EDP - Energias de Portugal S.A. - Water Security 2020

W0. Introduction

W0.1

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

EDP – Energias de Portugal, S.A. (EDP) is a listed, vertically integrated utility company, whose ordinary shares are publicly traded in the Euronext Lisbon. The company is established and headquartered in Portugal, being organized under Portuguese laws.

Throughout its more than 40 years of history, EDP has been building a relevant presence in the world energy scene, being present in 19 countries in 4 continents. EDP has around 11,700 employees and is present throughout the electricity value chain and in the gas commercialization activity: power generation, distribution and supply of electricity in Portugal, Spain and Brazil, electricity transmission in Brazil and gas supply in Portugal and Spain. Through its subsidiary EDP Renewables, EDP is also one of the largest wind power operators worldwide, with on-shore wind farms in Europe (Iberian Peninsula, France, Belgium, Italy, Poland, Romania), North America (United States of America, Canada and Mexico) and South America (Brazil), and developing off-shore wind projects in Portugal, UK, France and the USA. Additionally, EDP generates power from photovoltaic plants in Portugal, Romania and the USA.

EDP supplies electricity to 9.8 million customers and gas to 1.6 million customers. In 2019, the company generated about 67 TWh of electricity worldwide, of which 66% from renewable energy sources and, by year end, had an installed capacity of 27 GW (74% renewable).

EDP's vision is to be a global energy company, leading the energy transition to create superior value . Our values are Innovation, Sustainability and Humanization and our commitments are towards results, sustainability, customers and people. The company assumes the power sector's key role in the transition to a low-carbon economy and sets a strategic agenda based on organic growth focused on renewables and low exposure to CO2 and sustainability risks. EDP publishes detailed information on its financial and sustainability performance and governance practices in its Annual Report and Sustainability Report, available on www.edp.com.

Key financial figures in 2019:

Turnover: EUR 14,333 million

EBITDA: EUR 3,706 million

Net profit: EUR 512 million

Net investment: EUR 1,606 million

Net debt: EUR 13,827 million

Total assets: EUR 42,362 million

ISIN: PTEDP0AM0009

SEDOL: 4103596

W-EU0.1a

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

Electricity generation
Transmission
Distribution
Other, please specify (Electricity and gas supply.)

W-EU0.1b

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

	Nameplate capacity (MW)	% of total nameplate capacity	Gross electricity generation (GWh)
Coal – hard	3124.2	11.8	11894.9
Lignite	0	0	0
Oil	0	0	0
Gas	3729	14	10445.3
Biomass	0	0	0
Waste (non-biomass)	0	0	0
Nuclear	0	0	0
Fossil-fuel plants fitted with carbon capture and storage	0	0	0
Geothermal	0	0	0
Hydropower	8784.8	33.2	14263.2
Wind	10666.9	40.3	29816.8
Solar	145.2	0.5	275
Marine	0	0	0
Other renewable	0	0	0
Other non-renewable	49.2	0.2	276.7
Total	26499.3	100	66971.9

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 2019	December 31 2019

W0.3

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

Belgium
Brazil
Canada
France
Italy
Mexico
Poland
Portugal
Romania
Spain
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.

EUR

W0.5

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

Companies, entities or groups over which financial control is exercised

W0.6

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

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Smaller office facilities in Spain and Brazil.	We do not monitor quantitative water parameters (withdrawals, discharges and consumption) in our smaller office facilities. These facilities use water supplied by municipal water systems and consumption is considered immaterial (estimated to represent less than 0.001% of the Group's total water withdrawals), thus not justifying the implementation of dedicated monitoring procedures.

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	Vital	Neutral	Direct use: for process and some cooling water processes in thermal generation, for hydro power plants and general uses. Access to sufficient amounts of good quality freshwater is vital for the operation of these assets, as they accounted for 55% of total electricity generation in 2019. Future dependency is expected to decrease with growth of wind and solar capacity in generation, according to EDP's Strategic update 2019-2022 and long-term strategy. Indirect use: in the supply chain the largest contribution from raw materials is attributed to coal for tier 1 suppliers. However, access to sufficient amounts of good quality freshwater by suppliers is considered neutral, as in 2019, only 2% of the purchased coal came from mines in high water stressed areas (representing one mine with the WRI Baseline Water Stress higher than 40%). Moreover, coal currently accounts for 12% of our total installed capacity, and procurement is made from a vast range of alternative suppliers in different geographies. Future dependency will be further reduced, as coal capacity will decrease gradually until 2030.
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Not very important	Direct use: brackish water for cooling water in the refrigeration circuits of two gas power plants in Portugal, and recycled water in Pecém, a coal power plant in Brazil. Sufficient amount of brackish and recycled water is vital for the operation of these assets, as they accounted for 14% of total electricity generation in 2019. Specially in Pecém, located in a water stressed region, where 31.5% of the effluents produced were recycled, reducing water consumption by more than 21 thousand cubic meters per month in 2019. Future dependency is expected to decrease with growth of wind and solar capacity in generation portfolio, according to EDP's Strategic update 2019-2022 and long-term strategy. Indirect use: in the supply chain the largest contribution from raw materials is attributed to coal for tier 1 suppliers. However, access to sufficient amounts of recycled, brackish and/or produced water available for use is considered not very important, as it is not a key component of indirect operations. This type of water is considered not material and EDP sees no value on monitoring water uses from these sources, especially when in 2019 only one mine was located in a high water stressed area (WRI Baseline Water Stress higher than 40%). Future dependency on water from indirect uses will be further reduced, as coal capacity will decrease gradually until 2030.

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%	At a corporate level, the monitoring of total water withdrawals is done through EDP's Corporate Sustainability Information System, and its frequency depends on the operations: - quarterly for thermal (coal and natural gas), wind and solar power plants, as well as distribution activities and office buildings, and data is collected directly mostly from meter readings in each facility; - annually for hydro power plants, and data is collected either through direct measurements (meter readings) or by calculations, using for instance the installed capacity and the difference between downstream and upstream water levels. Key Water indicators for EDP Group are published in EDP's Sustainability Report and subject to independent third-party verification.
Water withdrawals – volumes by source	100%	At a corporate level, the monitoring of total water withdrawals by source is done through EDP's Corporate Sustainability Information System. Its source and frequency depend on the operations: - coal and gas power plants: sea, brackish and fresh surface sources, groundwater and third-party sources, monitored on a quarterly basis and collected mostly from meter readings; - wind and solar power plants, and distribution activities: groundwater and third-party sources, monitored on a quarterly basis and collected mostly from meter readings; - office buildings: third-party sources monitored on a quarterly basis and collected from meter readings; - hydro power plants: fresh surface water sources monitored annually and collected through meter readings or by using for instance the installed capacity and the difference between downstream and upstream water levels. Key Water indicators for EDP Group are published in EDP's Sustainability Report and subject to independent third-party verification.
Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sector]	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>
Water withdrawals quality	100%	We monitor water withdrawals quality for 100% of facilities where applicable: thermal (coal and natural gas) and hydro power plants. Distribution activities and office buildings are excluded, as water is withdrawn from municipality companies. The monitoring frequency depends on the parameter and type of facility. For hydro power plants, parameters monitoring (e.g. Oxygen, Temperature, pH, conductivity, redox potential and turbidity) is mostly done every two months for all quality parameters, both at bottom and surface level, and in two different points of the reservoir. In thermal power plants, in addition to the type of parameter and facility, monitoring also depends on the process (refrigeration circuits and demineralized water processes) and withdrawal sources. Water parameters such as pH, conductivity, turbidity, chlorides, suspended solids, total organic carbon are monitored continuously, weekly or monthly.
Water discharges – total volumes	100%	At a corporate level, the monitoring of total water discharges is done through EDP's Corporate Sustainability Information System, and its frequency depends on the operations: - quarterly for thermal (coal and natural gas), wind and solar power plants, as well as distribution activities and office buildings, and data is collected directly mostly from meter readings in each facility; - annually for hydro power plants, and data is collected either through direct measurements or by calculations, using electricity generated at the site level and the reservoir water level. Key Water indicators for EDP Group are published in EDP's Sustainability Report and subject to independent third-party verification.
Water discharges – volumes by destination	100%	At a corporate level, the monitoring of total water discharge volumes by destination is done through EDP's Corporate Sustainability Information System. Its destination and frequency depend on the operations: - coal and gas power plants: discharges to sea, brackish and fresh surface sources, and sent to third-party destinations, monitored on a quarterly basis and collected mostly from meter readings; - wind and solar power plants, distribution activities and office buildings: water sent to third-party destinations, monitored on a quarterly basis and collected mostly from meter readings; - hydro power plants: discharges to fresh surface water destinations, monitored annually and collected through meter readings or by using for instance the installed capacity and the difference between downstream and upstream water levels. Key Water indicators for EDP Group are published in EDP's Sustainability Report and subject to independent third-party verification.
Water discharges – volumes by treatment method	Not relevant	Since hydro power plants, wind and solar farms represent 74% of EDP's total generation capacity, as recommended in the Question-level Guidance, this water aspect is reported as not relevant. It is expected to remain not relevant due to the addition of 7.2GW of new renewable generation capacity foreseen in EDP's Business Plan 2019-2022, which will lead to an increase in the percentage above mentioned. We monitor total water discharge volumes by treatment method in our thermal power plants, where such monitoring is either a legal requirement or an environmental management system requirement.
Water discharge quality – by standard effluent parameters	Not relevant	Since hydro power plants, wind and solar farms represent 74% of EDP's total generation capacity, as recommended in the Question-level Guidance, this water aspect is reported as not relevant. It is expected to remain not relevant due to the addition of 7.2GW of new renewable generation capacity foreseen in EDP's Business Plan 2019-2022, which will lead to an increase in the percentage above mentioned. We monitor water discharge quality parameters in our thermal power plants, where such monitoring is either a legal requirement or an environmental management system requirement. Wastewater quality discharges from thermal power plants are publicly available on EDP's website.
Water discharge quality – temperature	Not relevant	Since hydro power plants, wind and solar farms represent 74% of EDP's total generation capacity, as recommended in the Question-level Guidance, this water aspect is reported as not relevant. It is expected to remain not relevant due to the addition of 7.2GW of new renewable generation capacity foreseen in EDP's Business Plan 2019-2022, which will lead to an increase in the percentage above mentioned. We monitor water discharge temperature in our thermal power plants (wastewater and cooling water), where such monitoring is either a legal requirement or an environmental management system requirement.
Water consumption – total volume	100%	At a corporate level, the monitoring of total water consumption is done through EDP's Corporate Sustainability Information System, at a quarterly basis for thermal (coal and natural gas), wind and solar power plants, as well as distribution activities and office buildings, and data is collected directly mostly from meter readings in each facility. It is worth noticing that EDP considers water use in hydro power plants a non-consumptive use. Key Water indicators for EDP Group are published in EDP's Sustainability Report and subject to independent third-party verification.
Water recycled/reused	Not relevant	Since hydro power plants, wind and solar farms represent 74% of EDP's total generation capacity, as recommended in the Question-level Guidance, this water aspect is reported as not relevant. It is expected to remain not relevant due to the addition of 7.2GW of new renewable generation capacity foreseen in EDP's Business Plan 2019-2022, which will lead to an increase in the percentage above mentioned. In Pecém thermal power plant, EDP both recycles water in its refrigeration circuits, and reuses treated water from the Effluent Treatment Station, using it as cooling water in the refrigeration circuits. In its hydro portfolio, EDP has 2,807MW of pumping storage, representing 8% of water used for hydro power generation in 2019.
The provision of fully-functioning, safely managed WASH services to all workers	100%	The health and safety of those contributing to EDP Group's activities - employees, service providers, contractors or subcontractors - are key priorities for the Group. Within its Health and Safety Work Policy, EDP is committed to make available the required resources to guarantee a safe and healthy environment for all its workers, ensuring compliance with the law. The Policy applies to all EDP Group companies, in all geographies, and requires all service providers to adopt practices in line with its underlying principles. Occupational health and safety are integral parts of EDP Group's activities and are considered in all decisions: project design, construction, exploitation, HR management, procurement, customer relations, supplier relations and with the general public. Additionally, through internal and third-party health and safety audits, the required resources to guarantee a safe and healthy environment for all workers and compliance with the law are verified.

W-EU1.2a

(W-EU1.2a) For your hydropower operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations measured and monitored	Please explain
Fulfilment of downstream environmental flows	100%	EDP analysed and monitored 100% of its hydro power plant flows in Iberia and Brazil. Following this assessment, EDP implemented downstream environmental flows (e-flows) where required. Both in Europe and Brazil, legislation requires the implementation of e-flow regimes as a mitigation environmental measure to improve water body ecological status and to achieve good ecological potential. EDP monitors the effectiveness of these e-flows and readjusts them when necessary to guarantee the ecological quality of the water bodies. Until now, results point out to the increase of the ecological quality downstream.
Sediment loading	100%	The potential accumulation of sediments upstream of the reservoir is regularly monitored as part of the operating standards used for hydroelectric power plants. Its monitoring is carried out mainly by the direct inspection at the water intake, and indirectly by bathymetric studies or underwater inspection in the surroundings of the dam. In addition to these operating standards, EDP regularly implements mitigation measures through an adequate spillway management during flood periods to promote solid flows to go downstream, simulating the natural flow. Extraordinarily, and usually in small power plants, there is the mechanical transport of sediments accumulated upstream, to downstream. In addition to these routine measures, EDP has in place a plan of bathymetric studies to assess the sedimentation potential in the total area of the reservoir. These studies are being planned in Portugal.
Other, please specify	Please select	

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	158394563	Lower	In 2019, water withdrawal was 24% lower than in 2018. This result is explained by the 27% decrease of hydropower generation (which represents 99.4% of total water withdrawals) due to the worse hydrological conditions in Iberia in 2019. Specifically for hydro power plants, data was collected either through direct measurements (meter readings) or by calculations, using for instance the installed capacity and the difference between downstream and upstream water levels. Due to the current's high hydro power contribution in the EDP Group's water performance, water withdrawals will tend to decrease or increase depending on if it is a dry or wet year, respectively. However, future water withdrawals dependency is expected to decrease with the growth of wind and solar capacity in generation portfolio, as per EDP's Strategic Update 2019-2022 and long-term strategy. We use the following thresholds for monitoring trends: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".
Total discharges	158374554	Lower	In 2019, water discharge was 24% lower than in 2018. This result is explained by the 27% decrease of hydropower generation (which represents 99.4% of total water withdrawals) due to the worse hydrological conditions in Iberia in 2019. Specifically for hydro power plants, data was collected either through direct measurements (meter readings) or by calculations, using for instance the installed capacity and the difference between downstream and upstream water levels. Due to the current's high hydro power contribution in the EDP Group's water performance, water discharges will tend to decrease or increase depending on if it is a dry or wet year, respectively. However, future water discharges are expected to decrease with the growth of wind and solar capacity in generation portfolio, as per EDP's Strategic Update 2019-2022 and long-term strategy. We use the following thresholds for monitoring trends: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".
Total consumption	21736	About the same	Water consumption was obtained by withdrawals minus discharges to the same water body within, at least, the quality parameters of the licensing permits. This definition is aligned with the information disclosed in EDP's Sustainability Report and is a result of the 2019 revision of EDP Group's water-related indicators (Please see EDP's website at: www.edp.com/sites/default/files/2020-03/Water-related%20indicators_EN_23.12.19.pdf). Thus, being now more environmentally conservative, this explains why the reported consumption differs from the CDP's definition (withdrawal minus discharges), as EDP has some powerplants in which water is discharges to a different destination from the withdrawal source. It is worth noticing that EDP considers water use in hydro power plants a non-consumptive use. In 2019, water consumption was 0.3% lower than in 2018. This is the result of the following three facts combined: 1. Implementation of water reuse and recycling measures in some of Pecém's industrial processes; 2. Lower use of coal power plants 3. The worse hydrological conditions in Iberia in 2019 led to an increase of electricity production from gas power plants (there was an inversion in order of merit from coal to gas power plants). Water consumption will tend to increase or decrease depending on if it is a dry or wet year, respectively, according to the use of thermal power plants. However, future water use dependency is expected to decrease with the growth of wind and solar capacity in generation portfolio, as per EDP's Strategic update 2019-2022 and long-term strategy. We use the following thresholds for monitoring trends: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".

W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress and provide the proportion.

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Identification tool	Please explain
Row 1	Yes	Less than 1%	Much higher	WRI Aqueduct	EDP has two thermal power plants located in water stressed areas (Pecém in Brazil and Castejón in Spain), representing 0.007% of the total water withdrawals reported in question 1.2b. There was a 51% increase of this indicator between 2018 and 2019 due to the following facts: - total water withdrawals from these power plants increased 14%; - Total company-wide withdrawals decreased 24%. For water stress exposure assessment EDP uses the WRI Aqueduct to conduct a first high-level risk assessment, by mapping all its thermal and hydro generation assets against a widely recognized water availability indicator (Baseline Water Stress (BWS)). Wind generation and distribution assets are excluded given their low dependency on water availability. Analysis is conducted at watershed level, using both current state and projections applying the following threshold: BWS higher than 40%, as recommended in the Question-level Guidance. A downscaling analysis at local level is then done, using information gathered from National Governmental Agencies (location specific water availability indicators) and company's operational teams (asset water dependency, constraints from local competitive uses). This is done for all geographies where EDP has generation activities (Portugal, Spain and Brazil), and considering the facilities location. It is worth noticing that withdrawal sources are closely located to the facilities and, thus, water-stress classification is valid for both situations. Assessment is updated on a 2 – 3 – year basis or whenever a new project requires it. We use the following thresholds to monitor trends: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".

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	157403519	Lower	99.4% of total water withdrawals comes from fresh surface water for hydro power generation as well as some thermal power generation. In 2019, water withdrawal from fresh surface water was 24% lower than in 2018. This result is explained by the 27% decrease of hydropower generation due to the worse hydrological conditions in Iberia in 2019. Due to the high hydro power contribution in the EDP Group's water performance (99.99% of the total fresh surface water withdrawals), water withdrawals from this source will tend to decrease or increase depending on if it is a dry or wet year, respectively. However, future water withdrawals dependency is expected to decrease with growth of wind and solar capacity in generation portfolio, as per EDP's Strategic Update 2019-2022 and long-term strategy. We use the following thresholds to monitor trends: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".
Brackish surface water/Seawater	Relevant	977994	Lower	Brackish surface water and seawater are relevant as they are used as cooling water in the refrigeration circuits of some thermal power plants. Two gas power plants in Portugal use brackish water (1% of total brackish and seawater withdrawal) and two coastal coal power plants in Portugal and Spain use seawater (99% of total brackish and seawater withdrawal). There was a 36% withdrawal decrease aligned with the 46% decrease of electricity generation from these coal facilities due to the inversion in order of merit from coal to gas power plants. Future dependency is expected to decrease with the shutdown of coal power plants in Iberia until 2030, as per EDP's Strategic Update 2019-2022 and long- term strategy. We use the following thresholds to monitor trends: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".
Groundwater – renewable	Relevant	2	Lower	Withdrawals from wells are used for human consumption and other general uses such as irrigation. The lower volume reported in 2019 when compared to the previous year basically reflects the lower human and general water uses . Given the very low volumes involved and the availability of alternative sources, company dependency on this source is low and it is expected to remain low in the future. We use the following thresholds to monitor trends: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".
Groundwater – non-renewable	Relevant	191	About the same	Withdrawals from deep water holes are mainly used in a water-steam water circuit in one of EDP's gas power plants. Its electricity generation was slightly higher in 2019, when compared to 2018 (+7%), justifying the constant volume withdrawn from this source between 2018 and 2019. Given the very low volumes involved and the availability of alternative sources, company dependency on this source is low and it is expected to remain low in the future. We use the following thresholds to monitor trends: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	Not applicable. EDP does not use produced or process water. It is not expected to be used in the future.
Third party sources	Relevant	12857	About the same	Withdrawals from third party sources are mainly used in office buildings and in the Pecém coal power plant. Pecém is the main user of this source (73%), being supplied by the local water supply concessionaire. There was a 7% withdrawal decrease due to both the implementation of water reuse and recycling measures in some of its industrial processes, and a decrease of its electricity generation. Future dependency is expected to remain constant with the full operationalization of the water efficiency measures. We use the following thresholds to monitor trends: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".

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	157400036	Lower	In 2019, water discharges to fresh surface water was 24% lower than in 2018. This result is explained by the 27% decrease of hydropower generation due to the worse hydrological conditions in Iberia in 2019. Due to the high hydro power contribution in the EDP Group's water performance (99.99% of the total fresh surface water discharges), water discharges to this source will tend to decrease or increase depending on if it is a dry or wet year, respectively. However, future water discharges are expected to decrease with growth of wind and solar capacity in generation portfolio, as per EDP's Strategic Update 2019-2022 and long-term strategy. We use the following thresholds to monitor trends: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".
Brackish surface water/seawater	Relevant	974516	Lower	Discharges to brackish surface water and seawater are mainly of cooling water used in the refrigeration circuits of some thermal power plants. Two gas power plants in Portugal discharge to brackish surface water (1% of total brackish and seawater discharges) and three coal power plants in Portugal, Spain and Brazil discharge to seawater (99% of total brackish and seawater withdrawal). There was a 36% discharge decrease aligned with the 35% decrease of electricity generation from these coal power plants due to the inversion in order of merit from coal to gas power plants, and the implementation of water reuse and recycling measures in some of Pecém industrial processes. Future dependency is expected to be reduced with the gradual decrease of coal capacity until 2030, as per EDP's Strategic Update 2019-2022 and long- term strategy. We use the following thresholds to monitor trends: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	EDP does not make discharges to groundwater. It is not expected to make these discharges in the future.
Third-party destinations	Relevant	2	About the same	These effluents sum up all domestic wastewater produced in all activities within the reporting boundary and sent to municipal treatment. The slight decrease between 2018 and 2019 basically reflects the lower human consumption and general uses. It is expected that third-party destinations will remain constant over the years. We use the following thresholds to monitor trends: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".

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	Comparison with previous reporting year	Please explain
2377	Freshwater withdrawals	MWh	Lower	Numerator refers to total freshwater withdrawals in EDP's activities, as reported in W1.2h. Information is collected directly mostly from meter readings for thermal, wind and solar power plants, distribution activities and office buildings. For hydro facilities, data is collected either through direct measurements (meter readings) or by calculations, using for instance the installed capacity and the difference between downstream and upstream water levels. Denominator refers to total net electricity generation, collected through online systems that monitor each power plant's electricity injection in the grid. There was a 18% decreased in 2019 (2,377 m3/MWh vs. 2,903 m3/MWh in 2018) explained by the 27% decrease of hydropower generation due to the worse hydrological conditions in Iberia in 2019. Due to the high hydro power contribution in the EDP Group's water performance (99.99% of the total freshwater withdrawals), this water intensity indicator will tend to decrease or increase depending on if it is a dry or wet year, respectively. Water intensity indicator is being used for internal and external analysis on water dependency and efficiency in water use, to drive water performance improvement projects at operational level and to inform our water strategy. Future freshwater withdrawals will mainly depend on the hydrological conditions in Iberia. We use the following thresholds for monitoring trends in water intensity indicator: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".

W1.4

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

Yes, our suppliers

W1.4a

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

Row 1

% of suppliers by number

Less than 1%

% of total procurement spend

1-25

Rationale for this coverage

Coal extraction represents the largest contribution of water consumption within EDP's tier 1 suppliers of raw materials, according to a characterization study of EDP's purchases using procurement and environmentally extended input-output data. While coal plants are still part of EDP's portfolio, EDP keeps ensuring an active engagement with coal suppliers, so risks are monitored, including water-related ones. The engagement is ensured by the Bettercoal Initiative, where 100% of EDP's coal suppliers are contractually mandated to follow the Bettercoal Code, committing to 10 Principles, namely to natural resource sustainable management and pollution control in which water issues are included. These suppliers are requested to report on their environmental performance, including water issues, allowing EDP to better manage its risk. Both number and procurement indicators consider all coal suppliers within EDP's tier 1 suppliers that were procured (1,625 or 94.7% of total purchase spend).

Impact of the engagement and measures of success

Under the Bettercoal Initiative, EDP's coal suppliers are subject to an on-site assessment and a continuous improvement plan, so the Code requirements are closely monitored. The assessment is based on a risk approach, analysing suppliers' performance against the Code's commitments. Suppliers are requested to report on management systems to address the Code's aspects, including procedures on environmental issues, and mining performance regarding risk factors or incidents related to social, human rights, business integrity and the environment. Moreover, performance from internal and third-party audits, and against media review and other sources of information is monitored. This information allows EDP to better understand its water-related supply chain risks, monitoring them and prioritizing areas to be more closely accompanied. The success of the engagement is evaluated by the results of the assessment, namely by the gap between the suppliers' performance and the Code's commitments.

Comment

W1.4b

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

Type of engagement
Onboarding & compliance

Details of engagement
Inclusion of water stewardship and risk management in supplier selection mechanism

% of suppliers by number
76-100

% of total procurement spend
76-100

Rationale for the coverage of your engagement
Tenders for supplies identified with environmental impacts or exposed to risks are classified as Environmental Critical. Thus, tender includes environmental threshold criteria that bidding suppliers must accomplish to be at the negotiation stage. Applicants must demonstrate: - A valid Environmental Certification; - Performance in the previous 3 years (fines, consumption, improvements ...); - Special criteria/technological devices. Also, as a risk mitigation tool, EDP's Code of Conduct is a contractual obligation for tier 1 suppliers. Water issues are part of the environmental principle, where suppliers commit to comply e.g. with environmental legislation and international standards, and to identify, monitor and mitigate environmental risks and impacts. Since those are binding conditions, 100% of the suppliers are engaged. Both number and procurement spend is determined by considering all tier 1 suppliers that were procured (1,625 representing about 94.7% of total purchase spend).

Impact of the engagement and measures of success
The impact of the engagement is supported by a KPI system, where some indicators are linked to procurement teams' annual prizes. In 2019, KPIs included: - % of Suppliers under Procurement obliged by EDP's Code of Conduct: 100% - % of Suppliers under Procurement engaged on disclosing Environmental Information: 100% - % of Suppliers under Procurement exposed to Environmental risks with ISO certification: 79% - % Environmental Critical Suppliers performance annually appraised: 100% - % Direct coal contracts made in 2019 with Bettercoal clause: 100% These KPIs are a way to build confidence on suppliers' operations regarding environmental issues. Engagement evolves as suppliers are required to adopt management procedures to monitor for instance the Code of Conduct's requirements, reporting to EDP either non-compliance or compliance evidences. The success of the engagement is evaluated through those KPIs, namely through the comparison of suppliers' performance against EDP's Code of Conduct.

Comment

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?

EDP has a third-party certification, by Lloyds, of its corporate environmental management system (CEMS), according to ISO 14001:2015. The CEMS covers the scope: "Corporate management of environmental policies and strategic environmental plans, environmental information and performance of EDP Group organisations" and it frames operation's performance at a site level.

Under this standard, EDP identifies its main environmental aspects and their materiality, considering stakeholder's expectations and the result of an internal Environmental Risk Assessment Tool, applied to all EDP Group.

This tool links environmental aspects with impacts and risks (regulatory, operational, etc.), covering both impacts on the environment (e.g.: Water pollution) but also company's dependency on natural resources (e.g.: water dependence). Also, it is through this tool that potential water pollutants are classified, according to the potential impact on the environment, using an impact scale applicable to all EDP Group that goes from low impact to a very high impact.

Additionally, for each discharge point of thermal power plants, EDP must comply with pollutant emission limits according to environmental licensing permits. Thus, the pollutants to be monitored are expressly included in these licenses, issued by the National Environmental Authorities.

Moreover, in Europe, these parameters are based on a facilities' performance level achieved with the application of the best available techniques (BAT), as considered by the European Commission. BATs evolve over time and are discussed with the economic agents of each activity sector. EDP participated in the latest BAT analysis for the large combustion plant sector. EDP monitors these pollutants with different frequencies in accordance with the environmental permits. Some examples of this are level of discharge of heavy metals and temperature level (thermal pollution).

Hydro power plants do not emit pollutants into the water. Water quality parameters are regularly monitored in the reservoir as the existence of the dams can scale up some pollution problems already present in the water upstream the reservoir. For example, when high levels of organic matter and nutrients exist due to diffuse pollution from agriculture or urban sewage discharges, the level of water eutrophication in the reservoir can increase with the consequent decrease of water quality. In critical situations, where dams exist in rivers with significant bad upstream quality, EDP has been voluntarily involved in the implementation of solutions to increase water quality in the reservoirs, mitigating the environmental impacts resulting from these situations. In formal or informal multipurpose reservoirs, EDP also actively acts in acute situations that lead to water quality decrease. A strong and common example of this situation is after strong summer fires, with the increase of ashes in the river streams or in reservoirs used afterwards for water consumption.

Finally, EDP has also in place Emergency Procedures to prevent accidental spills (ex. from oil or chemical substance), as they may become potential pollution sources, for instance causing water body's physical and chemical changes, with the decrease of oxygen in the water, and affecting fauna and flora (by coating, and by reducing the availability of food, for example). A wide range of measures are implemented, such as retention basins in transformers and in oil tanks, water/oil separators and the existence of spill absorbent materials in the most critical areas of industrial facilities.

Potential detrimental impacts on water (both for ecosystems and human health) associated with pollutants release are limited to our electricity generation activities. For our other electricity sector activities, electricity distribution and electricity and gas supply such impacts are deemed not relevant.

In EDP's supply chain, coal extraction represents the largest contribution of water consumption within EDP's tier 1 suppliers of raw materials, and coal represents 12% of EDP's total installed capacity. EDP is a member of Bettercoal promoting site and self-assessments of the mines. 100% of its suppliers follow Bettercoal Code, which includes the commitment to natural resource sustainable management and pollution control. EDP also monitors and promotes the Environmental Management Systems of its fuel suppliers, with 74% of critical suppliers certified in accordance with ISO 14001.

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	Hydrocarbons from accidental spills and not due to a continuous discharge situation. Oil spills in thermal and hydro power plants, as well as in electricity distribution facilities, if reaching water bodies, may cause water's physical and chemical changes, with the decrease of oxygen in the water, and affecting fauna and flora (by coating, and by reducing the availability of food, for example). Accidental spill frequency is extremely low (1 situation within EDP Group in the last decade). In a qualitative scale, these impacts are considered as highly significant based on either different standards or the EDP's Environmental Risk Assessment tool.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness Other, please specify (Environmental Risk Assessment Tool.)	The compliance with wastewater quality standards is ensured through its treatment, monitoring and reporting to the competent authorities. Also, EDP has in place a companywide target to achieve zero environmental accidents and penalties until 2022. To prevent spillage, leaching, and leakages, there are retention basins in transformers and in oil tanks, water/oil separators and spill absorbent materials in the most critical areas of industrial facilities. Moreover, the collection of several kind of wastewaters in different drainage networks is a complementary procedure to mitigate risk regarding potential water pollutants' impacts: chemical wastewaters, oily wastewaters, domestic sewage and clean rain water. Annually, Environmental Declarations are made for all thermal power plants in Iberia, where environmental performance results are provided. These declarations are distributed to the main stakeholders. Also, visits to the industrial facilities are promoted. There are emergency plans in place, as well as specific training actions and accident drills (including testing of scenarios with water damage). EDP has ongoing several Environmental Risk Management Modelling for each of its critical facilities to evaluate the potential damage of oil spills and other potential environmental impacts (occurring as consequences of accidental situations), to better inform decision making.
Coal combustion residuals	Coal combustion residuals (fly ashes, bottom ashes and gypsum) from coal power plants rejected into the water by accident, and not due to a continuous discharge situation. These accidental leakages may have high level content of heavy metals, with potential environmental impacts both in fauna and flora, as well as in human health when the food chain is contaminated. Accident frequency is extremely low (1 situation with limited impact within EDP Group in the last decade).	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness Other, please specify (Environmental Risk Assessment Tool.)	The compliance with effluent quality standards is ensured through waste water treatment, monitoring and report to the competent authorities. Also, EDP has in place a companywide target to achieve zero environmental accidents and penalties until 2022. Coal power plants have landfills for ash and gypsum waste, equipped with sedimentation basins to prevent these kinds of wastes from reaching the water. Annually, Environmental Declarations are made for all thermal power plants in Iberia, where environmental performance results are provided. These declarations are distributed to the main stakeholders. Also, visits to the industrial facilities are promoted. There are emergency plans in place, as well as specific training actions and accident drills (including testing of scenarios with water damage). EDP has ongoing several Environmental Risk Management Modelling for each of its critical facilities to evaluate the potential damage of oil spills and other potential environmental impacts (occurring as consequences of accidental situations), to better inform decision making.
Thermal pollution	The discharge of hot water in EDP's thermal power plants can extraordinarily lead to a raise in temperature of the local water body. This may contribute to the decrease of dissolved oxygen and the change of the local natural environmental with adverse impacts in local fauna and flora living conditions. No significant environmental impacts have been recorded.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness Other, please specify (Monitoring of waterbody temperature.)	Thermal pollution is controlled at all EDP thermal power plants as there are legal limits to the temperature rise in the receiving water body. Also, EDP has in place a companywide target to achieve zero environmental accidents and penalties until 2022. Annually, Environmental Declarations are made for all thermal power plants in Iberia, where environmental performance results are provided. These declarations are distributed to the main stakeholders. Also, visits to the industrial facilities are promoted. Also, there are emergency plans in place, as well as specific training actions and accident drills (including testing of scenarios with water damage). EDP has ongoing several Environmental Risk Management Modelling for each of its critical facilities to evaluate the potential damage of oil spills and other potential environmental impacts (occurring as consequences of accidental situations), to better inform decision making.
Please select	<Not Applicable>	<Not Applicable>	

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
More than once a year

How far into the future are risks considered?
More than 6 years

Type of tools and methods used
Tools on the market
Enterprise Risk Management
International methodologies
Databases

Tools and methods used
WRI Aqueduct
ISO 31000 Risk Management Standard
Environmental Impact Assessment
IPCC Climate Change Projections
FAO/AQUASTAT
Regional government databases
Other, please specify (Internal company methods.)

Comment
Internal company methods include, but are not limited to, standard risk identification and quantification methodologies (e.g. Monte Carlo simulations, short and long-term impact estimation on EBITDA), and an environmental corporate risk assessment tool aligned with ISO 31000 and ISO 14001:2015, which includes water-related regulation follow-up procedures at corporate, business unit and asset level, supported by a proprietary Regulation Database information system, managed at corporate level.

Supply chain

Coverage
Full

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

Frequency of assessment
More than once a year

How far into the future are risks considered?
More than 6 years

Type of tools and methods used
Tools on the market
Enterprise Risk Management

Tools and methods used
WRI Aqueduct
ISO 31000 Risk Management Standard

Comment
Water risks throughout the supply chain are identified, assessed and managed both in EDP's Water Risk Map, in which supply chain risks are identified as strategic, as they are important to forecast possible future restrictions in direct and indirect water use, and in EDP's assessment of generation assets' exposure to water stress locations, where current and future water stress exposure of coal mines are assessed regularly using the WRI Aquaduct through their specific coordinates.

Other stages of the value chain

Coverage
None

Risk assessment procedure
<Not Applicable>

Frequency of assessment
<Not Applicable>

How far into the future are risks considered?
<Not Applicable>

Type of tools and methods used
<Not Applicable>

Tools and methods used
<Not Applicable>

Comment
Use of EDP's products (electricity and gas) does not involve water use. As such, we do not include other stages of the value chain water risks in our risk assessment procedures.

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	Current and future water availability is vital to EDP's thermal and hydro electricity generation. Water (freshwater; or sea water in two power plants) is used for cooling and for water-steam circuits in EDP's CCGT and coal-fired power plants in Portugal, Spain and Brazil (26% of installed capacity). Use is mostly non-consumptive (98% of withdrawals are returned to water bodies with minimal changes) but assets operation depends upon enough water being available for withdrawal. Water is also essential for electricity generation in EDP's hydroelectric power plants in Portugal, Spain and Brazil (33% of installed capacity). All water use in hydro generation depends upon enough incoming flows availability. Current and future availability is assessed through: i) EDP's Corporate Business Risk model – Assessment of key risks, as well as mapping of emerging risks. Water availability risks (e.g. business risks such as increase in competitive uses; strategic risks such as climate-change induced structural changes in hydro flows) are embedded into the model's taxonomy, phases and responsibilities. The model uses standard risk methodologies and inputs from sustainability and business unit teams (e.g. climate scenarios; local level competitive uses); ii) Assessment of generation assets' exposure to water stress locations. It uses WRI Aqueduct and FAO/AQUASAT (current – forecasts up to 2040) for a high-level assessment, downscaled with information from National Agencies (location specific indicators) and operational teams' inputs (local competitive uses); iii) Detailed risk quantification for competitive uses and structural decrease in hydro flows in EDP Water Risk Map. Risks are aggregated according to expected frequency and impact and applying Monte Carlo simulation for short/medium (up to 5 years) and long-term time horizons (5-50 years). Financial implications are expressed by the value of maximum loss (95% percentile).
Water quality at a basin/catchment level	Relevant, always included	Water quality is mostly essential for the water-steam process in thermal power plants. Dry years may decrease the water quality withdrawn by the company, leading to the increase of operational costs of the water treatment process. This is an operational physical risk identified and included indirectly in the corporate risk map. The decrease of water availability is directly associated with local degradation of water quality, thus, this risk is assessed indirectly through the current and future availability assessment: i) EDP's Corporate Business Risk model – Assessment of key risks, as well as mapping of emerging risks. Water availability risks (e.g. business risks such as increase in competitive uses; strategic risks such as climate-change induced structural changes in hydro flows) are embedded into the model's taxonomy, phases and responsibilities. The model uses standard risk methodologies and inputs from sustainability and business unit teams (e.g. climate scenarios; local level competitive uses); ii) Assessment of generation assets' exposure to water stress locations. It uses WRI Aqueduct and FAO/AQUASAT (current – forecasts up to 2040) for a high-level assessment, downscaled with information from National Agencies (location specific indicators) and operational teams' inputs (local competitive uses); iii) Detailed risk quantification for competitive uses and structural decrease in hydro flows in EDP Water Risk Map. Risks are aggregated according to expected frequency and impact and applying Monte Carlo simulation for short/medium (up to 5 years) and long-term time horizons (5-50 years). Financial implications are expressed by the value of maximum loss (95% percentile).
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	Current and future stakeholder conflicts - most relevant competitive uses of water – can constraint operation of EDP's thermal and hydro power plants. Thermal power plants located in water stress areas are the most vulnerable (Castejón, Spain; Pecém, Brazil). In Portugal, some of EDP's hydro reservoirs are multipurpose, and operation must conciliate the needs of the different water users. Examples include Castelo de Bode reservoir, also the main water supplier to Lisbon. Risks arising from potential restrictions to operation are integrated into EDP's water risk assessment through: i) EDP's Corporate Business Risk model – Assessment of key risks, as well as mapping of emerging risks. Increase in competitive uses is a water availability business risk and is embedded into the model's taxonomy, phases and responsibilities. It uses standard risk methodologies and inputs from sustainability and business unit teams (e.g. climate scenarios; local level competitive uses); ii) Detailed quantification of risks associated with competitive uses in EDP Water Risk Map. Risks are aggregated according to expected frequency and impact and applying Monte Carlo simulation for short/medium (up to 5 years) and long-term time horizons (5-50 years). Financial implications are expressed by the value of maximum loss (95% percentile). EDP cooperates with local and national competent authorities in the development of River Basin Management Plans and implementation of action plans on flood regularization, ecological flows, flow supply for touristic activities and waterbodies continuity. EDP has an open channel with the Portuguese main water supply company and works with the competent authorities in water resource management. In Spain and Brazil, where EDP has assets in water stress areas, EDP's teams hold regular meetings with State entities to anticipate future conflicts.
Implications of water on your key commodities/raw materials	Not relevant, included	The most relevant commodities for EDP's operation are fossil fuels for electricity generation. Coal extraction represents the largest contribution of water consumption within all EDP's tier 1 suppliers of raw materials. This is one of the results from the assessment of potential supply chain water risks included in a characterization study of EDP's purchases. The study identified sustainability impacts of EDP's supply chain, including water consumption. It was conducted using procurement data, environmentally extended input-output data and a global water resources model. Water implications on fossil fuels are included in EDP's water-related risk assessment, but the risk is considered not relevant, as coal accounts for 12% of total installed capacity, and procurement is made from a vast range of alternative suppliers in different geographies. Moreover, in 2019, only 2% of the purchased coal came from mines in high water stressed area (representing 1 mine with the WRI Baseline Water Stress higher than 40%). Future dependency will be further reduced, as coal capacity will decrease gradually until 2030, and so it is expected that this issue will continue to be evaluated as not relevant.
Water-related regulatory frameworks	Relevant, always included	Water-related regulation (e.g. hydro generation taxes, ecological flows legal regimes, water discharges quality requirements, regulation of the EU Water Framework Directive) can constraint the operation of EDP's thermal and hydro power plants (e.g. requirement to release ecological flows in hydro power plants), as well as increase investment and operational costs (e.g. higher investment associated with the installation of cooling towers that reduce water withdrawals in thermal power plants; increase in wastewater treatment costs prior to discharge). Current and future water-related regulatory and tariff risks are assessed through: i) EDP's Corporate Business Risk model – Assessment of key risks, as well as mapping of emerging risks. Water regulation risks (e.g. regulatory risks such as changes in water pricing) are embedded into the model's taxonomy, phases and responsibilities. Assessment uses standard risk methodologies and inputs from sustainability and business unit teams (e.g. water-related environmental regulation; emerging regulatory issues); ii) Specific water-regulation follow-up procedures conducted at corporate, business unit and asset level (e.g. identification of emerging issues; participation in public consultations; involvement in River Basin Management Plans) and supported by a proprietary Regulation Database information system, managed at corporate level.
Status of ecosystems and habitats	Relevant, always included	Current and future local ecosystem and habitat status is integrated into EDP's water risk assessment in the planning phase of all new thermal and hydro generation projects. Projects undergo an Environmental Impact Assessment, including monitoring programs on water communities and fresh water habitats prior to development, and forecast of potential future impacts and design of mitigation measures. In the operation phase, risk is assessed and managed mostly at business unit level (Portugal, Spain and Brazil), through site-specific monitoring plans that assess any material changes on the status of water ecosystems and habitats resulting from the power plant operation. Examples of such monitoring plans/tools include: i) water quality monitoring of reservoirs, encompassing biological quality parameters, physicochemical and hydromorphological parameters; ii) use of limnological information collected under the monitoring of reservoirs to support the implementation process of environmental flow regimes; iii) EDP also has in place a global site-specific modelling program to assess potential risks to local ecosystems. Several scenarios of accidents with potential environmental impacts, such as fires, spills, etc. are tested against a baseline environmental condition. Results inform new mitigation action plans, including monitoring plans implemented in addition to the National Environmental Authorities requirements.
Access to fully-functioning, safely managed WASH services for all employees	Not relevant, explanation provided	EDP provides access to clean water and suitable sanitation conditions for all employees in 100% of EDP's facilities. This is a legal requirement in the geographies where EDP operates and is a company commitment under its participation in the United Nations' Global Compact. The issue therefore poses no risks to EDP's operations and it is expected to remain not relevant to EDP's operations and, as such, it is not included in EDP's water risk assessment.
Other contextual issues, please specify	Not considered	No other issues factored into EDP's water related risk assessment.

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	EDP conducts a materiality analysis, assessing and setting the relevance of an issue for EDP and its stakeholders, to support the organisation's decision-making and strategy development process. Material issues obtained with this process are the ones able to affect the value creation for the company in the short, medium and long term, and at the same time, are recognized as being important for the different EDP's stakeholders. This process is updated on an annual basis and includes the following stakeholders (not exhaustive): suppliers, regulators, peers, investors, customers, employees, local communities, NGO; academia, media, etc. These are key stakeholders for EDP as they affect or are affected by the company's strategy and performance, in accordance to AA 1000 standards. Water is considered a material issue inside the Environmental Issues Category, and the yearly results of this process is directly linked to the Corporate Environmental Risk Tool and supports the water related risk assessment developed by the company. As a relevant stakeholder for EDP, costumers are engaged at different levels such as: surveys, customer Ombudsman, commercial offices, dedicated websites in each geography and edponline (reserved area both on the websites and app). Aiming at arising customer awareness, and at the same time promoting money savings to them, EDP has launched a service through which it provides efficient appliances for domestic customers. These appliances, for instance water heaters and electric storage water heaters, are not only energy efficient, but also allow customers to reduce their water bills.

	Relevance & inclusion	Please explain
Employees	Relevant, always included	EDP conducts a materiality analysis, assessing and setting the relevance of an issue for EDP and its stakeholders, to support the organisation's decision-making and strategy development process. Material issues obtained with this process are the ones able to affect the value creation for the company in the short, medium and long term, and at the same time, are recognized as being important for the different EDP's stakeholders. This process is updated on an annual basis and includes the following stakeholders (not exhaustive): suppliers, regulators, peers, investors, customers, employees, local communities, NGO; academia, media, etc. These are key stakeholders for EDP as they affect or are affected by the company's strategy and performance, in accordance to AA 1000 standards. Water is considered a material issue inside the Environmental Issues Category, and the yearly results of this process is directly linked to the Corporate Environmental Risk Tool and supports the water related risk assessment developed by the company. As a relevant stakeholder for EDP, employees are engaged for water awareness through some initiatives. For instance, at the World Water Day and National Water Day (in Portugal, for example), water-related information is spread throughout EDP's digital channels (intranet and workplace) to raise awareness and promote efficient behaviours. Also, water-saving equipment and devices were installed in the most recent EDP's new office buildings, and are also criteria to be implemented in the future new buildings, within the Leadership in Energy and Environmental Design (LEED) certification, such as more water efficient taps, showers and toilets.
Investors	Relevant, always included	EDP conducts a materiality analysis, assessing and setting the relevance of an issue for EDP and its stakeholders, to support the organisation's decision-making and strategy development process. Material issues obtained with this process are the ones able to affect the value creation for the company in the short, medium and long term, and at the same time, are recognized as being important for the different EDP's stakeholders. This process is updated on an annual basis and includes the following stakeholders (not exhaustive): suppliers, regulators, peers, investors, customers, employees, local communities, NGO; academia, media, etc. These are key stakeholders for EDP as they affect or are affected by the company's strategy and performance, in accordance to AA 1000 standards. Water is considered a material issue inside the Environmental Issues Category, and the yearly results of this process is directly linked to the Corporate Environmental Risk Tool and supports the water related risk assessment developed by the company. EDP's water risk assessment includes the quantification of the potential financial impact of each identified risk on the company's EBITDA. We report the issue in several different ESG road shows or other investor surveys, when the topic is raised. Also, reporting and communication are done through the CDP Water Programme and EDP's Annual Sustainability Report.
Local communities	Relevant, always included	EDP conducts a materiality analysis, assessing and setting the relevance of an issue for EDP and its stakeholders, to support the organisation's decision-making and strategy development process. Material issues obtained with this process are the ones able to affect the value creation for the company in the short, medium and long term, and at the same time, are recognized as being important for the different EDP's stakeholders. This process is updated on an annual basis and includes the following stakeholders (not exhaustive): suppliers, regulators, peers, investors, customers, employees, local communities, NGO; academia, media, etc. These are key stakeholders for EDP as they affect or are affected by the company's strategy and performance, in accordance to AA 1000 standards. Water is considered a material issue inside the Environmental Issues Category, and the yearly results of this process is directly linked to the Corporate Environmental Risk Tool and supports the water related risk assessment developed by the company. At a local level, water issues are strongly dependent on the facility type and local conditions. EDP reports local environmental declarations under EMAS (Eco-Management and Audit Scheme Registers) in Portugal and when needed initiatives are taken to increase water quality or availability to local communities. Engagement to support water risk assessment is also made through multistakeholder commissions on Reservoirs Management or River Basin Councils WG. Current and future stakeholder conflicts (e.g. competitive uses) are then integrated into EDP's water risk management process. This involves, when necessary, the cooperation with competent authorities to ensure adequate management of shared water resources (e.g. flood regularization, ecological flows, flow for touristic activities). EDP has in place edp+perto, an internal training tool to raise capacity to deal with local engagement processes where current and future stakeholder conflicts are addressed.
NGOs	Relevant, always included	EDP conducts a materiality analysis, assessing and setting the relevance of an issue for EDP and its stakeholders, to support the organisation's decision-making and strategy development process. Material issues obtained with this process are the ones able to affect the value creation for the company in the short, medium and long term, and at the same time, are recognized as being important for the different EDP's stakeholders. This process is updated on an annual basis and includes the following stakeholders (not exhaustive): suppliers, regulators, peers, investors, customers, employees, local communities, NGO; academia, media, etc. These are key stakeholders for EDP as they affect or are affected by the company's strategy and performance, in accordance to AA 1000 standards. Water is considered a material issue inside the Environmental Issues Category, and the yearly results of this process is directly linked to the Corporate Environmental Risk Tool and supports the water related risk assessment developed by the company. EDP has in place several partnerships with NGOs, either local or national, concerning mostly environmental protection, where water is a key element considered. For instance, EDP has worked with three ENGOs within the EDP's compensatory measures to be implemented in the Baixo Sabor, so the impact of the hydro power plants would be neutralised, and the area's natural environment degradation trend reversed. These ENGOs assumed the role of implementing the actions on site and mediating directly with the remaining local partners. Some of the compensatory measures include water issues, for instance the enhancement of the river corridor on the Middle and Upper Sabor river and Maças River.
Other water users at a basin/catchment level	Relevant, always included	EDP conducts a materiality analysis, assessing and setting the relevance of an issue for EDP and its stakeholders, to support the organisation's decision-making and strategy development process. Material issues obtained with this process are the ones able to affect the value creation for the company in the regulators, peers, investors, customers, employees, local communities, NGO; academia, media, etc. These are key stakeholders for EDP as they affect or are affected by the company's strategy and performance, in accordance to AA 1000 standards. Water is considered a material issue inside the Environmental Issues Category, and the yearly results of this process is directly linked to the Corporate Environmental Risk Tool and supports the water related risk assessment developed by the company. Water users at a catchment level are considered local communities with direct interest in water issues, so engagement to support water risk assessment is also made through local initiatives or through formal multistakeholder commissions on Reservoirs Management or River Basin Councils working groups. Current and future stakeholder conflicts – of which the most relevant are competitive uses – are then integrated into EDP's water risk management process. This involves, when necessary, the cooperation with the competent authorities to ensure adequate management of shared water resources by addressing issues such as: flood regularization, ecological flows or flow supply for touristic activities. EDP has in place edp+perto, an internal training tool aiming to raise internal capacity to deal with the local engagement process and best practices of local stakeholder management. Current and future stakeholder conflicts are addressed in this training program.
Regulators	Relevant, always included	EDP conducts a materiality analysis, assessing and setting the relevance of an issue for EDP and its stakeholders, to support the organisation's decision-making and strategy development process. Material issues obtained with this process are the ones able to affect the value creation for the company in the short, medium and long term, and at the same time, are recognized as being important for the different EDP's stakeholders. This process is updated on an annual basis and includes the following stakeholders (not exhaustive): suppliers, regulators, peers, investors, customers, employees, local communities, NGO; academia, media, etc. These are key stakeholders for EDP as they affect or are affected by the company's strategy and performance, in accordance to AA 1000 standards. Water is considered a material issue inside the Environmental Issues Category, and the yearly results of this process are directly linked to the Corporate Environmental Risk Tool and supports the water related risk assessment developed by the company. Water regulation issues are closely followed both at corporate and Business Unit level. EDP cooperates with: Eurelectric Hydro Group and Environmental Protection WG; Portuguese Environmental Authorities, in Portugal; Consejo Nacional del Agua (Spain National Water Council) and UNESA, in Spain. In Brazil, EDP participates in the Ceará State Watershed Committee, the entity that manages local water resources in the water stress area where EDP's Pecém thermal power plant is located.
River basin management authorities	Relevant, always included	EDP conducts a materiality analysis, assessing and setting the relevance of an issue for EDP and its stakeholders, to support the organisation's decision-making and strategy development process. Material issues obtained with this process are the ones able to affect the value creation for the company in the short, medium and long term, and at the same time, are recognized as being important for the different EDP's stakeholders. This process is updated on an annual basis and includes the following stakeholders (not exhaustive): suppliers, regulators, peers, investors, customers, employees, local communities, NGO; academia, media, etc. These are key stakeholders for EDP as they affect or are affected by the company's strategy and performance, in accordance to AA 1000 standards. Water is considered a material issue inside the Environmental Issues Category, and the yearly results of this process is directly linked to the Corporate Environmental Risk Tool and supports the water related risk assessment developed by the company. In Portugal, EDP works with the environmental authorities, namely in Public Water Bodies Programs, ecological flows regimes, Flood Risk Management Plans, the Portuguese Commission on Reservoirs Management and the River Basin Councils. In Brazil, EDP participates in the Ceará State Watershed Committee, the entity that manages local water resources in the water stress area where EDP's Pecém thermal power plant is located.
Statutory special interest groups at a local level	Relevant, always included	EDP conducts a materiality analysis, assessing and setting the relevance of an issue for EDP and its stakeholders, to support the organisation's decision-making and strategy development process. Material issues obtained with this process are the ones able to affect the value creation for the company in the short, medium and long term, and at the same time, are recognized as being important for the different EDP's stakeholders. This process is updated on an annual basis and includes the following stakeholders (not exhaustive): suppliers, regulators, peers, investors, customers, employees, local communities, NGO; academia, media, etc. These are key stakeholders for EDP as they affect or are affected by the company's strategy and performance, in accordance to AA 1000 standards. Water is considered a material issue inside the Environmental Issues Category, and the yearly results of this process is directly linked to the Corporate Environmental Risk Tool and supports the water related risk assessment developed by the company. Special interest groups at a local level are integrated into EDP's stakeholder management procedures. Tourist activities, for example, are object of special attention in hydro power plants with multipurpose reservoirs. In Caniçada hydro power plant (Portugal), EDP agreed to operate its hydro power plant having in consideration a water level that allows, simultaneously, recreational activities. Another example is in the Castelo de Bode dam (Portugal) where EDP provides water for nautical sports such as kayaking, adjusting its flows to guarantee these activities when needed.
Suppliers	Not relevant, included	EDP conducts a materiality analysis, assessing and setting the relevance of an issue for EDP and its stakeholders, to support the organisation's decision-making and strategy development process. Material issues obtained with this process are the ones able to affect the value creation for the company in the short, medium and long term, and at the same time, are recognized as being important for the different EDP's stakeholders. This process is updated on an annual basis and includes the following stakeholders (not exhaustive): suppliers, regulators, peers, investors, customers, employees, local communities, NGO; academia, media, etc. These are key stakeholders for EDP as they affect or are affected by the company's strategy and performance, in accordance to AA 1000 standards. Water is considered a material issue inside the Environmental Issues Category, and the yearly results of this process is directly linked to the Corporate Environmental Risk Tool and supports the water related risk assessment developed by the company. Assessment of potential supply chain water risks was included in a characterization study of EDP's purchases. The study identified sustainability impacts of EDP's supply chain, including water consumption. It was conducted using procurement data, environmentally extended input-output data and a global water resources model. One of the results is that coal extraction represents the largest contribution of water consumption within EDP's tier 1 suppliers of raw materials. However, we do not anticipate a substantive impact in EDP's operation as currently 12% of EDP's installed capacity is coal based, and future dependency will be further reduced, as coal capacity will decrease gradually until 2030. Also, risk is further mitigated by working with a vast range of alternative suppliers in different geographies. Moreover, while coal power plants are still part of EDP's generation mix, EDP keeps ensuring that an active engagement is in place with all coal suppliers, so risks are monitored and managed. This engagement is ensured through the Bettercoal Initiative, where 100% of EDP's coal suppliers follow the Bettercoal Code, committing to natural resource sustainable management and pollution control.

	Relevance & inclusion	Please explain
Water utilities at a local level	Relevant, always included	EDP conducts a materiality analysis, assessing and setting the relevance of an issue for EDP and its stakeholders, to support the organisation's decision-making and strategy development process. Material issues obtained with this process are the ones able to affect the value creation for the company in the short, medium and long term, and at the same time, are recognized as being important for the different EDP's stakeholders. This process is updated on an annual basis and includes the following stakeholders (not exhaustive): suppliers, regulators, peers, investors, customers, employees, local communities, NGO; academia, media, etc. These are key stakeholders for EDP as they affect or are affected by the company's strategy and performance, in accordance to AA 1000 standards. Water is considered a material issue inside the Environmental Issues Category, and the yearly results of this process is directly linked to the Corporate Environmental Risk Tool and supports the water related risk assessment developed by the company. Current and future stakeholder conflicts – of which the most relevant are competitive uses, such as water supply – are integrated into EDP's water risk identification and management procedures. Special attention is paid to hydro power plants with multipurpose reservoirs, of which we operate several in Portugal, where we strive to conciliate the needs of the different water users. Examples include Castelo de Bode hydro power plant, which reservoir is also the main water supplier to the city of Lisbon. EDP has an open channel with the Portuguese main water supply company, which owns the local water uptake, to support the engagement process.
Other stakeholder, please specify	Not considered	No other stakeholders considered into EDP's water related risk assessment.

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.

Identification, assessment and management of water-related risks are integrated into EDP's risk procedures and undertaken for all EDP Group within EDP's direct operations in a two-layer process:

1) Corporate Business Risk model – Water business risks (e.g. increase in competitive uses), regulatory risks (e.g. changes in water pricing) and strategic risks (e.g. climate-change induced structural change in water availability) are embedded into the model's taxonomy, phases and responsibilities. It uses standard risk methodologies (e.g. ISO 31000, short/long-term impact on EBITDA), and is conducted on a short to medium timescale (< 5-10 years) for most risks, using a long-term perspective for climate-related physical risks (e.g. structural reduction in precipitation);

2) In-depth Water Risk Analysis:

a) Water Risk Map. Includes business, regulatory, strategic and operational water risks, aggregated according to expected frequency and impact, applying Monte Carlo simulation for short/medium (< 5 years) and long-term time horizons (5-50 years). Financial implications are expressed by the value of maximum loss (95% percentile);

b) Assessment of generation assets' exposure to water stress locations. It uses the WRI Aqueduct and FAO/AQUASAT (current/forecasts up to 2040) for a high-level assessment, followed by downscaling with National Agencies information (water availability indicators) and operational teams' inputs (water dependency, competitive uses);

c) Water regulation follow-up. It is conducted at corporate, business unit and asset level (e.g. participation in public consultations; involvement in River Basin Management Plans).

Water risks throughout the supply chain are also identified, assessed and managed both in 2a), in which risks within the supply chain are identified as strategic due to the importance of forecasts of possible future restrictions in direct and indirect water use and in 2b) where current and future water stress exposure of coal mines are assessed regularly using the WRI Aquaduct through the mines' specific coordinates.

This risk evaluation is integrated into the company's development strategy, business plan and project investment analysis (e.g. scenario analysis with water availability and regulation effects in energy prices and volumes; hydro resource evaluation integrating long-term effects of climate change and impact on new hydro capacity).

W4. Risks and opportunities

W4.1

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

Yes, only within our direct operations

W4.1a

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

It is assumed that a substantial financial impact will be over 5M€, which refers to the dimension of the impact assessed by BUs and/ or Group. At Group level, it is also defined a scale of impact, from insignificant to catastrophic, being the 5M€, the low limit of a moderate/ significant risk impact.

The water-related risks quantification process considers expected loss (average scenario) and maximum loss (worst case scenario), which allows for the prioritization of risks according to their materiality.

Examples include the impact of decrease in EDP hydro generation in Iberia, in a long-term perspective, resulting from climate change-induced structural decrease in precipitation (estimated financial impact of 60 M€).

W4.1b

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

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	47	1-25	The number of facilities exposed to water risks accounts for 15% of EDP Group's facilities: Two thermal power plants, Pecém in Brazil and Castejón in Spain, and the remaining are hydro power plants in Portugal. The number of facilities exposed to water risks remained the same when compared to 2018.

W4.1c

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

Country/Area & River basin

Portugal	Lima

Number of facilities exposed to water risk
2

% company-wide facilities this represents
Less than 1%

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
1-25

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
Less than 1%

Comment
Facilities in Lima River Basin account for 0.6%, 1.1% and 0.9% of EDP Group's facilities, electricity generation and revenues, respectively. Identified in EDP Water Risk Map as being exposed to risks of climate change induced structural decrease in precipitation.

Country/Area & River basin

Portugal	Other, please specify (Cávado)

Number of facilities exposed to water risk
5

% company-wide facilities this represents
1-25

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
1-25

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
Less than 1%

Comment
Facilities in Cávado River Basin account for 1.6%, 2.2% and 0.2% of EDP Group's facilities, electricity generation and revenues, respectively. Identified in EDP Water Risk Map as being exposed to risks of climate change induced structural decrease in precipitation.

Country/Area & River basin

Portugal	Douro

Number of facilities exposed to water risk
14

% company-wide facilities this represents
1-25

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
1-25

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
1-10

Comment
Facilities in Douro River Basin account for 4.5%, 6.9% and 1.9% of EDP Group's facilities, electricity generation and revenues, respectively. Identified in EDP Water Risk Map as being exposed to risks of climate change induced structural decrease in precipitation and increase in competitive uses.

Country/Area & River basin

Portugal	Other, please specify (Mondego)

Number of facilities exposed to water risk
12

% company-wide facilities this represents
1-25

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
Less than 1%

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
Less than 1%

Comment
Facilities in Mondego River Basin account for 3.9%, 0.8% and 0.6% of EDP Group's facilities, electricity generation and revenues, respectively. Identified in EDP Water Risk Map as being exposed to risks of climate change induced structural decrease in precipitation.

Country/Area & River basin

Portugal	Tejo

Number of facilities exposed to water risk
10

% company-wide facilities this represents
1-25

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
Less than 1%

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
Less than 1%

Comment
Facilities in Tejo River Basin account for 3.2%, 0.9% and 0.2% of EDP Group's facilities, electricity generation and revenues, respectively. Identified in EDP Water Risk Map as being exposed to risks of climate change induced structural decrease in precipitation.

Country/Area & River basin

Portugal	Guadiana

Number of facilities exposed to water risk
2

% company-wide facilities this represents
Less than 1%

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
Less than 1%

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
Less than 1%

Comment
Facilities in Guadiana River Basin account for 0.6%, 0.7% and 0.2% of EDP Group's facilities, electricity generation and revenues, respectively. Identified in EDP Water Risk Map as being exposed to risks of climate change induced structural decrease in precipitation.

Country/Area & River basin

Spain	Ebro

Number of facilities exposed to water risk
1

% company-wide facilities this represents
Less than 1%

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
1-25

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
1-10

Comment
Castejón Natural Gas power plant account for 0.3%, 3.2% and 1.1% of EDP Group's facilities, electricity generation and revenues, respectively. It is located in a water stress area identified through EDP's water stress exposure assessment: high level mapping using the WRI Aqueduct, followed by a local level assessment using specific water availability indicators from national agencies and internal knowledge of company's operational teams.

Country/Area & River basin

Brazil	Other, please specify (Atlântico Nordeste Oriental)

Number of facilities exposed to water risk
1

% company-wide facilities this represents
Less than 1%

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
1-25

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
1-10

Comment
Pecém Coal power plant account for 0.3%, 5.6% and 3.0% of EDP Group's facilities, electricity generation and revenues, respectively. It is located in a water stress area identified through EDP's water stress exposure assessment: high level mapping using the WRI Aqueduct, followed by a local level assessment using specific water availability indicators from national agencies and internal knowledge of company's operational teams.

W4.2

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

Country/Area & River basin

Portugal	Other, please specify (All portuguese river basins in 4.1c.)

Type of risk & Primary risk driver

Physical	Increased water scarcity

Primary potential impact
Reduced revenues from lower sales/output

Company-specific description
Structural decrease in hydro generation productivity. Both IPCC (Intergovernmental Panel on Climate Change) and EEA (European Environment Agency) long-term scenarios forecast a relevant decrease in average annual precipitation in the Iberian Peninsula (10% decrease for the region where the main portfolio is located). Hydro generation is an important source of value for EDP in Iberia, mainly in Portugal where 77% of the Group's hydro capacity is installed (in Spain, it accounts for only 5%). A structural decrease in precipitation, and thus in hydro generation, can negatively affect EDP's revenues. Assessment of this risk is part of EDP Water Risk Map, a comprehensive quantification exercise, including market, regulatory, strategic and operational water risks. It covers the company's operations in Portugal and Spain. Risks are aggregated according to expected frequency and impact and are derived by applying Monte Carlo simulation for short/medium (up to 5 years) and long-term time horizons (5-50 years). Financial implications are expressed by the value of maximum loss (95% percentile).

Timeframe
More than 6 years

Magnitude of potential impact
Medium-high

Likelihood
More likely than not

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
40000000

Potential financial impact figure - minimum (currency)
<Not Applicable>

Potential financial impact figure - maximum (currency)
<Not Applicable>

Explanation of financial impact
Considering EDP current portfolio, the estimated yearly decrease in EDP hydro generation revenues in Iberia, in a long-term perspective, is about EUR 60 million per year. This figure assumes a structural decrease of 10% in hydro productivity in the long-term, yearly production of 12 TWh and a pool price of 50€/MWh. Nonetheless, this impact will be reduced to 40M€/year with the hydro assets sale in Portugal announced in late 2019.

Primary response to risk
Other, please specify (Generation portfolio diversification)

Description of response
EDP manages the risk mainly through a diversified generation portfolio in terms of technologies and geographies. EDP's Business Plan 2019-2022 investments in new generation capacity are also diversified: addition of 7.2GW (25% solar, 73% wind on-shore and off-shore, and 2% hydro), 60% of which in North America, 25% in EU and 15% in Latin America. Geographic diversification significantly reduces the risk, as structural reduction in precipitation is not likely to occur in all geographies and with same magnitude. EDP developed a specific Water Risk Map and conducts a periodic assessment of generation assets exposure to water stress areas, using a high level mapping tool (WRI Aqueduct) and local level analysis (site specific data from local authorities and information on assets specific operating conditions from local company staff). All new power plant project valuation considers sensitivities to lower inflows scenarios, thus enabling informed decision making.

Cost of response
1037500000

Explanation of cost of response
Major risk mitigation process is EDP's diversification strategy for generation portfolio growth. The planned EDP accumulated expansion investment for the period of 2019-2022 in renewables is ~ EUR 4.15 bn, i.e. ~EUR 1.0375 bn per year, distributed across diversified markets and technologies.

Country/Area & River basin

Portugal	Douro

Type of risk & Primary risk driver

Physical	Other, please specify (Increase in competitive uses.)

Primary potential impact
Reduced revenues from lower sales/output

Company-specific description
Water transfers in Spain are expected to increase until 2027, mainly due to irrigation purposes. This will reduce trans-border river flows to Portugal and thus water inflows to many of EDP's hydroelectric power plants in Portugal, especially in the Douro river basin. This increase in competitive uses has a potential negative impact in the volume of electricity generation from these assets. Assessment of this risk is part of EDP Water Risk Map, a comprehensive quantification exercise, including business, regulatory, strategic and operational water risks. It covers the company's operations in Iberia, where 82% of the Group's total hydro generation capacity is located (77% in Portugal and 5% in Spain). Risks are aggregated according to expected frequency and impact and applying Monte Carlo simulation for short/medium (up to 5 years) and long-term time horizons (5-50 years). Financial implications are expressed by the value of maximum loss (95% percentile).

Timeframe
More than 6 years

Magnitude of potential impact
Medium-high

Likelihood
Likely

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
68000000

Potential financial impact figure - minimum (currency)
<Not Applicable>

Potential financial impact figure - maximum (currency)
<Not Applicable>

Explanation of financial impact
Decrease in EDP hydro generation in Portugal, in a medium to long-term perspective (up to 15 years). Value assumes the structural decrease in the Douro basin hydro generation assets in line with inputs of Spanish Hydrological Plans will may lead to a maximum loss (P95%) of 68M€.

Primary response to risk
Engage with regulators/policymakers

Description of response
EDP is following the negotiations between the Portuguese and Spanish governments on the Iberian Water Convention. Our generation Business Unit staff has been providing technical information and expertise to the Portuguese negotiators. Also, EDP manages the risk mainly through a diversified generation portfolio in terms of technologies and geographies. EDP's Strategic Update 2019-2022 investments in new generation capacity are also diversified: 7.2GW in renewables (25% solar, 73% wind on-shore and off-shore, and 2% hydro), 60% of which in North America, 25% in EU and 15% in Latin America. Geographic diversification significantly reduces the risk, as structural reduction in precipitation is not likely to occur in all geographies and with same magnitude. EDP developed a specific Water Risk Map and conducts a periodic assessment of generation assets exposure to water stress areas, using a high level mapping tool (WRI Aqueduct) and local level analysis (site specific data from local authorities and information on assets specific operating conditions from local company staff).

Cost of response
1037500000

Explanation of cost of response
EDP's diversification strategy for generation portfolio growth. The planned EDP accumulated expansion investment for the period of 2019-2022 in renewables is ~ EUR 4.15 bn, i.e. ~EUR 1.0375 bn per year, distributed across diversified markets and technologies. Current expenditure cost of follow-up of negotiations between Portuguese and Spanish governments is not material.

Country/Area & River basin

Brazil	Other, please specify (Atlântico Nordeste Oriental.)

Type of risk & Primary risk driver

Physical	Increased water stress

Primary potential impact
Increased operating costs

Company-specific description
Pecém coal-fired plant has been identified as a generation asset at risk from water stress location in EDP's Water Stress Exposure Assessment. A high-level assessment revealed a Baseline Water Stress indicator over 40% (threshold recommended in the Question-level Guidance), according to the WRI Aqueduct. Also, Water stress situation was confirmed by information from National Information Systems on Water Resources. Pecém is installed at the industrial and Port Complex of Pecém, where multiple other water users, namely industrial, are also present. Water for plant operation is provided by the municipal water and sewage concessionaire. Projected increase in both water scarcity in the region and competitive uses is foreseen to have a potential negative financial effect for the company: higher operation costs (rising water tariffs and taxes) and limitations to operation.

Timeframe
Current up to one year

Magnitude of potential impact
Medium

Likelihood
Likely

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure - minimum (currency)
3602540

Potential financial impact figure - maximum (currency)
14387501

Explanation of financial impact

Increase in water stress leads to new regulatory constraints, namely with an increase of water tariffs and taxes, as well as potential limits to operation. It was assumed that a drought event generates an Emergency Water Tax (EWT) in Pecém. The EWT is an additional value to the usual amount charged for each cubic meter consumed. Thus, the future potential financial impact figures were calculated using an average of the EWT per each MWh generated, and an expected minimum and maximum electricity generation in a year.

Primary response to risk
Adopt water efficiency, water reuse, recycling and conservation practices

Description of response
EDP invested in water reuse and recycling initiatives in Pecém power plant: water recycling in its refrigeration circuits and treated water reuse from the Effluent Treatment Station, using it as cooling water in the refrigeration circuits. Also, EDP participates in the region's Watershed Committee, the entity that manages the state's water resources, and are involved in negotiations with the local State Government regarding the final value for the water emergency tax announced in the September 2016.

Cost of response
251105

Explanation of cost of response
Operational costs from the plant's water reuse and recycling processes in 2019. Current expenditure cost of follow-up of negotiations between the Brazilian authorities, which is a recurring cost, is fully integrated into our budgetary cycles.

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	Coal extraction represents the largest contribution of water consumption within EDP's tier 1 suppliers of raw materials. This is according to the characterization study of EDP's supply chain through which economic, social and environmental impacts were identified, including water consumption. The study was conducted using procurement data, environmentally extended input-output data and a global water resources model. Restrictions to coal suppliers' operations in water stress areas can potentially impact supply and price in international markets. However, we do not anticipate a substantive impact as in 2019 only 2% of the purchased coal came from mines in high water stressed area (representing 1 mine with the WRI Baseline Water Stress higher than 40%). Coal currently accounts for 12% of EDP's total electricity generation installed capacity, and procurement is made from a vast range of alternative suppliers in different geographies. Future dependency will be further reduced, as coal capacity will decrease gradually until 2030 as per EDP's Strategic Update 2019-2022 and long-term strategy.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?
Yes, we have identified opportunities, and some/all are being realized

W4.3a

(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.

Type of opportunity
Resilience

Primary water-related opportunity
Increased resilience to impacts of climate change

Company-specific description & strategy to realize opportunity
A severe impact of climate change is related with a structural reduction of water availability, affecting the productivity of EDP's hydro generation. The adjustment of EDP's generation portfolio is already in place and will increase the resilience to water risks. According with EDP's strategic update of 2019-2022, the strategy for the next years will be focused on the diversification of generation by technology (investing mostly in new wind and solar, thus reducing the exposure to hydro – 7.2GW of renewable capacity additions, ~98% wind & solar) and by geography (expanding in North America, Latin America and Europe). EDP already started pursuing this strategy, through the sale in 2018 of small-hydro power plants, and the sale of other hydro assets announced in late 2019, reinvesting in other geographies and technologies.

Estimated timeframe for realization
Current - up to 1 year

Magnitude of potential financial impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
1037500000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact
The planned EDP accumulated expansion investment for the period of 2019-2022 in renewables is ~ EUR 4.15 bn, i.e. ~EUR 1.0375 bn per year, distributed across diversified markets and technologies.

W5. Facility-level water accounting

W5.1

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

Facility reference number
Facility 1

Facility name (optional)
2 Hydro power plants in Lima river basin.

Country/Area & River basin

Portugal	Lima

Latitude
41.866054

Longitude
-8.241919

Located in area with water stress
No

Primary power generation source for your electricity generation at this facility
Hydropower

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
2349

Comparison of total withdrawals with previous reporting year
Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
2349

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
0

Total water discharges at this facility (megaliters/year)
2349

Comparison of total discharges with previous reporting year
Lower

Discharges to fresh surface water
2349

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
0

Comparison of total consumption with previous reporting year
About the same

Please explain
Coordinates are given at the center of the river basin. EDP uses the WRI Aqueduct to conduct a high-level water stress assessment, by mapping all its thermal and hydro assets against the Baseline Water Stress (BWS; watershed level), applying the threshold BWS > 40%, as recommended in the Question-level Guidance. A downscaling analysis at local level is then performed for all power plants identified in water-stressed areas, using information from National Governmental Agencies (location specific indicators) and company's operational teams (asset water dependency, local competitive uses). Withdrawal and discharge volumes (from and to fresh surface water -

River) were obtained by direct measurements (meter readings) or by calculations, using e.g. the installed capacity and the difference between downstream and upstream water levels. The decreases in both withdrawal and discharge volumes (-23%) are explained by the decrease of hydro generation due to the worse hydrological conditions in Iberia in 2019 (-26% of total Lima river basin electricity generation). Withdrawal and discharge will tend to decrease or increase depending on if it is a dry or wet year, respectively. Water use in hydro power plants is considered a non-consumptive use (withdrawal = discharge). The zero volumes mean that there was no withdrawals or discharges from/to those sources. Thresholds used: +/- 15%: “about the same”; +/- 16-50%: “higher”/”lower”; +/- 51%: “much higher”/”much lower”.

Facility reference number
Facility 2

Facility name (optional)
5 Hydro power plants in Cávado river basin.

Country/Area & River basin

Portugal	Other, please specify (Cávado)

Latitude
41.61674

Longitude
-8.36298

Located in area with water stress
No

Primary power generation source for your electricity generation at this facility
Hydropower

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
4076

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
4076

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
0

Total water discharges at this facility (megaliters/year)
4076

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
4076

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
0

Comparison of total consumption with previous reporting year
About the same

Please explain
Coordinates are given at the center of the river basin. EDP uses the WRI Aqueduct to conduct a high-level water stress assessment, mapping all its thermal and hydro assets against the Baseline Water Stress (BWS; watershed level), applying BWS > 40% (Question-level Guidance). A downscaling analysis is then performed for all assets in water-stressed areas, using information from National Governmental Agencies (site specific indicators) and EDP’s teams (asset water dependency, local competitive uses). Withdrawal and discharge volumes (from and to fresh surface water - River) were obtained by direct measurements (meter readings) or calculations, using e.g. the installed capacity and the difference between downstream and upstream water levels. The slight decrease in both withdrawals and discharges (-9%) is explained by: 1) decrease of hydro generation due to the worse hydrological conditions in Iberia in 2019 (-17% of total Cávado river basin electricity generation); 2) 4 of the power plants have pumps, making it less dependent on affluents and weather patterns. Withdrawal and discharge will tend to decrease or increase depending on if it is a dry or wet year, respectively. Water use in hydro power plants is considered a non-consumptive use (withdrawal equals discharge). The zero volumes mean that there was no withdrawals

or discharges from/to those sources. Thresholds used: +/- 15%: “about the same”; +/- 16-50%: “higher”/”lower”; +/- 51%: “much higher”/”much lower”.

Facility reference number
Facility 3

Facility name (optional)
14 Hydro power plants in Douro river basin.

Country/Area & River basin

Portugal	Douro

Latitude
41.153052

Longitude
-7.779113

Located in area with water stress
No

Primary power generation source for your electricity generation at this facility
Hydropower

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
60731

Comparison of total withdrawals with previous reporting year
Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
60731

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
0

Total water discharges at this facility (megaliters/year)
60731

Comparison of total discharges with previous reporting year
Lower

Discharges to fresh surface water
60731

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
0

Comparison of total consumption with previous reporting year
About the same

Please explain
Coordinates are given at the center of the river basin. EDP uses the WRI Aqueduct to conduct a high-level water stress assessment, by mapping all its thermal and hydro assets against the Baseline Water Stress (BWS; watershed level), applying the threshold BWS > 40%, as recommended in the Question-level Guidance. A downscaling analysis at local level is then performed for all power plants identified in water-stressed areas, using information from National Governmental Agencies (location specific indicators) and company’s operational teams (asset water dependency, local competitive uses). Withdrawal and discharge volumes (from and to fresh surface water - River) were obtained by direct measurements (meter readings) or by calculations, using for instance the installed capacity and the difference between downstream and upstream water levels. The decrease in both withdrawals and discharges (-22%) is explained by the decrease of hydropower generation due to the worse hydrological conditions in Iberia in 2019 (-30% of total Douro river basin electricity generation). Withdrawal and discharge will tend to decrease or increase depending on if it is a dry or wet year, respectively. Water use in hydro power plants is considered a non-consumptive use (withdrawal equals discharge). All the zero volumes mean that there was not any withdrawal or discharge from/to those sources. Thresholds used: +/- 15%: “about the same”; +/- 16-50%: “higher”/”lower”; +/- 51%: “much higher”/”much lower”.

Facility reference number
Facility 4

Facility name (optional)
12 Hydro power plants in Mondego river basin.

Country/Area & River basin

Portugal	Other, please specify (Mondego)

Latitude
40.385266

Longitude
-8.043322

Located in area with water stress
No

Primary power generation source for your electricity generation at this facility
Hydropower

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
4805

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
4805

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
0

Total water discharges at this facility (megaliters/year)
4805

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
4805

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
0

Comparison of total consumption with previous reporting year
About the same

Please explain
Coordinates are given at the center of the river basin. EDP uses the WRI Aqueduct to conduct a high-level water stress assessment, mapping all thermal and hydro assets against the Baseline Water Stress (BWS; watershed level), applying BWS > 40% (Question-level Guidance). A downscaling analysis is then performed for all assets in stressed areas, using information from National Governmental Agencies (site specific indicators) and EDP's teams (water dependency, local competitive uses). Withdrawals and discharges (from and to fresh surface water - River) were obtained by direct measurements (meter readings) or calculations, using e.g. the installed capacity and the difference between downstream and upstream water levels. The slight decrease in withdrawals and discharges (-3%) is explained by: 1) decrease of hydro generation due to the worse hydrological conditions in Iberia in 2019 (-15% of Mondego river basin electricity generation); 2) 70% of withdrawals and discharges in 2019 were from 2 power plants with pumps, being less dependent on affluents and weather patterns. Withdrawal and discharge will tend to decrease or increase depending on if it is a dry or wet year, respectively. Water use in hydro power plants is considered a non-consumptive use (withdrawal equals discharge). The zero volumes mean there was no withdrawals or discharges from/to those sources. Thresholds used: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".

Facility reference number
Facility 5

Facility name (optional)
10 Hydro power plants in Tejo river basin.

Country/Area & River basin

Portugal	Tejo

Latitude
39.480479

Longitude
-7.991989

Located in area with water stress
No

Primary power generation source for your electricity generation at this facility
Hydropower

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
7684

Comparison of total withdrawals with previous reporting year
Much lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
7684

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
0

Total water discharges at this facility (megaliters/year)
7684

Comparison of total discharges with previous reporting year
Much lower

Discharges to fresh surface water
7684

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
0

Comparison of total consumption with previous reporting year
About the same

Please explain
Coordinates are given at the center of the river basin. EDP uses the WRI Aqueduct to conduct a high-level water stress assessment, by mapping all its thermal and hydro assets against the Baseline Water Stress (BWS; watershed level), applying the threshold BWS > 40%, as recommended in the Question-level Guidance. A downscaling analysis at local level is then performed for all power plants identified in water-stressed areas, using information from National Governmental Agencies (location specific indicators) and company's operational teams (asset water dependency, local competitive uses). Withdrawal and discharge volumes (from and to fresh surface water - River) were obtained by direct measurements (meter readings) or by calculations, using for instance the installed capacity and the difference between downstream and upstream water levels. The high decrease in both withdrawals and discharges (-54%) is explained by the decrease of hydro generation due to the worse hydrological conditions in Iberia in 2019 (-57% of total Tejo river basin electricity generation). Withdrawal and discharge will tend to decrease or increase depending on if it is a dry or wet year, respectively. Water use in hydro power plants is considered a non-consumptive use (withdrawal equals discharge). All the zero volumes mean that there was not any withdrawal or discharge from/to those sources. Thresholds used: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".

Facility reference number
Facility 6

Facility name (optional)
2 Hydro power plants in Guadiana river basin.

Country/Area & River basin

Portugal	Guadiana

Latitude

38.046951

Longitude
-7.650575

Located in area with water stress
No

Primary power generation source for your electricity generation at this facility
Hydropower

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
3348

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
3348

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
0

Total water discharges at this facility (megaliters/year)
3348

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
3348

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
0

Comparison of total consumption with previous reporting year
About the same

Please explain
Coordinates are given at the center of the river basin. EDP uses the WRI Aqueduct to conduct a high-level water stress assessment, mapping all its thermal and hydro assets against the Baseline Water Stress (BWS; watershed level), applying BWS > 40% (Question-level Guidance). A downscaling analysis is then performed for all assets in water-stressed areas, using information from National Governmental Agencies (site specific indicators) and EDP's teams (asset water dependency, local competitive uses). Withdrawal and discharge volumes (from and to fresh surface water - River) were obtained by direct measurements (meter readings) or calculations, using e.g. the installed capacity and the difference between downstream and upstream water levels. Both facilities have pumps, and due to the Alqueva's reversible system, electricity generation is less dependent on affluent volume and weather patterns. This explains the slight variation in both withdrawals and discharges (+13%), despite the worse hydrological conditions in Iberia in 2019. Withdrawal and discharge will tend to decrease or increase depending on if it is a dry or wet year, respectively, and on the competitive uses. Water use in hydro power plants is considered a non-consumptive use (withdrawal equals discharge). All the zero volumes mean that there was not any withdrawal or discharge from/to those sources. Thresholds used: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".

Facility reference number
Facility 7

Facility name (optional)
Castejón.

Country/Area & River basin

Spain	Ebro

Latitude
42.0833

Longitude
-1.6

Located in area with water stress
Yes

Primary power generation source for your electricity generation at this facility
Gas

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
2340

Comparison of total withdrawals with previous reporting year
Much higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
2339

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
1

Total water discharges at this facility (megaliters/year)
583

Comparison of total discharges with previous reporting year
Much higher

Discharges to fresh surface water
582

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
1

Total water consumption at this facility (megaliters/year)
1758

Comparison of total consumption with previous reporting year
Much higher

Please explain
Coordinates are given at the center of the power plant. EDP uses the WRI Aqueduct to conduct a high-level water stress assessment, by mapping all its thermal and hydro assets against the Baseline Water Stress (BWS; watershed level), applying BWS > 40%, as recommended in the Question-level Guidance. A downscaling analysis at local level is then performed for all power plants identified in water-stressed areas, using information from National Governmental Agencies (location specific indicators) and company's operational teams (asset water dependency, local competitive uses). Withdrawal and discharge volumes (fresh surface water – River; Third party - municipal company) were collected mostly directly from meter readings. Castejón's electricity generation has increased 223% (vs. 2018) due to the worse hydrological conditions in Iberia in 2019, and the inversion in order of merit from coal to gas, explaining the higher values for withdrawal, discharge and consumption volumes comparing with 2018. Water consumption equals withdrawals minus discharges to the same water body within, at least, the quality parameters of the licensing permits. There will be no future EDP dependency on Castejón's withdrawal, discharge and consumption volumes as it will be sold in 2020. All the zero volumes mean that there was not any withdrawal or discharge from/to those sources. Thresholds used: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".

Facility reference number
Facility 8

Facility name (optional)
Pecém.

Country/Area & River basin

Brazil	Other, please specify (Atlântico Nordeste Oriental)

Latitude
-4

Longitude
-38.87542

Located in area with water stress
Yes

Primary power generation source for your electricity generation at this facility

Coal - hard

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
9434

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
9434

Total water discharges at this facility (megaliters/year)
672

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
0

Discharges to brackish surface water/seawater
672

Discharges to groundwater
0

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
9434

Comparison of total consumption with previous reporting year
About the same

Please explain
Coordinates are given at the center of the power plant. EDP uses the WRI Aqueduct to conduct a high-level water stress assessment, mapping all its thermal and hydro assets against the Baseline Water Stress (BWS; watershed level), applying BWS > 40% (Question-level Guidance). A downscaling analysis is then performed for all assets in water-stressed areas, using information from National Governmental Agencies (site specific indicators) and EDP's teams (asset water dependency, local competitive uses). Withdrawals and discharges (3rd party source - municipal company) were collected mostly from meter readings. Pecém's electricity generation increased 7% (vs. 2018), explaining the steady values in comparison with 2018 for withdrawals, discharges and consumption. Water consumption equals withdrawals minus discharges to the same water body within, at least, the quality parameters of the licensing permits. In Pecém, of all the water consumed, none was returned to the same water body. Withdrawal, discharge and consumption are expected to remain steady in the future, as the water efficiency measures implemented in 2017 increased Pecém' s resilience to drought events. However, severe drought events in the future can lead to a reduction in electricity generation in Pecém. The zero volumes mean there was no withdrawals or discharges from/to those sources. Thresholds used: +/- 15%: "about the same"; +/- 16-50%: "higher"/"lower"; +/- 51%: "much higher"/"much lower".

W5.1a

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

Water withdrawals – total volumes

% verified
76-100

What standard and methodology was used?
EDP's Sustainability Report is externally verified, including GRI water indicators. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS. Water volumes withdrawn are shared and validated by the competent environmental authority. 91% of EDP's facilities identified as exposed to water risks are certified in accordance to ISO 14001, having this water aspect monitored and externally verified. EDP commits to achieve 100% ISO 14001 certification by 2020 for operations with environmental impacts.

Water withdrawals – volume by source

% verified
76-100

What standard and methodology was used?
EDP's Sustainability Report is externally verified, including GRI water indicators. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS. Water volumes withdrawn by source are shared and validated by the competent environmental authority. 91% of EDP's facilities identified as exposed to water risks are certified in accordance to ISO 14001, having this water aspect monitored and externally verified. EDP commits to achieve 100% ISO 14001 certification by 2020 for all operations with environmental impacts.

Water withdrawals – quality

% verified
76-100

What standard and methodology was used?
EDP's Sustainability Report is externally verified, including GRI water indicators. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS. Water quality indicators are shared and validated by the competent environmental authority. 91% of EDP's facilities identified as exposed to water risks are certified in accordance to ISO 14001, having this water aspect monitored and externally verified. EDP commits to achieve 100% ISO 14001 certification by 2020 for operations with environmental impacts.

Water discharges – total volumes

% verified
76-100

What standard and methodology was used?
EDP's Sustainability Report is externally verified, including GRI water indicators. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS. Water discharges are shared and validated by the competent environmental authority. 91% of EDP's facilities identified as exposed to water risks are certified in accordance to ISO 14001, having this water aspect monitored and externally verified. EDP commits to achieve 100% ISO 14001 certification by 2020 for operations with environmental impacts.

Water discharges – volume by destination

% verified
76-100

What standard and methodology was used?
EDP's Sustainability Report is externally verified, including GRI water indicators. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS. Water discharges by destination are shared and validated by the competent environmental authority. 91% of EDP's facilities identified as exposed to water risks are certified in accordance to ISO 14001, having this water aspect monitored and externally verified. EDP commits to achieve 100% ISO 14001 certification by 2020 for operations with environmental impacts.

Water discharges – volume by treatment method

% verified
76-100

What standard and methodology was used?
EDP's Sustainability Report is externally verified, including GRI water indicators. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS. Water discharges by treatment method are controlled by the competent environmental authority. 91% of EDP's facilities identified as exposed to water risks are certified in accordance to ISO 14001, having this water aspect monitored and externally verified. EDP commits to achieve 100% ISO 14001 certification by 2020 for operations with environmental impacts.

Water discharge quality – quality by standard effluent parameters

% verified
76-100

What standard and methodology was used?
EDP's Sustainability Report is externally verified, including GRI water indicators. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS. Water discharge quality is controlled by the competent environmental authority, under the environmental permits. 91% of EDP's facilities identified as exposed to water risks are certified in accordance to ISO 14001, having this water aspect monitored and externally verified. EDP commits to achieve 100% ISO 14001 certification by 2020 for operations with environmental impacts.

Water discharge quality – temperature

% verified
76-100

What standard and methodology was used?
EDP's Sustainability Report is externally verified, including GRI water indicators. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS. Water quality of cooling water are controlled by the competent environmental authority, under the environmental permits. 91% of EDP's facilities identified as exposed to water risks are certified in accordance to ISO 14001, having this water aspect monitored and externally verified. EDP commits to achieve 100% ISO 14001 certification by 2020 for operations with environmental impacts.

Water consumption – total volume

% verified
76-100

What standard and methodology was used?
EDP's Sustainability Report is externally verified, including GRI water indicators. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS. Water consumption is shared and validated by the competent environmental authority. 91% of EDP's facilities identified as exposed to water risks are certified in accordance to ISO 14001, having this water aspect monitored and externally verified. EDP commits to achieve 100% ISO 14001 certification by 2020 for operations with environmental impacts.

Water recycled/reused

% verified
76-100

What standard and methodology was used?
EDP's Sustainability Report is externally verified, including GRI water indicators. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS. 91% of EDP's facilities identified as exposed to water risks are certified in accordance to ISO 14001, having this water aspect monitored and externally verified. EDP commits to achieve 100% ISO 14001 certification by 2020 for operations with environmental impacts.

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 business dependency on water Description of business impact on water 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 Company water targets and goals Commitment to align with public policy initiatives, such as the SDGs Commitments beyond regulatory compliance Commitment to water-related innovation Commitment to stakeholder awareness and education Commitment to water stewardship and/or collective action Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change	All former Environmental Policies in place within the EDP Group (including a Water Management Policy) were aggregated in a single Environmental Policy. This aims to guarantee a better corporate management approach, assuming all key environmental issues will have to follow the same commitments, when applicable. Water is a key natural resource for EDP. EDP depends on it to operate its facilities, and it is recognized the adverse environmental impacts resulting from EDP's activities. Under EDP's Environmental Policy, it is explicit the commitment to promote the efficient use of natural resources, namely the use and sustainable management of water in all processes, operations and installations. To complement the new Environmental Policy, EDP has published in its website a clear understanding of what the water means to the company as well as its management approach, supporting company's performance. environmentalpolicy_edp_en.pdf

W6.2

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

W6.2a

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

Position of individual	Please explain
Director on board	A Director on EDP Corporate Executive Board has formal responsibility over sustainability issues (CSO), including water. The Director currently in charge is assigned with all the company's cross-cutting critical themes, namely risk management and sustainability. This Director is responsible for: approving/submitting to Board's approval the company's water targets, policies and actions; ensuring inclusion of water risks (e.g. exposure of generation assets to water stress locations, new water taxes) in the company's risk profile; integrating water-related issues into electricity generation investment/divestment analysis (e.g. water dependency vs water stress locations, regulatory issues, price volatility-volume fluctuation for hydro generation); reporting on levels of EDP's performance on water issues to EDP's General and Supervisory Board (GSB), the highest-level corporate body below the General Shareholders Meeting, which includes a Corporate Governance and Sustainability Committee, headed by the GSB chairman.

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 Overseeing acquisitions and divestiture Overseeing major capital expenditures Providing employee incentives Reviewing and guiding annual budgets 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 governance mechanisms in place to oversight water related issues is integrated in the overall mechanism in place for all sustainability issues. The executive Director in charge of sustainability oversees the Corporate Sustainability and Risk Management Offices and supports the Sustainability Committee, chaired by the President of the executive Board, where the top management of the most relevant business units discusses the Group's sustainability performance and its annual Operational Environment and Sustainability Plan. On a monthly basis, the executive Board is briefed by the company's Corporate Sustainability Officer (CSO) on sustainability issues, including water issues, such as i) regular updates on the implementation of the company's policies, actions and targets on sustainability issues, including water-related issues (e.g. performance against targets); ii) Water-stress risk assessment revision and acute situations of potential impact on electricity generation; iii) results of in-depth water risk analysis (e.g. Water Risk Map); iv) inputs for analysis of investments/divestments on electricity generation, impacting business plans and annual budgets (e.g. water dependency vs exposure to water stress locations); v) proposal for new water policies, actions and targets. On a regular basis (~monthly), the most relevant water-related issues are taken to the Executive Board meetings (held in a weekly base). Moreover, sustainability performance against targets (including water related issues) as well as other strategic sustainability issues, mostly linked to climate change (water included) are reported to EDP's General and Supervisory Board (at least twice a year). Additionally, the CEO and CSO chair the environment and Sustainability Board, an external advisory Board, dependent on the Executive Board of Directors and comprised by 5 experts (one of which in water issues) elected at the general shareholders' meeting. This corporate body is periodically (2-4 times/year) consulted for advising and supporting corporate sustainability strategy, with water related issues a constant issue for debate.

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)
Other C-Suite Officer, please specify (Head of Corporate Sustainability Office.)

Responsibility
Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues
More frequently than quarterly

Please explain
Highest-level of responsibility below Board lies with the Head of EDP's Corporate Sustainability Department (CSD), who is also Head of the Corporate Risk Management Department, facilitating the integration of water-related issues into the company's risk profile and procedures. Corporate departments are headed by the company's most senior managers. The Head of CSD is responsible for assisting the Executive Board of Directors (EBD) in defining policies, actions and targets, including those related to water, and monitoring their implementation at the Business Unit level. The Head of CSD reports directly to the company's EBD in charge of sustainability. Monthly reports include updates on the implementation/proposal for new water-related policies, actions and targets; identification of potential water shortage and associated impact on electricity generation; in-depth water risk analysis; water-related inputs for analysis of investments/divestments.

W6.4

(W6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

	Provide incentives for management of water-related issues	Comment
Row 1	Yes	

W6.4a

(W6.4a) What incentives are provided to C-suite employees or board members for the management of water-related issues (do not include the names of individuals)?

	Role(s) entitled to incentive	Performance indicator	Please explain
Monetary reward	Board/Executive board Director on board Corporate executive team Chief Executive Officer (CEO) Chief Financial Officer (CFO) Chief Operating Officer (COO) Chief Purchasing Officer (CPO) Chief Risk Officer (CRO) Chief Sustainability Officer (CSO)	Reduction in consumption volumes Improvements in efficiency - direct operations	Members of EDP Corporate Executive Board of Directors (EBD), in accordance with the Board's remuneration policy, have the company's sustainability performance factored into their multiannual variable remuneration. EDP has in place the following KPIs linked to EBD's variable remuneration, also extended to all employees at a corporate level: i) EDP's performance in the DJSI Index. This index includes the level of EDP's performance on water strategy and risk analysis, and water eco-efficiency, where performance on withdrawals, discharges and consumption are reported and a short-term target for water consumption is defined; ii) ISO 14001 environmental certification target applied to 100% of all Group activities with significant environmental aspects. The scope includes the linkage between water efficient use and impacts on the environment, as well as EDP's dependency on water. These indicators were chosen to allow a two-layer assessment where water performance and risks are key issues included: - A holistic performance of EDP's sustainability strategy, evaluated by an external stakeholder (DJSI Index KPI); - A more operational indicator, regarding specificities of EDP's operational activities (ISO 14001). This rational allows an alignment between internal KPIs and external analysis about EDP's performance.
Non-monetary reward	No one is entitled to these incentives	<Not Applicable>	

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?
Yes, direct engagement with policy makers
Yes, trade associations

W6.5a

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

EDP engages directly with water policy makers in all geographies where it operates thermal and hydro assets. Examples include participation in drafting River Management Plans in the Portuguese Commission on Reservoirs and in the Spanish National Water Council. In Brazil, for Pecém (asset in water-stressed area), EDP holds regular meetings with Ceará State authorities. Engagement in international water regulation (e.g. EU Water Framework Directive) is conducted via trade associations (e.g. Eurelectric).

The company's Water Management Teams allow the Corporate Centre and Business Units (BUs) alignment on water-related issues, and support the implementation of EDP's Environmental Policy, and its Water Management approach. This alignment is extended to the different company's operational commitments in all activities – including direct and indirect policy engagement - across geographies. If any inconsistency is detected, it is taken to the Sustainability Committee to be discussed, and decisions are then implemented by BUs.

EDP has dedicated structures in each geography that manage the relation with supervisory bodies and other public policy makers: Corporate Regulation and Competition Department in Portugal, Regulation and Institutional Relationship Department in Spain and Regulatory Issues Department in Brazil. These ensure the overall alignment of policy engagement activities with the corporate water strategy and implement corrective measures whenever inconsistency is detected.

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)
Pages 212_452_RC_2019_EN-2.pdf
Pages 26_36_RC_2019_EN-4.pdf
Pages 1_25_RC_2019_EN-3.pdf
Pages 37_211_RC_2019_EN.pdf

Please take a look at the following pdf pages: - 86 and 91 (Risk Outlook); - 92 (Risk Management in the year); - 160 - 165 (Main type of risks to which the company is exposed in its business). The full version of the Annual Report is available at www.edp.com/sites/default/files/2020-03/RC_2019_EN.pdf.

W7. Business strategy

W7.1

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

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	11-15	Water-related issues are integrated into several of EDP's long-term business objectives, namely: i) Low carbon generation: water availability as hydroelectric generation is an important source of renewable, non-air polluting, CO2 free electricity and is key to achieving our 2030 target of reducing CO2/kWh by 90% from 2005 levels. Currently, 74% of EDP's generation portfolio is based on renewable sources, with hydro making up to 33% of total installed capacity. ii) Low risk profile: at a strategic level, water related risks (e.g. physical risks like exposure to water stress locations or regulatory risks like new water taxes or fees) are now subject to periodic assessment processes, contributing to the company's low risk profile.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	Strategy to achieve the above mentioned long-term objectives includes: i) Low carbon generation: long-term investment in renewable generation portfolio, where hydro generation plays an important role. EDP's Business Plan 2019-2022 investments in new generation capacity foresees addition capacity of hydro power plants. ii) Low risk profile: Geographic diversification of hydro generation capacity additions is a risk reduction strategy as structural reduction in precipitation, as foreseen in IPCC scenarios, is not likely to occur in all geographies with same magnitude.
Financial planning	Yes, water-related issues are integrated	11-15	Water-related issues are integrated into several aspects of our financial planning, namely: i) Capital allocation (Planning for new locations): all EDP new electricity generation investments go through a detailed analysis which considers water dependency vs exposure to water stress locations, as well as water related regulatory and reputational risks, namely those arising from competitive uses. For new hydroelectric installed capacity, project investment analysis undergoes hydro resource evaluation encompassing scenario analysis of price volatility and changes due to volume fluctuations. ii) Change in revenues and expenditures (constraints to generation asset operation): In Brazil, the extreme drought context of recent years forced power producers to meet their short positions through electricity purchases at high market spot prices. EDP has hydroelectric generation assets in that country and joined the hydro risk renegotiation deal (with retroactive effects to January 2015) proposed by the Brazilian regulator, which materially limits the level of risk associated to the volatility in hydro generation.

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)

-25

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

46

Water-related OPEX (+/- % change)

-18

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

1

Please explain

Water-related CAPEX includes investments in Business as Usual projects, namely to restore the operating conditions of equipment and structures, and to ensure the safety exploitation of assets, as well as investments in Growth and Optimization projects such as floating solar panels. The 25% decrease was mainly due to the conclusion of the final stages of the National Dam Plan in Portugal. The 46% increase in the anticipated forward trend for CAPEX is explained by the investment in new hydro capacity according to EDP's strategic update of 2019-2022. Water-related OPEX includes for instance costs related to infrastructure maintenance and repair. The 18% decrease was mainly due to the sale of small-hydro power plants in Portugal and Brazil in 2018. OPEX anticipated trend for the next reporting year is expected to remain constant, aligned with 2019.

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	EDP uses IEA scenarios to assess climate-related transition risks, integrating IEA's 450 Scenario, CPS (Current Policy Scenario) and NPS (New Policy Scenario) into energy planning exercises and to evaluate impacts on the entire business portfolio up to 2030, considering the Business Plan. EDP also used IEA B2DS Scenario for setting its GHG reduction Science Based Target, formally approved by the Science Based Target Initiative in 2017 and updated in 2019 through the voluntary update process. EDP uses IPCC scenarios to assess climate-related physical risks, considering forecasts for the long-term evolution of precipitation patterns and temperature. The RCP 8.5 Scenario (business as usual), RCP 6.0, 4.5 and 2.6 Scenarios (aggressive CO2 emission reductions) are used to identify the most relevant chronic and acute risks and evaluate potential impacts on EDP's electricity generation and distribution activities until 2050.

W7.3a

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

Yes

W7.3b

(W7.3b) What water-related outcomes were identified from the use of climate-related scenario analysis, and what was your organization's response?

	Climate-related scenarios and models applied	Description of possible water-related outcomes	Company response to possible water-related outcomes
Row 1	RCP 2.6 Other, please specify (IPCC SRES A2, A1B, B1)	EDP assesses climate-related physical risks through IPCC's RCP 8.5 Scenario (BaU), RCP 6.0, 4.5 and 2.6 Scenarios (aggressive CO2 emission reductions), to identify the most relevant chronic and acute risks and evaluate potential impacts on electricity generation and distribution from up to 2050. Under IPCC-RCP projections, average precipitation in Iberia is expected to decrease by up to 10% by 2035, compared with the 1986-2005 period. Up to 2100, EEA and IPCC forecast average decreases of annual precipitation in Iberia ranging from 10-30%. Hydro generation in Iberia accounts for 82% of the Group's hydro capacity. Thus, a structural decrease in precipitation can negatively affect EDP's revenues. Also, with IPPC SRES A2, A1B and B1, EDP assessed the risk from the number, duration and magnitude increase of extreme events, such as temperature extremes (contribution for water scarcity).	EDP manages the risk mainly through a diversified generation portfolio in terms of technologies and geographies. EDP's Business Plan 2019-2022 investments in new generation capacity foresees: addition of 7.2GW (25% solar, 73% wind on-shore and off-shore, and 2% hydro) 60% of which in North America, 25% in EU and 15% in Latin America. Geographic diversification significantly reduces the risk, as structural reduction in precipitation is not likely to occur in all geographies and with same magnitude. EDP developed a specific Water Risk Map and conducts a periodic assessment of generation assets exposure to water stress areas, using a high level mapping tool (WRI Aqueduct) and local level analysis (site specific data from local authorities and information on assets specific operating conditions from local company staff). This assessment is updated on a 2-3 year basis or whenever a new project requires it. All new power plant project valuation considers sensitivities to lower inflows scenarios, thus enabling informed decision making.

W7.4

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

Row 1

Does your company use an internal price on water?
Yes

Please explain
EDP uses an internal price on water to measure its exposure to risks or opportunities from water-related issues. A range up to 5€/m3 is used and calculated taking in consideration different approaches, such as: - Cost of an average MWh not generated by a hydro facility due to competitive uses (e.g. E-flows; increase in domestic consumption in multipurpose reservoirs; etc.) or decrease in precipitation during the fiscal year; - Cost of water treatment for thermal process, varying with water quality parameters.

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 Country level targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	Goals and targets are set to measure EDP Group's progress on water management, within specific commitments assumed by EDP in its Group's Environmental Policy, particularly in using water resource sustainably, a strategic priority for the company. Considering consumptive fresh water uses, thermal power plants account for more than 99% of the total fresh water withdrawals of EDP Group. Thus, due to its corporate impact, it is also within this business scope that targets are defined, combined with the following geographic specificities: - Higher operational risk from current and forecast structural reduction in precipitation (Portugal); - Water stress exposure (Brazil).

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
Company-wide

Primary motivation
Risk mitigation

Description of target
90% reduction of EDP Group's total fresh water consumption between 2015 and 2030.

Quantitative metric
% reduction in total water consumption

Baseline year
2015

Start year
2015

Target year
2030

% of target achieved
65

Please explain
EDP Group's total fresh water consumption has decreased 59% between 2015 and 2019, in line with the planned progress (target has been achieved in 65%). In the last 4 years, freshwater consumption has been decreasing due to the following facts: - 2016: the most water intensive coal power plant was no longer part of EDP's portfolio; -

2017: implementation of water efficiency measures in some industrial processes of Pecém coal power plant, which accounts for almost half of EDP Group's fresh water consumption; - 2018: Good hydrologic conditions in Iberia, which means less use of thermal power plants; - 2019: there was a small decrease of freshwater consumption, explained by a combination of factors, namely the inversion in order of merit from coal to gas. In addition to risk mitigation, this target was also defined to reduce costs and EDP's environmental impacts.

Target reference number
Target 2

Category of target
Water pollution reduction

Level
Company-wide

Primary motivation
Reduced environmental impact

Description of target
Achieve zero environmental accidents and penalties. This target is part of EDP Group's Strategic Goals for 2022.

Quantitative metric
Other, please specify (Zero environmental accidents and penalties.)

Baseline year
2018

Start year
2018

Target year
2022

% of target achieved
100

Please explain
There were no environmental accidents or penalties in 2019. This target is part of EDP Group's Strategic Goals for 2022.

Target reference number
Target 3

Category of target
Water consumption

Level
Country level

Primary motivation
Risk mitigation

Description of target
Annually, an absolute threshold is defined for process water consumption used in water-steam circuits in all thermal power plants in Portugal. This target is defined annually and takes into account past and projections of the hydrological conditions in Iberia. In addition to risk mitigation, this target was also defined to reduce costs and EDP's environmental impacts.

Quantitative metric
Other, please specify (Consumption below a predefined threshold.)

Baseline year
2019

Start year
2019

Target year
2019

% of target achieved
100

Please explain
At the end of 2019, the consumption was below the target: 66% of the predefined threshold.

Target reference number
Target 4

Category of target
Water consumption

Level
Site/facility

Primary motivation
Risk mitigation

Description of target
A specific water consumption target (m3/MWh) was defined to the single thermal power plant of EDP in Brazil, located in a water stressed region. This target was defined to allow a yearly monitoring of water consumption in Pecém, located in a water stressed region, taking into account historical data, weather and market conditions. In addition to risk mitigation, this target was also defined to reduce costs and EDP's environmental impacts.

Quantitative metric
Other, please specify (Consumption below a predefined threshold.)

Baseline year
2019

Start year
2019

Target year
2019

% of target achieved
100

Please explain
At the end of 2019, the specific water consumption was below the target: 74% of the predefined threshold.

W8.1b

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

Goal
Promotion of water data transparency

Level
Company-wide

Motivation
Brand value protection

Description of goal
Clarify and make publicly available the water-related definitions and assumptions considered within the EDP Group for adequate management. As mentioned in EDP's Environmental Policy, this goal is part of EDP commitments regarding communication in a transparent manner, ensuring understanding and accessibility by the interested parties. To accomplish this goal, EDP has been aligning all the definitions and assumptions within its Business Units, so there is a global understanding and application of them in the organization. This alignment considered worldwide reporting guidelines, such as: the CDP Water Security 2019 Reporting Guidance, the ISO 14046:2014 – Environmental management water footprint: principles, requirements and guidelines, the GRI 303 Standard (2018) and the CEO Water Mandate Glossary.

Baseline year
2016

Start year
2017

End year
2019

Progress
100% completed in 2019. Progress was monitored through the following indicators: - Internal alignment: number of the affected business units that contributed and accepted the water-related definitions and assumption; - Internal and external disclosure of the new water-related definitions and assumption. Since late 2019, EDP's water-related indicators glossary is publicly available at EDP's website (www.edp.com/sites/default/files/2020-03/Water-related%20indicators_EN_23.12.19.pdf).

W9. Verification

W9.1

(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?
Yes
1_36_ EDP Sustainability Report 2019.pdf
Pages 37_264_EDP Sustainability Report 2019-2.pdf
External Assurance RS19.pdf

W9.1a

(W9.1a) Which data points within your CDP disclosure have been verified, and which standards were used?

Disclosure module	Data verified	Verification standard	Please explain
W0 Introduction	- Electricity generation: nameplate capacity and the generation by power source (W-EU0.1b).	ISAE 3000	Verification of identified data points is within the scope of the independent assurance of EDP Sustainability Report. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS, for each annual edition of the report. The report is prepared according to the Global Reporting Initiative GRI Standards - "Comprehensive Option" and the G4 Electric Utilities Sector Disclosures. Information is consolidated at EDP Group level following the financial consolidation rules applied by the company. For 2019 data, all indicators were verified with a limited level of assurance, including the identified data points verified within the scope of GRI G4-EU1 and GRI G4-EU2 indicators (Electricity generation installed capacity and output per energy source).
W1 Current state	- Water aspects regularly measured and monitored (W1.2; W-EU1.2a) - Total water withdrawn, discharged and consumed (W1.2b) - Total water withdrawals - by source (W1.2h) - Total water discharges - by destination (W1.2i) - % of total water use recycled or reused	ISAE 3000	Verification of identified data points is within the scope of the independent assurance of EDP Sustainability Report. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS, for each annual edition of the report. The report is prepared according to the Global Reporting Initiative GRI Standards - "Comprehensive Option" and the G4 Electric Utilities Sector Disclosures. Information is consolidated at EDP Group level following the financial consolidation rules applied by the company. For 2019 data, all indicators were verified with a limited level of assurance, including the identified data points verified within the scope of: i) GRI 103-2 indicator (Water management approach and its components); ii) GRI 303-1 indicator (Total water withdrawals by source); iii) GRI 306-1 (Total water discharge by destination); iv) GRI 303-3 (% of recycled and reused water) indicators. Verified values exclude use of water in hydroelectric generation.
W2 Business impacts	- Penalties, fines and/or enforcement orders (W2.2, W2.2.a, W2.2.b)	ISAE 3000	Verification of identified data points is within the scope of the independent assurance of EDP Sustainability Report. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS, for each annual edition of the report. The report is prepared according to the Global Reporting Initiative GRI Standards - "Comprehensive Option" and the G4 Electric Utilities Sector Disclosures. Information is consolidated at EDP Group level following the financial consolidation rules applied by the company. For 2019 data, all indicators were verified with a limited level of assurance, including the identified data points verified within the scope GRI 307-1 indicators (Non-compliance with environmental laws and regulations – fines and penalties).
W3 Procedures	- Potential water pollutants with detrimental impact on water ecosystems or human health (W-EU3.1; W-EU3.1a)	ISAE 3000	Verification of identified data points is within the scope of the independent assurance of EDP Sustainability Report. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS, for each annual edition of the report. The report is prepared according to the Global Reporting Initiative GRI Standards - "Comprehensive Option" and the G4 Electric Utilities Sector Disclosures. Information is consolidated at EDP Group level following the financial consolidation rules applied by the company. For 2019 data, all indicators were verified with a limited level of assurance, including the identified data points verified within the scope of GRI 306-5 (Water bodies affected by water discharges) and GRI 303-2 (Water sources significantly affected by water withdrawals) indicators.
W6 Governance	- Water policy (W6.1, W6.1a) - Board level oversight and management responsibilities (W6.2, W6.2a, W6.3)	ISAE 3000	Verification of identified data points is within the scope of the independent assurance of EDP Sustainability Report. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS, for each annual edition of the report. The report is prepared according to the Global Reporting Initiative GRI Standards - "Comprehensive Option" and the G4 Electric Utilities Sector Disclosures. Information is consolidated at EDP Group level following the financial consolidation rules applied by the company. For 2019 data, all indicators were verified with a limited level of assurance, including the identified data points verified within the scope of GRI 103-2 indicator (Water management approach and its components).
W8 Targets	- Corporate water targets and goals (W8.1, W8.1a, W8.1b)	ISAE 3000	Verification of identified data points is within the scope of the independent assurance of EDP Sustainability Report. Assurance is conducted by an independent third party according to ISAE 3000 and AA1000AS, for each annual edition of the report. The report is prepared according to the Global Reporting Initiative GRI Standards - "Comprehensive Option" and the G4 Electric Utilities Sector Disclosures. Information is consolidated at EDP Group level following the financial consolidation rules applied by the company. For 2019 data, all indicators were verified with a limited level of assurance, including the identified data points verified within the scope of GRI 103-2 indicator (Water management approach and its components).

W10. 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.

W10.1

(W10.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	Member of EDP Executive Board with formal responsibility over sustainability, risk and other company's cross-cutting critical themes.	Director on board

W10.2

(W10.2) 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)].

Yes

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms