

No, we do not currently verify any other water information reported in our CDP disclosure

W11. Sign off

W-FI

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

W11.1

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

	Job title	Corresponding job category
Row 1	Group General Counsel & Company Secretary	Other C-Suite Officer

W11.2

(W11.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].

No

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to
I am submitting my response	Public	Investors

Please confirm below

I have read and accept the applicable Terms