EDP - Energias de Portugal S.A. - Climate Change 2018

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

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

EDP is a vertically integrated utility company, with operational activities in power generation, distribution and supply of electricity and gas supply. It is the largest generator, distributor and supplier of electricity in Portugal, the third largest electricity generation company in Spain.

In Brazil, EDP is the fifth largest private operator in electricity generation, has two electricity distribution concessions and is the fourth largest private supplier in the liberalised market.

Through its subsidiary EDP Renewables, EDP is also one of the largest wind power operators worldwide, with wind farms in the Iberian Peninsula, United States of America, Canada, Brazil, France, Belgium, Italy, Poland, Romania and Mexico and developing off-shore wind projects in the United Kingdom. Additionally, EDP generates power from photovoltaic plants in Portugal, Romania and the United States of America.

EDP has a significant presence in the world energy scene and is present in 14 countries in 4 continents, with 9.9 million electricity customers, 1.6 million gas customers and about 12 thousand employees worldwide. In 2017, the company generated 70 TWh of electricity worldwide, of which about 56% 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 providing company, leader in creating value, innovation and sustainability. The company assumes the power sector's key role in the transition to a low-carbon economy and set 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 2017:

Turnover: 15,746 M€

EBITDA: 3,990 M€

Net profit: 1,113 M€

Net investment: 1,835 M€

Net debt: 13,902 M€

Total assets: 42,075 M€

Employees: 11,657

ISIN: PTEDP0AM0009

SEDOL: 4103596

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2017	December 31 2017	No	<Not Applicable>
Row 2	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 4	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

C0.3

(C0.3) Select the countries/regions 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

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

EUR

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Financial control

C-EU0.7

(C-EU0.7) Which part of the electric utilities value chain does your organization operate in? Select all that apply.

Row 1

Electric utilities value chain

Electricity generation
Distribution

Other divisions

Smart grids / demand response

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Director on board	A Director on EDP Corporate Executive Board has formal responsibility over sustainability issues (CSO), including climate change. 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: submitting to Board's approval the company's climate targets, policies and actions; ensuring inclusion of climate risks (e.g. impact of acute and chronical physical risks in electricity generation and distribution assets) in the company's risk profile; integrating climate-related issues into Business Plan development and investment/divestment analysis (e.g. forecast of carbon price impact on new generation assets profitability); reporting on climate-related issues to EDP 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.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	The Executive Board of Directors, in the person of the Director responsible for sustainability, is briefed monthly by the company's Corporate Sustainability Office – coordinating, whenever needed, with the Corporate Risk Management Office and the company's Business Units – on sustainability issues, including climate change. Reports include: i) regular updates on the implementation of the company's climate-related policies, actions and targets (e.g. performance against CO2/kWh targets in electricity generation business unit; performance against client energy savings from energy services in electricity supply business unit); ii) results of in-depth climate risk analysis (e.g. extensive exercise, conducted in 2017, of emerging risks mapping, highlighting climate change transition and physical risks); iii) inputs for analysis of investments/divestments on electricity generation, impacting business plans and annual budgets (e.g. impact of changing CO2 prices); iv) proposal for new climate policies, actions and targets, aligned with EDP's corporate sustainability strategy. The Executive Director in charge of sustainability regularly takes the most relevant climate-related issues to the Executive Board meetings. The Executive Director also reports on climate to EDP's General and Supervisory Board, oversees the Corporate Sustainability and Risk Management Offices and chairs the Sustainability Committee, where the top management of the most relevant business units discuss the Group's environmental performance and its annual Operational Environment and Sustainability Plan.

C1.2

(C1.2) Below board-level, provide the highest-level management position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Other C-Suite Officer, please specify (Head of Corporate Sustainability Office)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored.

Highest-level management position (i.e below Executive Board level) for climate-related issues lies with the Head of EDP Corporate Sustainability Office. Corporate offices are structures of EDP Corporate Centre, headed by the company's most senior managers, who report directly to the company's Executive Board of Directors. The Head of the Corporate Sustainability Office is responsible for assisting the Executive Board in defining corporate sustainability policies, actions and targets, including those related to climate, and for monitoring their implementation at Business Unit level. He is also the Head of the company's Corporate Risk Office, thus facilitating the integration of climate-related transition and physical risks into the company's risk profile and risk management procedures (assessment, integrated analyses of return-risk, mitigation strategies and monitoring). The Head of the Corporate Sustainability Office reports directly, at least monthly, to the company's Executive Board Director in charge of sustainability. Reports includes updates on the implementation of climate-related policies, actions and targets (e.g. corporate target of 75% reduction in CO2/kWh in 2030 from 2005 levels); results of in-depth climate risk analysis (e.g. value at risk from climate change-induced structural change in water and/or wind volumes, affecting the operation of renewable electricity generation assets); climate-related inputs for analysis of investments/divestments; and proposal for new climate policies, actions and targets.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Yes

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues.

Who is entitled to benefit from these incentives?
Board/Executive board

Types of incentives
Monetary reward

Activity incentivized
Emissions reduction target

Comment
Members of EDP Corporate Executive Board of Directors, in accordance with the Board's remuneration policy, have the company's sustainability performance factored into their multiannual variable remuneration. The indicator is monitored through EDP performance in the Dow Jones Sustainability Index (DJSI), which includes the attainment of the explicit CO2 reduction targets set by the company (75% reduction in CO2/kWh in 2030 from 2005 levels).

Who is entitled to benefit from these incentives?
Business unit manager

Types of incentives
Monetary reward

Activity incentivized
Emissions reduction target

Comment
Top managers of EDP Group's Business Units have emissions reduction KPIs, based on the company's 2020 Business Plan and Sustainability Targets, factored into their variable remuneration. KPIs include: 1) Increase in renewable electricity generation installed capacity and associated reduction target for CO2/kWh (scope 1 emissions); 2) Energy services market objectives (smart meters deployment targets and electricity distribution technical losses reduction). KPIs are monitored through the volume of the associated investment (CAPEX).

Who is entitled to benefit from these incentives?
All employees

Types of incentives
Monetary reward

Activity incentivized
Other, please specify (DJSI and Business Plan performance)

Comment
At group level, all employees have their variable compensation dependent upon DJSI performance. At Business Unit level, team level and individual level, all employees have KPIs based on the company's 2020 Business Plan and Sustainability Targets factored into their variable remuneration.

C2. Risks and opportunities

C2.1

(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.

	From (years)	To (years)	Comment
Short-term	0	1	Focus is on the budget of the year. Timeframe allows foresight of the most immediate consequences of possible regulatory/ technological/ other transitional triggers.
Medium-term	1	5	Focus is on the Business Plan exercise. Timeframe allows foresight of possible transition risks and a prospective analysis of structural changes cause by physical risks, with an impact on the company's strategy.
Long-term	5	50	Focus is on the long-term company strategy. It foresees the consequences of structural changes in climate patterns, as such chronic physical impacts are not immediate and can only be assessed in the long-term.

C2.2

(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Annually	>6 years	Frequency of monitoring is annual for most climate risks as they are integrated into the annual budgeting exercises performed by EDP Group. Furthest time horizon considered is over 6 years, typically for climate-related physical risk, which are considered in the long-term (5-50 year timeframe). Transition risks are evaluated in the short/medium-term (0-5 year timeframe).

C2.2b

(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.

Climate-related risks are fully integrated into EDP's periodic risk identification, assessment and management process. They are identified in different categories of the EDP's risk taxonomy, monitored periodically, and reported to the Board.

Climate-related risks/opportunities are assessed in a 1-50 year timeframe for impact on strategic development, business planning, investment decisions and operations management. Assessment process includes:

1 - Risk map (Group and Business Unit-level) – identification and categorization of risks (incl. strategy, business, financial, and operational) and their mapping according to expect loss (average scenario) and maximum loss (worst case scenario). This allows for the prioritization of risks according to their materiality (substantial financial impact being defined as over 5M€) and for the setting of a risk agenda focused on relevant topics. Risk maps assess climate-related strategic risks (e.g. structural reduction of hydro productivity) and transition risks (e.g. change in renewables support regulation; changes in CO2 trading schemes; technological breakthroughs) at Group level. At operational level, risks related to generation and distribution asset losses and damages resulting from increased frequency of extreme weather events are also assessed.

2 - Budget – annual exercise that identifies possible transition risks for the next year with impact on EDP's results through sensitivity analysis to several indicators (e.g. impact of hydro coefficient variation under several scenarios).

3 - Business Plan – bi-annual prospective exercise of the company's activity for the next 4 years, taking into account risks that may affect EDP's results, including climate-related risks. Strategic decisions, business plans and targets are defined after a structured reflection about market conditions that considers historical and prospected evolution of, amongst other: regulation and policies; costs of technologies; physical parameters (incl. renewable volumes). Sensitivity analysis to EBITDA@Risk and CF@Risk, according to the different scenarios assumed, is also performed.

4 - Energy outlook scenario analysis – annual exercise performed by EDP's corporate energy planning department, based on World Energy Outlook scenarios, that prospects transition risks/ opportunities impact for the medium term. It sets scenarios according to different decarbonisation paths and defines different evolution trends for demand, fuels and CO2 prices, capacities, among others, forecasting different generation mixes, RES generation shares and capacity changes.

5- Deep dive analysis – Specific deep dive analysis, performed whenever necessary. Examples include: a) EDP Water Risk Map, developed in 2015. EDP characterized strategic risks associated with structural changes in precipitation patterns (reduction of hydro generated electricity volume) and operational risks associated with the increase in global temperature (reduction of thermal power plant cooling systems efficiency) and extreme weather events (damage to physical generation and distribution assets); b) Extensive exercise, conducted in 2017, of identification of key emerging trends (global and utility-related), highlighting climate change transition and physical risks.

At company level, risk identification is supported by the proprietary EDP Risk Portal and consists of surveys and update of main risks. Process is first conducted by Business Unit (BU) and then centrally coordinated by the Corporate Risk Management Dep., which is also responsible for obtaining and maintaining a global perspective and producing EDP's Global Risk Map. Specific analyses (e.g. EDP Water Risk Map) are also conducted centrally. Climate change opportunities are assessed by corporate departments (Energy Planning, Sustainability, Marketing and New investments). Examples include energy efficiency services and deployment of energy monitoring devices. At asset level, operational climate-related risks are identified and managed by Business Units, being then monitored at corporate level. BUs use country specific meteorological data to assess risks/opportunities over the life cycle of the assets.

C2.2c

(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Climate and energy related regulation – at international, European Union and national levels – can have a significant financial impact on EDP's electricity generation and supply business (reduced revenues and margins, increased operating costs). Examples include regulation on renewables support schemes, emissions trading mechanisms or carbon pricing. The regulatory context of the different markets where EDP operates and the corresponding developments are closely analysed by a dedicated corporate department, the Regulation Department. Together with the Energy Planning Department and the Risk Management Department, the Regulation Department quantifies potential impacts on the company of changes to the different regulatory contexts, according to different scenarios.
Emerging regulation	Relevant, always included	Changes to climate and energy related regulations – at international, European Union and national levels – can have a significant financial impact on EDP's electricity generation and supply business (reduced revenues and margins, increased operating costs). Examples include changes to renewables support schemes in markets where EDP operates, new energy efficiency requirements that can affect electricity demand ore the implementation of new national our regional emissions trading mechanisms. Follow-up on possible changes to the regulatory context of the different markets where EDP operates is conducted by a dedicated corporate department, the Regulation Department. Together with the Energy Planning Department and the Risk Management Department, the Regulation Department quantifies potential impacts on the company of changes to the different regulatory contexts, according to different scenarios.
Technology	Relevant, sometimes included	Technological breakthroughs (e.g. advances in smart grids, decentralized generation, energy storage or electric vehicles, trends in renewables levelized cost of electricity) are key to the implementation of EDP's low carbon transition plan and climate targets. Failure to anticipate and integrate innovation can compromised the company's ability to implement said plan, leading to competitive disadvantages. EDP Innovation Business Unit and EDP corporate Energy Planning Department closely follow up technological developments that can impact EDP low carbon strategy. One example is the recurrent Energy Outlook scenarios analysis exercise, where technological risks and opportunities are accounted for.
Legal	Relevant, sometimes included	Climate-related legal risks (penalties, compensations, agreements) can arise from non-compliance with associated laws and regulation, or future compliance costs (e.g. decommissioning of thermal power plants). Legal risks are analyzed and followed up by EDP Legal Department, with a view to ensure compliance and monitor on-going contingencies. EDP constitutes provisions for decomissioning of power plants.
Market	Relevant, always included	Volatility in commodity prices (e.g. fuel; CO2), in generation volumes of renewables (especially hydro and wind), and in energy consumption are market risks that can be influenced by climate change. Examples include the effect of new emissions trading schemes on CO2 prices or the reduction in electricity demand brought upon by new energy efficiency regulations and public policy targets. These risks can have a negative impact on EDP's results. These variables are always included in the company's climate risks analysis, as they are a key driver of EDP's results. Assessment is performed through sensitivities analysis of several market indicators, assuming different global energy scenarios with different underlying decarbonization paths.
Reputation	Relevant, always included	The energy sector, including electric utilities, is at the forefront of societal awareness on climate change and the role of the private sector. Failure to commit to ambitious targets on climate change mitigatition and adaptation and to deliver on these commitments can cause reputational damages leading to the reduction of EDP brand value and investor interest and loss of market competiveness. EDP Group sees reputation as an impact instead of a risk, which means that all climate risks have a potential impact on EDP's reputation. For that reason, reputation is always included in risk analysis, along with economic, environmental and personnel impacts assessment. To assess the reputation impact, EDP follows a qualitative scale from reduced to very high, depending on the level of media diffusion.
Acute physical	Relevant, always included	Increase in the frequency and intensity of extreme weather events, foressen by IPCC scenarios, represents an operational risk to EDP's activities, in particular to electricity distribution. Damage to assets in operation (overhead lines, poles and substations) and service disruption can have a negative financial impact, namely in investment and insurance costs. Acute climate-related physical risks (e. g. precipitation extremes, floods, storms) are the object of corporate-level deep-dive analysis of emerging risks, using IPCC scenarios, and Business Unit level analysis by prevention teams in order to create preventive measures for asset management and service assurance.
Chronic physical	Relevant, always included	A structural decrease in precipitation is foressen for the Iberian Peninsula, both by IPCC and the European Environment Agency scenarios. This is a major long-term risk for EDP's hydro electricity generation activities (34% of total installed capacity by the end of 2017), most if which (80%) is conscentrated in this geography. Chronic physical risks are accounted in medium/ long term analysis, namely regarding water availability in Iberia and the potential impact in hydro generation, taking into account historical data of the worst Hydroelectric Capability Index consecutive years, water estimates for coming years using different IPPC scenarios, and quantifying potential impact that on the Group's EBITDA.
Upstream	Not relevant, explanation provided	Upstream climate-related risks are not considered relevant for EDP's business. Major source of potential risk is fossil fuel sourcing (natural gas and coal), which could be subject to disruption caused by extreme weather events (acute risks) and, specially in the case of coal, by reduced water availability (chronic risk). Exposure to such risks is very small, given: i) EDP's current generation portfolio (74% installed capacity is renewable - wind, hydro and solar PV); ii) EDP business strategy focused on continued organic growth from renewables, which will further reduce portfolio exposure (installed capacity in coal will be reduced from current 11% to 5% in 2030); iv) fuel procurement based on a vast range of alternative suppliers in different geographies; v) for coal, 90% of current sourcing from mines in low water stress areas (WRI Baseline Water Stress <10%) and only 1% from high stress areas.
Downstream	Relevant, sometimes included	A potential change on consumption patterns (e.g. reduced demand resulting from higher energy efficiency standards; increase in decentralized self-generation) can have a negative impact on EDP revenues and create additional challenges for operations, namely regarding energy distribution networks management. Risk is continuously monitored, in parallel with market risks, by EDP Electricity Distribution, Electricity Supply and Innovation Business Units. The current uptake by EDP of emerging technologies such as smart grids, decentralized generation and storage, mitigates the risk and the company regards this particular factor as an opportunity rather then a risk driver.

C2.2d

(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

Climate change risks and opportunities are fully integrated into EDP's risk management procedures, including the company's risk taxonomy, management phases and responsibilities.

Climate-related risks are quantified according to average loss and maximum loss (taking into account estimated probabilities of materialization and impacts), different scenarios and time horizons (short/ medium/ medium-long term) and aggregated by risk category according with possible correlations between risk natures. In addition, risk return analyses are systematically conducted (based on EBITDA@Risk, CF@Risk or other methods) associated with the main strategic guidelines and decisions (e.g. regarding the Group's Strategic Plan, key investment decisions or other relevant topics).

Risk management strategies include mitigation (e.g. specific plans for catastrophic weather events crisis management and business continuity in EDP's electricity distribution activities) and transfer (e.g. insurance polices that cover property damage and civil responsibility associated with the impact of extreme weather events in distribution networks) and are applied both at corporate and asset level.

Climate-related opportunities are assessed by corporate departments (Energy Planning, Sustainability, Marketing and New investments). Opportunity maximization strategies are firstly defined at corporate level and then deployed at Business Unit level. Responses include the current focus on renewable electricity generation growth (renewables represented 74% of total installed capacity by the end of 2017 and 5 GW of additional renewable capacity is foreseen in EDP's 2016-2020 Business Plan) and the marketing of energy efficiency services (in 2017, the P&S made available to customers in Portugal, Spain and Brazil generated energy savings of 214 GWh, avoiding 85 kt of CO2. Total accumulated savings since 2015 have now reached 494 GWh, avoiding 199 kt of CO2).

Climate–related risks are also integrated into project investment analysis (e.g. investment in renewable generation undergoes detailed resource evaluation encompassing scenario analysis). Risk prioritization is firstly defined by EDP Executive Board of Directors' decision on the company's risk appetite and acceptable level of risk exposure. This is a key risk prioritization. Priorities are further detailed based on the results of the risk quantification exercises and on the systematic risk return analysis.

Transition risk magement example - EDP subsidiary for renewables, EDP Renovaveis (EDPR) is exposed to risks of changing regulations on renewable energy support schemes in the different markets where it operates (total portfolio of 11.1 GW in Europe, North America and Brazil). These schemes are subject to revisions and changes in those markets, driven both by budget constraints and from structural factors related to the maturity cycle of many technologies (e. g. wind or solar). Risk is mitigated through an active strategy of diversification across multiple technologies, geographies, asset maturity and markets regulatory design, as well as through a close follow up of regulatory bodies and governments. EDPR Business Plan 2016-2020 includes investment in 3.5 GW wind and solar capacity addition (10% solar, 90% wind on-shore and off-shore), 65% of which in North America, 15% in EU and 10% in Brazil. EDPR is also increasing direct renewable electricity sales to large companies through long-term Power Purchase Agreement (PPA), firstly in USA and more recently in Mexico and Spain. This contractual model is interesting in terms of the predictability of cash flows it guarantees and contributes to the mitigation of risks arising from uncertainty regarding regulatory support schemes.

Physical risk management example – Acute climate-related physical risks (e.g. increase in frequency and severity of extreme weather events like precipitation and wind extremes, floods, wildfires, landslides) can have a negative impact in several EDP business activities, in particular electricity distribution, resulting in damage to assets in operation (overhead lines, poles and substations). To a lesser extent, damage can also occur during the company's hydro power plant construction phase, as cofferdams may be insufficient to hold large water inflows, causing flooding in some elements of the work. These risks are identified and managed by EDP's Business Units and monitored at corporate level. Business Units use country specific meteorological data to assess risks and opportunities over the life cycle of the assets. On design phase, examples include rising power plant ground-level to increase flood resilience or reinforcing power line foundations to withstand extreme wind speeds. On construction/maintenance phase, damage from extreme events is managed through risk transfer (insurance contracts). Risk mitigation also includes planning of critical activities (e.g. overhauls) for periods with least probability of extreme weather.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Policy and legal: Mandates on and regulation of existing products and services

Type of financial impact driver

Other, please specify (Decreased revenue;reduced capital access)

Company- specific description

Changes in renewable energy generation support schemes. EDP subsidiary for renewables, EDP Renewables (EDPR) is currently present in 12 countries, namely EU countries, North America and Brazil, with a portfolio of 11.0 GW, and is exposed to a wide spread of regulatory frameworks. These support schemes - feed-in tariffs, tax credits, green certificates or capital incentives – are subject to revisions and changes in those markets, driven both by budget constraints and from structural factors related to the maturity cycle of many technologies (e. g. wind or solar). Examples of changes occurred in 2017 that might affect EDPR activities include, in Poland, the new methodology for calculating renewables support (Replacement Rate) and, in USA, the change in corporate tax laws, which will benefit new projects, but may also reduce the market demand for tax credits produced by new assets in renewable energy sources. Reduction in incentives for renewable electricity generation resulting from changes in regulation can have a negative impact on EDPR's revenues and access to capital to finance further growth.

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

High

Potential financial impact

50000000

Explanation of financial impact

Estimated potential yearly reduction in EDPR's revenues for the 2016-2020 period, across all markets.

Management method

Risk is mitigated through an active strategy of diversification across multiple technologies, geographies, asset maturity and markets regulatory design, as well as through a close follow up of regulatory bodies and governments. EDP Business Plan 2016-2020 includes investment in 3.5 GW wind and solar capacity addition (10% solar, 90% wind on-shore and off-shore), 65% of which in North America, 15% in EU and 10% in Brazil. EDPR is also increasing direct renewable electricity sales to large corporate clients trough long-term Power Purchase Agreement (PPA), firstly in USA and more recently in Mexico and Spain. This contractual model is interesting in terms of the predictability of cash flows it guarantees and contributes to the mitigation of risks arising from uncertainty regarding regulatory support schemes. Examples include the 15 years PPA signed in February 2017 with the US subsidiary of Nestle's agri-food giant, and the first PPA signed in the Spanish market for green energy supply to the Calidad Pascual dairy company.

Cost of management
740000000

Comment
Major risk mitigation process is EDPR diversification strategy. EDPR net average annual investment in wind and solar expansion in 2016-2020 is c. 740 M€, distributed across diversified markets and technologies.

Identifier
Risk 2

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Physical risk

Primary climate-related risk driver
Chronic: Changes in precipitation patterns and extreme variability in weather patterns

Type of financial impact driver
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% to 30%, depending upon scenarios, although current portfolio is located mainly in the region with 10% decrease). An increase in temperature will as well impact the water competitive uses. Hydro generation is an important source of value for EDP, mainly in Portugal and Brazil. In 2017, severe drought occurred in the Iberian Peninsula, with a hydropower index (IPH) more than 53% below the average hydrological year. In Portugal, the company's hydropower production dropped by around 9 TWh compared to 2016. A structural decrease in precipitation and increase in competitive uses, affecting hydro generation, can negatively impact EDP's revenues.

Time horizon
Long-term

Likelihood
More likely than not

Magnitude of impact
Medium-high

Potential financial impact
60000000

Explanation of financial impact
Estimated yearly decrease in EDP hydro generation revenues in Iberia, in a long-term perspective. Value assumes a structural decrease of 10% in hydro productivity in the long-term, yearly production of 12TWh and a pool price of 50€/MWh

Management method
EDP manages the risk mainly through a diversified generation portfolio in terms of technologies and geographies. EDP's Business Plan 2016-2020 investments in new generation capacity are also diversified: 5 GW additions (30% hydro, 65% wind, 5% solar) in Europe (45%), North America (50%) and Brazil (5%). 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 (initial scope Iberia, currently being expanded to all geographies) and conducts a periodic assessment of generation assets exposure to water stress areas, using high level mapping tools (WBCSD Global Water Tool and 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 management
980000000

Comment
Major risk mitigation process is EDP's diversification strategy for generation portfolio growth. According to the company's Business Plan 2016-2020, EDP will invest a total of 980 M€/year (average net investment) in the 2016-2020 period on new renewable generation installed capacity. This investment will be distributed across diversified geographies and generation technologies.

Identifier
Risk 3

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Physical risk

Primary climate-related risk driver
Acute: Increased severity of extreme weather events such as cyclones and floods

Type of financial impact driver
Increased capital costs (e.g., damage to facilities)

Company- specific description
Operational disruption of electricity distribution activities. Precipitation extremes, floods, wildfires and landslides – frequently associated also with extreme winds – can have a negative impact in several EDP business activities, in particular electricity distribution, resulting in damage to assets in operation (overhead lines, poles and substations). To a lesser extent, damage can also occur during the company's hydro power plant construction phase, as cofferdams may be insufficient to hold large water inflows, causing flooding in some elements of the work. According to IPCC scenarios, the frequency and intensity of these extreme weather events is likely to increase due to climate change, thus increasing the risk of disruption in EDP's energy distribution and/or supply activities, as well as increasing the operational and capital cost from damage recovery.

Time horizon
Long-term

Likelihood
More likely than not

Magnitude of impact
Medium

Potential financial impact
15000000

Explanation of financial impact
Maximum financial impact of damage to distribution networks under operation in Portugal is, in the worst- case scenario (before insurance) c. 15 M€. Estimate is based on the impact of the worst storm already experienced (Gong). No detailed evaluation of financial implications is currently available for EDP's distribution activities in Spain and Brazil.

Management method
Risk is firstly mitigated by the operational areas of Business Units, who propose and implement best practice (e.g. regular inspections and preventive maintenance) and have specific plans for catastrophic events' crisis management and business continuity. EDP has Business Continuity Departments in strategic company areas and, in 2015, revised its crisis management and business continuity policies, in line with international best practice. A significant part of the remaining risk is mitigated through a comprehensive range of insurance policies (property damage and civil and environmental responsibility) that mitigate the financial impact of large-scale events (e.g., associated with extreme and comprehensive weather phenomena, non-availability of revenue generating assets or significant compensation to third parties) as well as much less frequent incidents with catastrophic impact (e.g., earthquakes). In Spain, EDP takes part of the Compensation Insurance Consortium, a State-run initiative targeted at extreme events risk mitigation for the electricity sector. In Brazil, EDP developed ClimaGrid to manage the physical risks of the grid. This system automatically detects thunder storms, allowing real time intervention in the prevention of future grid shutdowns.

Cost of management
8000000

Comment
Aproximate yearly cost of risk transfer through insurance and costs associated with the company's Business Continuity Plan and structures, including specialized outsourced services.

Identifier
Risk 4

Where in the value chain does the risk driver occur?
Customer

Risk type
Transition risk

Primary climate-related risk driver
Market: Changing customer behavior

Type of financial impact driver
Market: Reduced demand for goods and/or services due to shift in consumer preferences

Company- specific description
Reduced demand driven by energy efficiency. In developed markets, gains in energy intensity and energy efficiency – further strengthened by climate-related policy targets - are expected to dictate a slow recovery in electricity consumption. In Europe, in particular, in response to the competitiveness challenges faced by industry and climate regulation, the economy is specializing in low-energy-intensive sectors. The new package of measures under the Clean Energy for All Europeans' programme, is an example on how EU intends to facilitate the transition to a more efficient and low carbon economy. Among the several legislative frameworks under revision, new Energy Efficiency Directive reinforces the implementation of energy saving measures, either voluntary or mandatory. This policy framework induces a shift in consumption patterns - either regulation driven or behavioral driven – which can negatively impact revenues from EDP's energy supply activities in the Iberian Peninsula and Brazil.

Time horizon
Medium-term

Likelihood
More likely than not

Magnitude of impact
Medium

Potential financial impact
35000000

Explanation of financial impact
Potential financial impact of inherent risk (reduced revenues across EDP's electricity supply markets), in a worst-case scenario. Assumes a 1% reduction of electricity demand in Iberia, with conjugated effects in retail, distribution and generation.

Management method
Risk is managed through the development and marketing of specific energy services and customer efficiency solutions (e.g. fuel switching, load optimization, decentralized renewable generation). EDP has set a target to provide customers with ongoing access to energy efficiency products and services to reduce overall consumption by more than 1 TWh in accumulated energy savings in the period 2015-2020. In Brazil, EDP Soluções em Energia also provides energy efficiency services mainly for businesses in the liberalised market. By the end of 2017, through energy efficiency services and solutions in decentralised renewable generation, EDP had already induced accumulated client savings of over 494 GWh since 2015, thus avoiding c. 200 ktCO2.

Cost of management
86000000

Comment
In 2017, EDP invested c. 86 M€ in energy services, including end-use energy efficiency and smart grids.

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?
Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier
Opp1

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Energy source

Primary climate-related opportunity driver
Use of supportive policy incentives

Type of financial impact driver
Returns on investment in low-emission technology

Company- specific description
Investment opportunities in new renewable generation capacity. Renewable energy supportive policy incentives are in place/being implemented in several markets where EDP subsidiary for renewables, EDP Renewables (EDPR), is active. Such policy framework represents a major investment opportunity. Examples of recent positive developments include higher regulatory visibility in USA (Production Tax Credits extended and clarified until 2020) and European Union's Climate-Energy 2030 policy commitments, that entail the need to strengthen Member State's renewable electricity generation capacity. In 2017, Italy presented its National Energy Strategy that places an emphasis on renewables (target of 28% of total energy consumption and 55% of total electricity production by 2030). Also in 2017, positive developments took place in other EDPR markets, namely Canada, where EDPR has been awarded a long-term renewable energy support agreement for 248 MW of wind power, and Mexico, where energy reforms have made significant progress, with changes being made to establish a remuneration for all forms of renewable production including wind and solar. EDP has a key competitive advantage in seizing these renewables growth opportunities, given the large pipeline of projects of EDPR in the above mentioned geographies: more than 2 GW additional capacity until 2020.

Time horizon
Medium-term

Likelihood
Very likely

Magnitude of impact
High

Potential financial impact
145000000

Explanation of financial impact
EDP Renewables (EDP subsidiary for renewable energies) EBITDA is expected to grow (8% CAGR), according to the Business Plan 2016-2020. We thus expect an average annual financial positive implication (additional revenues) of about 145 M€ per year.

Strategy to realize opportunity
Planned investment in new generation capacity in EDP's 2016-2020 Business Plan is entirely based on renewables. We expect to install c.700 MW/year, i.e., a total 3.5 GW capacity additions - 90% wind, 10% solar, 65% of which in USA and Canadá, allowing the company to maximize the investment opportunity brought about by the new regulatory context in these geographies.

Cost to realize opportunity
740000000

Comment
EDP's subsidiary EDP Rennewables will invest, on average, c.740 M€/year in visible growth opportunities (net investment), keeping the USA and wind onshore at the core of the growing strategy.

Identifier
Opp2

Where in the value chain does the opportunity occur?
Customer

Opportunity type
Products and services

Primary climate-related opportunity driver
Development and/or expansion of low emission goods and services

Type of financial impact driver
Increased revenue through demand for lower emissions products and services

Company- specific description
Increased electricity demand for operation of HVAC equipment. Higher temperatures during summer and lower temperatures in winter may lead to an increase in electricity demand as the result of intensive use of HVAC equipment in these periods, thus increasing EDP revenues from its electricity supply business (Portugal, Spain and Brazil). EDP electricity supply business units in the above mentioned geographies will benefit from a competitive advantage in supplying this increase in electricity demand given the progressive lower carbon content of the electricity generated by the Group, which accounts for about 60% of total supply (-75%

CO2/kWh in 2030 from 2005 levels).

Time horizon
Long-term

Likelihood
More likely than not

Magnitude of impact
Medium

Potential financial impact
20000000

Explanation of financial impact
EDP carried out an internal study for estimating the potential increase in electricity demand driven by temperature extremes. The main outcome of this study, recently updated, shows the excess demand to be in the order of 2 GWh/day for each ºC decrease in Winter and 1.5 GWh/day for each ºC increase in Summer. Assumes average temperature extreme growths in the range +/- 2 to 3ºC in the Iberian Peninsula and the current market share.

Strategy to realize opportunity
In addition to the strong focus on generation capacity expansion, 30% of total investment included in EDP's Business Plan 2016-2020 will be channeled to distribution networks and supply business, thus strengthening the company's capacity to respond to peak electricity demand and capture this market opportunity.

Cost to realize opportunity
420000000

Comment
According to the company's Business Plan 2016-2020, EDP will invest a total of € 1.4 bn/year (net investment) in the 2016-2020 period, 30% of which in distribution networks and supply business.

Identifier
Opp3

Where in the value chain does the opportunity occur?
Customer

Opportunity type
Products and services

Primary climate-related opportunity driver
Development and/or expansion of low emission goods and services

Type of financial impact driver
Increased revenue through demand for lower emissions products and services

Company- specific description
Business opportunity in new energy efficiency solutions. Implementation of the Paris Climate Agreement objectives is expected to lead to profound changes in the electricity sector: 50% of the Intended National Determined Contributions (INDCs) include energy related targets, 40% include quantified objectives for renewable production and more than 30% include energy efficiency targets. Electricity will be crucial to decarbonize the world economy and the sector is set to undergo a major transformation towards renewables, decentralized generation and smart consumption. This structural change in energy production and consumption patterns brings about new growth opportunities for EDP, especially in energy services (smart buildings and industry), renewable distributed generation and electric mobility. EDP will benefit from a competitive advantage in seizing the opportunitt for this new demand pattern, given its investment in new energy solutions and the progressive decarbonisation of the electricity it generates (-75% CO2/kWh in 2030 from 2005 levels).

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
Medium-high

Potential financial impact
134000000

Explanation of financial impact

Financial impact corresponds to increased revenues from energy efficiency products and services. Value is based on consolidated revenues from such services at EDP Group level in 2017.

Strategy to realize opportunity

Anticipating the new electricity sector paradigm (development of infrastructure and applications of smart grids focused on customers and operations, distributed generation, prosumers), EDP provides a range of energy solutions intended to respond to the specific needs of different customer segments, through a diversified offering of competitive and sustainable products and services that avoid emissions in final energy consumption. In order to foster the Brazilian market potential for energy services, in late 2015 EDP Brasil acquired the company APS - Soluções em Energia (which is now part of EDP Soluções em Energia - EDP Energy Solutions), assuming its commitment of expanding its presence in energy efficiency services. Also in 2016, EDP Brasil entered the photovoltaic distributed generation market through a new company EDP Solar. In 2017, nine agreements were signed providing for solar projects totalling 10,740 kWp of installed capacity. EDP has set a target to provide customers with ongoing access to energy efficiency products and services to reduce overall consumption by more than 1 TWh in accumulated energy savings in the period 2015-2020. It has also commited to expand the installation of smart meters to more than 90% of its low-voltage power network delivery points in Iberia by 2030, and to invest EUR 200 million in innovation projects by 2020 (R&D on clean energy technologies, energy efficiency and smart grids).

Cost to realize opportunity

60000000

Comment

According to the company's Business Plan 2016-2020, EDP plans to invest more than EUR 60 million per year in the development of decentralized renewable generation solutions, energy efficiency services for clients and smart grids.

C2.5

(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description
Products and services	Impacted	Opportunities for the development and marketing of new products and services are being leveraged by a favorable regulatory framework that promotes renewable-based electrification as a means to achieve carbon emissions reduction (e.g. low-carbon electricity, electric mobility, decentralized renewable generation) and energy efficiency (e.g. energy services). The realization of these opportunities will have a medium-high financial impact associated with increased revenues from renewable generation and energy services and a competitive advantage arising from a decarbonized generation portfolio.
Supply chain and/or value chain	Not impacted	Supply chain-related risks and opportunities are not considered relevant for EDP's business. Major source of potential risk is fossil fuel sourcing (natural gas and coal), which could be subject to disruption caused by extreme weather events (acute risks) and, specially in the case of coal, by reduced water availability (chronic risk). Exposure to such risks is very small, given: i) EDP's current generation portfolio (74% installed capacity is renewable - wind, hydro and solar PV); ii) EDP business strategy focused on continued organic growth from renewables, which will further reduce portfolio exposure (installed capacity in coal will be reduced from current 11% to 5% in 2030); iv) fuel procurement based on a vast range of alternative suppliers in different geographies; v) for coal, 90% of current sourcing from mines in low water stress areas (WRI Baseline Water Stress <10%) and only 1% from high stress areas. Dowstream value chain (client-related) opportunities are addressed in the above category (products and services).
Adaptation and mitigation activities	Impacted	Climate change adaptation (e.g. rising power plant ground-level to increase flood resilience; reinforcing power line foundations to withstand extreme wind speeds; contracting specif ensurance policies) and mitigation measures (e.g. increasing renewable electricity generation installed capacity; developing and marketing energy services) have a medium-high impact in EDP's strategy and business plans and reflect on the company's revenues, OPEX and CAPEX.
Investment in R&D	Impacted	Development of new tecnhonologies that deliver energy efficiency and carbon emissions reductions are a key-driver of EDP's R&D strategy. The company has commited to invest over 200 M€ in clean energy generation technologies, energy efficiency and smart grids in the 2015-2020 period. In 2017, EDP invested 65 M€ in such projects, including renewable generation (e.g. floating solar PV pilot-project in Alto Rabagão dam in Portugal), smart grid projects (e.g. DOMINOES project for the integrated management of producers/consumers) and energy storage (e.g. distributed generation with storage in Brazil and new battery technologies in Spain).
Operations	Not yet impacted	Climate-related physical risks, both chronic (structural reduction in precipitation) and acute (increased frequency and severity of extreme weather events) are expected to impact EDP's operations, causing a reduction in electricity output of our hydro generation assets and damage to electricity distribution networks, respectively. Impact is expected to materialize in the long-term and have a medium-high impact on EDP's revenues from electricity generation as well as operational and capital cost from damage recovery.
Other, please specify	Not impacted	No other business areas impacted.

C2.6

(C2.6) Describe where and how the identified risks and opportunities have factored into your financial planning process.

	Relevance	Description
Revenues	Impacted	Identified climate-related risks and opportunities have the potential to impact EDP's revenues: i) negative impact - reduction in hydro volume influenced by a structural reduction of precipitation, leading to a reduction in hydro electricity production. The magnitude of the impact on company revenues, associated with risk 2 identified in C2.3, is medium, give that the reduction of hydro production is partiatly compensated by the increased value of such production; ii) positive impact - CO2 price increase favors hydro and wind, due to a favorable regulatory framework benefitting renewable sources. The magnitude of the impact, associated with opp 1 identified in C2.4, is high. This positive impact is further strenghtned by the forecasted increase in the electrification of final energy consumption which is also driven by the enabling effect of electricity in the decarbonization of energy consumption in other sectors.
Operating costs	Impacted	Identified climate-related risks have the potential to generate both a negative and a positive impact on EDP's operating costs: i) negative impact - reduced margins due to zero marginal cost technologies, influenced by a favorable regulatory framework for renewables and reduced thermal power plant margins due to regulatory/policy penalization of carbon intensive fuels; ii) positive impact – renewable portfolio optimization resulting from higher CO2 prices, associated with opp1 described in C2.4. Renewables currently represent 74% of EDP's total electricity generation portfolio. The balance between the above-mentioned impacts is positive and the overall magnitude is medium to high.
Capital expenditures / capital allocation	Impacted	Identified climate-related risks and opportunities have the potential to impact EDP's capital expenditures and capital allocation plans: i) negative impact - investment on additional features of the electricity distribution grid to increase resilience to extreme weather events, has described in risk 3 identified in C2.3. The magnitude of this negative impact is low; ii) positive impact - focus on renewable generation portfolio, leveraging current portfolio mix of the Group and internal know-how, motivated by renewable friendly regulatory frameworks. The magnitude of this positive impact, associated with opp 1 identified in C2.4, is high.
Acquisitions and divestments	Impacted	Identified climate-related opportunities have the potential to impact EDP's acquisitions decisions, namely wind/solar generation pipeline projects as well as the acquisition of downstream businesses (energy efficiency, decentralized renewable generation). The magnitude of this impact, associated with opp1 and opp3 identified in C2.4, is high.
Access to capital	Impacted	Identified climate-related risks and opportunities (e.g. related to changing consumer behavior and/or investor interest) can, dependending on positive or negative impacts on EBITDA and operational results (e.g., renewable volumes, regulation, extreme events), have an impact on capital structure and liquidity (improve/deteriorate) impacting cost of capital. These impacts cover a range of identified risks and opportunities, and therefore their magnitude can range from medium to high.
Assets	Impacted for some suppliers, facilities, or product lines	Identified climate-related transition and physical risks can impact EDP's assets by causing damage to facilities, loss of value or impairment resulting from changing consumer behavior or climate-related regulation. These impacts cover a range of identified risks (e.g., risk 1, 3 and 4 described in C2.3). Given the high average life cycle stage of EDP's thermal generation assets, the magnitude is considered low.
Liabilities	Impacted for some suppliers, facilities, or product lines	Identified climate-related risks can, dependending on positive or negative impacts on EBITDA and operational results (e.g., renewable volumes, regulation, extreme events), have an impact (increase/decrease) on EDP's debt levels. These impacts cover a range of identified risks and opportunities, but the impact is mostly indirect and the magnitude is considered low.
Other	Not impacted	No other financial planning processes impacted.

C3. Business Strategy

C3.1

(C3.1) Are climate-related issues integrated into your business strategy?

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?

Yes, qualitative and quantitative

C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-

ST3.1b/C-TO3.1b/C-TS3.1b)

(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

Yes

C3.1c

(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

i. Climate-related issues influenced two of the five priorities of EDP's current business strategy (Strategic Agenda and Business Plan 2016-2020):

1) organic growth focused on CO2-free technologies, mainly wind (international expansion, 60% of which in USA market) and hydro (conclusion of the Portuguese Hydro Programme and new capacity in Brazil). Target is to reach at least 75% of installed capacity on renewables by 2020; and

2) low exposure to CO2 and other environmental risks, through low-carbon electricity generation, management of CO2 portfolio and sustainability leadership. Target is to reduce CO2/kWh levels ny 75% between 2005 and 2030.

ii. Our business priorities are explicitly linked to an emissions reduction target (to reduce CO2 emissions per kWh by 75% between 2005 and 2030) and to a renewable energy target (to achieve at least 75% of installed capacity on renewables by 2020). Both are corporate-wide strategic commitments and performance is regularly reported to the market (e.g. annual investor presentations, corporate annual reports, sustainability report). The emissions reduction target is fully aligned with EDP's new science-based target, formally approved by the Science Based Target Initiative in early 2017.

iii. In May 2016, EDP announced a net investment of € 1.4 bn/year for the 2016-2020 period, 70% of which in new renewable generation installed capacity. In 2020, EDP foresees its specific CO2 emissions will be 30% below 2015 levels, on track with the 2030 75% reduction commitment and science-based target, thus contributing both to climate change mitigation (reduction of scope 1 emissions) and reduction of climate regulatory risks exposure. The company will also make a strong investment in low carbon client solutions (energy efficiency services, sustainable mobility and renewable microgeneration) and in distribution grids. This will contribute both to climate mitigation (reduction of scope 2 and scope 3 emissions) and adaptation (increased asset resilience). In 2017, EDP added over 1500 MW of renewable generation to its portfolio (+8% from 2016). It also marketed energy efficiency services that delivered client savings of 214 GWh, avoided 85 kt of CO2 and generated EUR 134 million in revenues in the reporting year.

iv. EDP’s business strategy has been influenced by the need to: a) Mitigate climate change – Reduce CO2 emissions from electricity generation; b) Adapt to climate change – Increase resilience of generation and distribution assets; c) Reduce exposure to climate-related regulatory and market risks – Reduce specific CO2 emissions, manage CO2 allowances and credits portfolio; d) Seize opportunities to develop new products and services – Deliver low carbon energy, decentralized renewable energy solutions and tailored energy efficiency services.

v. EDP’s short/medium term strategy (up to five years) is expressed by the company’s Business Plan 2016-2020 which is focused on renewable generation growth and decrease in the portfolio’s carbon intensity. EDP publicly committed to the following operational objectives:

a) Exceeding 75% of renewables in its overall installed capacity by 2020;

b) Reduce CO2 specific emissions by 75% before 2030 (compared to 2005 levels);

c) Install smart meters in more than 90% of EDP’s low-voltage delivery points in Iberia by 2030;

d) Provide customers with ongoing energy efficiency products and services delivering more than 1 TWh in accumulated savings by

2020 (compared with 2014);

e) Investing EUR 200 million in innovative clean energy, energy efficiency and smart grids projects by by 2020.

vi. EDP's long term strategy (5 years onwards) is to continue decarbonization of electricity generation and to provide client solutions to further decarbonize the economy.

vii. This strategy has gained EDP strategic advantages over the competitors through:

a) Profitability and reduced risk exposure – decarbonized generation portfolio (74% renewable installed capacity by the end of 2017) and low exposure to CO2 regulatory risks (long term target to reduce CO2/kWh in line with climate science);

b) Commercial differentiation – products (low carbon electricity) and services (energy efficiency services) that meet growing customers demand for low carbon solutions (total accumulated client savings of 494 GWh since 2015, avoiding 199 kt CO2);

c) Increased internal efficiency – Consistently increasing wind turbine load capacity (30%) and availability (>97%) and differentiation in wind farm development. Increase in thermal power plant efficiency (45,6% in 2017, up 0.5% from 2016) and reduction of technical electricity losses in distribution networks, leading to a stabilization of global (technical and commercial) losses in 2017.

viii. EDP' vision and business strategy are fully aligned with the Paris Agreement. The company committed to a 2030 science based GHG reduction target, approved by the Science Based Targets Initiative and developed using a 2ºC scenario (IEA 2DS, consistent with the IPCC's 5th Assessment Report RCP 2.6 Scenario). EDP is also actively involved in the promotion of the vital role of renewable energy in the attainment of the 2ºC objective; it is a member of the Low Carbon Technology Partnership Initiative (LCTPi), a collaborative initiative led by the World Business Council for Sustainable Development that produced in-depth analysis demonstrating that the potential of existent business solutions can deliver 65% of the needs to achieve the 2ºC objective. EDP, along with 15 electricity utilities, signed an action plan whose implementation enables the installation of 1,5 TW renewable energy capacity worldwide, over the next 10 years.

C3.1d

(C3.1d) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenarios	Details
RCP 2.6	EDP uses IPCC scenarios to assess climate-related physical risks. We use IPCC's RCP 8.5 Scenario (business as usual), as well as RCP 6.0, 4.5 and 2.6 Scenarios (agressive CO2 emission reductions), to identify the most relevant chronic and acute risks and evaluate potential impacts on our electricity generation and distribution activites up to 2050. Results highligted two key risks: strucutural reduction of precipitation in Iberia, affecting the productivity of our hydroelectric generation assets in Portugal and Spain (chronic physical risk); and increased occurrence and severity of extreme weather events (precipitation extremes, floods, wildfires, landslides and extreme winds), causing damage to our electricity distribution assets (acute physical risk). Our business strategy mitigates chronic risk through a diversified generation portfolio in terms of technologies and geographies. Geographic diversification significantly reduces the risk, as structural reduction in precipitation is not likely to occur in all geographies and with same magnitude. We have also developed a specific Water Risk Map (initial scope Iberia, currently being expanded to all geographies) and conduct a periodic assessment of generation assets exposure to water stress areas, using high level mapping tools (WBCSD Global Water Tool and WRI Aqueduct) and local level analysis (site specific data from local authorities and information on assets specific operating conditions from local company staff). To manage the acute risk, EDP has strengthened its business continuity and crisis management capabilities, implemented a set of preventive measures and defined a comprehensive range of insurance policies (property damage and civil and environmental responsibility).
IEA 450	EDP uses IEA scenarios to assess climate-related transition risks. We integrate IEA's 450 Scenario, CPS (Current Policy Scenario) and NPS (New Policy Scenario) into our energy planning exercices and evaluate impacts on our entire business portfolio up to 2030, taking into account EDP Group Business Plan. Internal assumptions are used regarding demand forecast and taxation and scenario analysis and stress tests are performed against current OTC (Over the Counter) scenario. Results show that a CO2 price increase does not have a significant negative effect on EDP operational results, given the decreasing importance of thermal generation in our overall electricity generation portfolio. Our business strategy in aligned with a low carbon energy system and has proven resilient under the different scenarios analysis. By the end of 2017, 74% of our electricity generation installed capacity was renewable and our strategic agenda is based on organic growth focused on renewables. Additionally, new downstream retail focus on energy services (e.g. energy management solutions, Re:dy) and decentralized production (e.g., microgeneration solar PV), contribute to capturing the opportunity in transition.
2DS	EDP used IEA 2DS Scenario for setting its GHG reduction science-based target (SBT). EDP's SBT was formally approved by the Science Based Target Initiative in early 2017. An intensity reduction pathway for our entire business portfolio up to 2030 was derived from the application of the Sectoral Decarbonization Approach (SDA) to the power sector. The trajectory was based on the power sector 2DS scenario which, in turn, is consistent with the IPCC's 5th Assessment Report RCP 2.6 Scenario. We used the assumptions of EDP Group Business Plan (electricity demand, installed capacity and electricity output per generation technology) to test the alignement of our global portfolio carbon intensity (scope 1 and 2 CO2e/kWh) against the SDA intensity reduction patahway. Our business strategy has proven aligned with the 2DS Scenario.
Other, please specify (IPCC SRES - A1B, A2 and B1)	EDP uses IPCC SRES (Special Report on Emissions Scenarios, 2012, 2014) scenarios to quantify financial impacts from extreme events, namely extreme temperatures, wildfires in southern Europe and increase storms frequency.

C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e

(C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e) Disclose details of your organization's low-carbon transition plan.

For almost a decade now, EDP corporate strategy has based on renewables, efficiency and innovation, combining the need for competitiveness of its business with one of the world's leading concerns – climate change.

EDP's low-carbon transition plan materializes in the company's set of public, quantified and time-bound climate-related commitments:

i) Exceeding 75% of renewables in its overall installed capacity by 2020;

ii) Reduce CO2/kWh emissions by 75% before 2030 (compared to 2005 levels);

iii) Install smart meters in more than 90% of EDP's low-voltage delivery points in Iberia by 2030;

iv) Provide customers with ongoing energy efficiency products and services delivering more than 1 TWh in accumulated savings by 2020 (compared with 2014);

v) Investing EUR 200 million in innovative clean energy, energy efficiency and smart grids projects by by 2020.

Transition to a low-carbon economy determined two of the five priorities of EDP's current business strategy (Strategic Agenda and Business Plan 2016-2020):

1) organic growth focused on CO2-free technologies, mainly wind (international expansion, 60% of which in USA market) and hydro (conclusion of the Portuguese Hydro Programme and new capacity in Brazil). Target is to reach at least 75% of installed capacity on renewables by 2020; and

2) low exposure to CO2 and other environmental risks, trough low-carbon electricity generation, management of CO2 portfolio and sustainability leadership. Target is to reduce CO2/kWh levels by 75% between 2005 and 2030.

Major challenge to the low carbon transition plan implementation is the regulatory uncertainty regarding renewable generation support schemes in several markets where EPR, EDP Group's subsidiary for renewables is present. We manage this risk through an active strategy of diversification across multiple technologies, geographies, asset maturity and markets regulatory design, a close follow up of regulatory bodies and governments and increase in direct renewable electricity sales to large corporate clients trough long-term Power Purchase Agreement (PPA), a contractual model that allows higher predictability of cash flows and reduces exposure to regulatory uncertainty in support schemes.

EDP's current business plan foresses a net investment of € 1.4 bn/year for the 2016-2020 period, 70% of which in new renewable generation installed capacity. In 2020, EDP foresees its specific CO2 emissions will be 30% below 2015 levels, on track with the 2030 75% reduction commitment and science-based target, thus contributing both to climate change mitigation (reduction of scope 1 emissions) and reduction of climate regulatory risks exposure. The company will also make a strong investment in low carbon client solutions (energy efficiency services, sustainable mobility and renewable microgeneration) and in distribution grids. This will contribute both to climate mitigation (reduction of scope 2 and scope 3 emissions) and adaptation (increased asset resilience). In 2017, EDP added over 1500 MW of renewable generation to its portfolio (+8% from 2016). It also marketed energy efficiency services that delivered client savings of 214 GWh, avoided 85 kt of CO2 and generated EUR 134 million in revenues in the reporting year.

In 2017, EDP achieved the highest Dow Jones Sustainability Index score as the #1 integrated utility in the world. We recently strengthened our ambition and aligned our corporate strategy to the global challenges and committed to direct action on eight of the seventeen UN Sustainable Development Objectives:

- Goal 5 - Gender Equality

- Goal 7 - Affordable and Clean Energy

- Goal 8 - Decent Work and Economic Growth

- Goal 9 - Industry, Innovation and Infrastructure

- Goal 11 - Sustainable Cities and Communities

- Goal 12 - Responsible Production and Consumption

- Goal 13 - Climate Action

- Goal 15 – Life on Land

We are particularly engaged in advancing SDG 7 and our CEO is now Chairman of the Administrative Board do the Sustainable Energy for All, an accelerator for that SDG that was born within the UN and is now a formal International NGO with several partners.

We are also continuing to develop our businesses in a changing world where electricity plays a central role in supporting decarbonisation of the economy and is now giving great priority to electric mobility. In 2018, EDP became a founding company member of the Transport Decarbonisation Alliance and committed to actively contribute to accelerating decarbonisation of transport by:

1) Electrifying own fleet, reaching 100% of electric light duty vehicles (3774) by 2030

2) And develop new offers and commercial solutions that promote the energy transition, including charging infrastructures, to be presented at the Lisbon Mobi Sumit – an event that will promote smart mobility and that it will take place in 13-14 September.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?
Both absolute and intensity targets

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number
Abs 1

Scope
Scope 1+2 (location-based)

% emissions in Scope
100

% reduction from base year
42

Base year
2015

Start year
2016

Base year emissions covered by target (metric tons CO2e)
22532150

Target year
2030

Is this a science-based target?
Yes, this target has been approved as science-based by the Science-Based Targets initiative

% achieved (emissions)
0

Target status
Underway

Please explain
Target officially approved by SBTi, expressed in absolute terms, assuming average hydro and wind conditions. Group-wide reduction target for combined scope 1 and scope 2 emissions, for all GHGs, set using the Sectoral Decarbonization Approach - Power Sector and IEA 2DS Scenario. Applies to all geographies and is fully aligned with our public commitment, announced before COP21, to reduced specific CO2 emissions from electricity generation by 75% in 2030, compared with 2005 levels. This is part of EDP's Strategic Agenda and Business Plan 2016-2020. Target achievement is supported by the strategic focus on renewable generation growth (scope 1 emissions reduction) and continued investment in distribution grids, thus reducing electricity losses (scope 2 emissions reduction). EDP has also committed to Eurelectric's pledge to achieve a carbon-neutral power supply in Europe by 2050. In 2017, despite the increase in EDP Group's renewable power installed capacity (+2% from 2016), GHG emissions (Scope 1+2) increased (+23% from 2016; +6% compared to base year 2015), as a result of the severe drought that occurred in the

Iberian Peninsula, with a hydropower index (IPH) more than 53% below the average hydrological year. In Portugal, where the presence of hydropower plants is predominant, hydropower production dropped by around 9 TWh compared to 2016, implying a more intensive use of thermal power plants (coal and gas) to meet electricity demand. This has led to a slight shift from our decarbonisation trajectory, which does not prevent the achievement of our 2030 target.

Target reference number
Abs 2

Scope
Scope 3 (upstream & downstream)

% emissions in Scope
99.6

% reduction from base year
25

Base year
2015

Start year
2016

Base year emissions covered by target (metric tons CO2e)
14622760

Target year
2030

Is this a science-based target?
Yes, this target has been approved as science-based by the Science-Based Targets initiative

% achieved (emissions)
43.3

Target status
Underway

Please explain
Absolute target officially approved by SBTi. Group-wide reduction target for the company's relevant upstream and downstream scope 3 emissions categories: C1 (purchased goods and services); C2 (capital goods), C3 (fuel and energy related activities); C4 (upstream transportation and distribution); C6 (business travel) and C11 (use of sold products). Together, these categories represented 99,6% of total scope 3 emissions in base year. Target achievement is supported by the reduction of the Group's activities in the gas sector and by supplier engagement activities focused on supply chain indirect emissions reduction. In 2017, EDP scope 3 GHG emissions increased by 5% compared to 2016 but were still below 2015 base year level (-11%). Upstream activities related to EDP production business - energy and fuels - which account for 70% of the total scope 3 emissions, have grown due to increased use of fossil fuels for electricity generation, due to very unfavourable hydrological conditions in the Iberian Peninsula. However, downstream activities, in particular use of sold natural gas, fell by 18% compared to 2016, due to the reduction in the volume of gas sold in the wholesale market in Spain, thus putting EDP on track to meet its 2030 scope 3 target.

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number
Int 1

Scope
Scope 1+2 (location-based)

% emissions in Scope
100

% reduction from baseline year
55

Metric
Metric tons CO2e per megawatt hour (MWh)*

Base year
2015

Start year
2016

Normalized baseline year emissions covered by target (metric tons CO2e)
0.356

Target year
2030

Is this a science-based target?
Yes, this target has been approved as science-based by the Science Based Targets initiative

% achieved (emissions)
5

Target status
Underway

Please explain
Intensity target officially approved by SBTi. Group-wide reduction target for combined scope 1 and scope 2 emissions, for all GHGs, set using the Sectoral Decarbonization Approach - Power Sector and IEA 2DS Scenario. Applies to all geographies and is fully aligned with our public commitment, announced before COP21, to reduced specific CO2 emissions from electricity generation by 75% in 2030, compared with 2005 levels. This is part of EDP's Strategic Agenda and Business Plan 2016-2020. Target achievement is supported by the strategic focus on renewable generation growth (scope 1 emissions reduction) and continued investment in distribution grids, thus reducing electricity losses (scope 2 emissions reduction). EDP has also committed to Eurelectric's pledge to achieve a carbon-neutral power supply in Europe by 2050. In 2017, despite the increase in EDP Group's renewable power installed capacity (+2% from 2016), renewable electricity generation dropped 18%, as a result of the severe drought that occurred in the Iberian Peninsula, with a hydropower index (IPH) more than 53% below the average hydrological year. In Portugal, where the presence of hydropower plants is predominant, hydropower production dropped by around 9 TWh compared to 2016, implying a more intensive use of thermal power plants (coal and gas) to meet electricity demand. Consequently, GHG emissions (Scope 1+2) increased (+23% from 2016; +6% compared to base year 2015), and so did the carbon intensity of electricity generation by EDP (+23% from 2016). However, 2017 intensity (CO2e/MWh) was 3% below 2015 base year. Absolute emissions reduction in target year were calculated assuming average hydro and wind conditions. No change is anticipated in scope 3 emissions, since target pertains only to scope 1 and scope 2. EDP has an absolute scope 3 emissions reduction target formally approved by the SBTi (Abs2).

% change anticipated in absolute Scope 1+2 emissions
42

% change anticipated in absolute Scope 3 emissions
0

Target reference number
Int 2

Scope
Scope 1

% emissions in Scope
99.9

% reduction from baseline year
75

Metric
Metric tons CO2e per megawatt hour (MWh)*

Base year
2005

Start year
2015

Normalized baseline year emissions covered by target (metric tons CO2e)
0.628

Target year
2030

Is this a science-based target?
No, but we are reporting another target that is science-based

% achieved (emissions)
63

Target status
Underway

Please explain
Group-wide reduction target for GHG emissions from stationary combustion in the company's electricity generation assets. Applies to all geographies and generation activities and is embedded in the strategic options set out in our 2016-2020 Business Plan. Target was publicly announced by EDP in anticipation of the Paris Climate Conference and is fully aligned with our Int1 target, which is a science-based target. Absolute emissions reduction in target year were calculated assuming average hydro and wind conditions. No change is anticipated in scope 3 emissions, since target pertains only to scope 1. EDP has an absolute scope 3 emissions reduction target formally approved by the SBTi (Abs2).

% change anticipated in absolute Scope 1+2 emissions
54

% change anticipated in absolute Scope 3 emissions
0

C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

Target
Renewable energy production

KPI – Metric numerator
Renewable electricity generation installed capacity (MW)

KPI – Metric denominator (intensity targets only)
Total electricity generation installed capacity (MW)

Base year
2005

Start year
2015

Target year
2020

KPI in baseline year
0.48

KPI in target year
0.75

% achieved in reporting year
0.74

Target Status
Underway

Please explain
This is one EDP's 2016-2020 Business Plan strategic targets: to ensure at least 75% of renewable installed capacity by 2020. It is a corporate-wide target and applies to all geographies where the Group operates. Target was publicly announced by EDP in 2015, in anticipation of the Paris Climate Conference. 2005 is reported as base year although the target does not have one, as it is set not as a reduction from a baseline but as an absolute level to be achieved in the target year.

Part of emissions target
Target is not formally part of an emissions reduction target but EDP's strategic focus on renewable growth is essencial for the achievement of our emissions reduction targets. EDP joined the REscale LCTPi initiative, contributing to accelerate the deployment of renewables and the transition to a low-carbon electricity system, in line with the IEA 2°C Scenario, aiming at achieving an additional 1.5 TW of deployment by 2025.

Is this target part of an overarching initiative?
Low-Carbon Technology Partnerships initiative

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.
Yes

C4.3a

(C4.3a) Identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	293	
To be implemented*	6	4223121
Implementation commenced*	13	1876347
Implemented*	15	3065246
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Activity type
Low-carbon energy installation

Description of activity
Hydro

Estimated annual CO2e savings (metric tonnes CO2e)
1841404

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
140285000

Investment required (unit currency – as specified in CC0.4)
1137200000

Payback period
4 - 10 years

Estimated lifetime of the initiative
>30 years

Comment
Three large hydro projects (2 in Portugal and 1 in Brazil), totalling 1,101 MW installed capacity. Assumptions made: - CO2 savings based on avoided thermal generation and respective 2017 emission intensity by geography. - Monetary savings based on avoided thermal generation costs (coal and gas), assuming average renewables load factors over the past 5 years and on avoided CO2, assuming EU-ETS spot price as of Dec. 31st 2017, i.e., 8.09 €/tCO2. - Investment based on real or typical values of CAPEX for the different type of renewable power plants

Activity type
Low-carbon energy installation

Description of activity
Other, please specify (Wind farms)

Estimated annual CO2e savings (metric tonnes CO2e)
1014652

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

65519000

Investment required (unit currency – as specified in CC0.4)
849000000

Payback period
11-15 years

Estimated lifetime of the initiative
21-30 years

Comment
Several wind farms in USA, Portugal, Spain, France and Brazil, totalling 556 MW installed capacity. Assumptions made: - CO2 savings based on avoided thermal generation and respective 2017 emission intensity by geography. - Monetary savings based on avoided thermal generation costs (coal and gas), assuming average renewables load factors over the past 5 years and on avoided CO2, assuming EU-ETS spot price as of Dec. 31st 2017, i.e., 8.09 €/tCO2. - Investment based on real or typical values of CAPEX for the different type of renewable power plants

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Activity type
Low-carbon energy installation

Description of activity
Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)
121011

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
7054000

Investment required (unit currency – as specified in CC0.4)
90000000

Payback period
11-15 years

Estimated lifetime of the initiative
21-30 years

Comment
Solar park in the USA with an installed capacity of 60 MW. Assumptions made: - CO2 savings based on avoided thermal generation and respective 2017 emission intensity by geography. - Monetary savings based on avoided thermal generation costs (coal and gas), assuming average renewables load factors over the past 5 years and on avoided CO2, assuming EU-ETS spot price as of Dec. 31st 2017, i.e., 8.09 €/tCO2. - Investment based on real or typical values of CAPEX for the different type of renewable power plants

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Activity type
Other, please specify (Distribution loss, consumption reduction)

Description of activity
<Not Applicable>

Estimated annual CO2e savings (metric tonnes CO2e)
88179

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
30392000

Investment required (unit currency – as specified in CC0.4)
38915000

Payback period
1-3 years

Estimated lifetime of the initiative
Ongoing

Comment
Investment in electricity distribution networks to reduce energy losses (Portugal, Spain and Brazil); power plant self-consumption and office buildings consumption reduction. Assumptions made: - CO2 savings based on 2017 location-based grid emission factors by geography. - Monetary savings based on generation market prices and on avoided CO2, assuming EU-ETS spot price as of Dec. 31st 2017, i.e., 8.09 €/tCO2. - Investment equals CAPEX on new distribution grid infrastruture in 2017.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	Focus on renewable generation allows for the reduction of exposure to risk of further regulatory restrictions on CO2 emissions.
Dedicated budget for low-carbon product R&D	EDP has a dedicated budget for R&D that is allocated to 5 main areas: (1) Clean Energy; (2) Smart Grids; (3) Customer-Focused Solutions; (4) Energy Storage and (5) Digital Innovation.
Internal price on carbon	EDP uses internal price of carbon to assess the impact of current and future carbon regulation on energy prices and volumes, existing assets' value and to evaluate capital investments in new electricity generation assets (fossil fuel based and renewable energy based).

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?
Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation
Group of products

Description of product/Group of products
Renewable electricity. EDP's strategic focus on renewable generation growth led to a progressive decarbonization of the company' electricity generation portfolio. In 2017, EDP's installed capacity worldwide was 74% renewable and the company generated 56% of its electricity from renewable sources, thus delivering electricity with an average low carbon content. In addition, 100% certified renewable electricity is also part of EDP's product portfolio. In 2020, EDP foresees its generation portfolio to be, at least, 75% renewable based and its emissions intensity to be 30% below 2015 levels, putting the company well on track to meet its 2030 reduction commitment (-75% CO2 per TWh, compared to 2005) and science-based target (-55% scope 1 and 2 CO2 per TWh, compared to 2015).

Are these low-carbon product(s) or do they enable avoided emissions?
Low-carbon product and avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Low-Carbon Investment (LCI) Registry Taxonomy

% revenue from low carbon product(s) in the reporting year
17

Comment
Under its Business Plan 2016-2020, EDP will invest € 1.4 bn/year for the next five years, 70% of which on new renewable generation installed capacity. EDP committed to exceeding 75% of renewables in its overall installed capacity by 2020 and to reduce CO2 specific emissions by 75% before 2030 (compared to 2005 levels).

Level of aggregation
Group of products

Description of product/Group of products
Energy efficiency services and low carbon client solutions. EDP has a diversified portfolio of energy efficiency services targeted at the specific needs of different customer segments in Portugal, Spain and Brazil, which increases efficiency and avoids emissions in final energy consumption. This portfolio includes: distributed generation (solar PV micro-generation solutions), prosumer services, home storage systems, smart aplliances heat pumps, compact smart energy management devices, integrated energy management solutions, fuel switching projects, energy audits, electric mobility solutions, education projects and awareness campaigns. For SMEs and large corporate customers in Iberia, the Save To Compete programme identifies energy savings measures and funds its implementation through the induced savings. By the end of 2017, Save To Compete had induced accumulated client savings of 323 GWh, avoiding about 122 ktCO2. In Brazil, through Soluções em Energia, EDP is also expanding its presence in energy efficiency and distributed generation services. In 2017, the energy efficiency projects carried out in Brazil represented 51.8 GWh savings and a reduction of GHG emission of 30,457 tCO2. EDP also offers solar photovoltaic (PV) generation solutions for different clients' segments, allowing for 100% renewable electricity self-consumption: by the end of 2017, 17.2 MW of PV capacity had been installed in our custumer's premisses. EDP is also promoting sustainable mobility by offering commercially attractive packages combining special prices for electricity, home charging stations and partnerships with electric car manufacturers. For light duty vehicles and average yearly mileage, electric mobility delivers annual savings of 1,2 t CO2 compared to conventional mobility. Total accumulated savings provided to our customers since 2015, have now reached 494 GWh, avoiding 199 kt of CO2 emissions. It is expected that the target set for 2020 (accumulated savings of 1 TWh from 2015) will be largely exceeded. These indicators do not include the measures implemented by EDP under the PPEC programme in Portugal – Plan for Promoting Efficiency in Electricity Consumption (PPEC), promoted by the Portuguese Regulator - which have already generated accumulated savings, since the start of the programme in 2007, of around 4 TWh, with 1.6 Mt of CO2 emissions avoided.

Are these low-carbon product(s) or do they enable avoided emissions?
Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Low-Carbon Investment (LCI) Registry Taxonomy

% revenue from low carbon product(s) in the reporting year
1

Comment
EDP committed to provide customers with ongoing and target energy efficiency products and services delivering more than 1 TWh in accumulated savings in the period 2015-2020.

C-EU4.6

(C-EU4.6) Describe your organization’s efforts to reduce methane emissions from your electricity generation activities.

Methane emissions are not relevant to EDP's operation. In 2017, EDP sold its gas distribution assets in Portugal and Spain and is currently active only in the supply segment of the gas business. Therefore, leaks in gas distribution netwoks, the only previous material source of methane emissions, are no longer associated with EDP Group.

Stationary combustion in thermal power plants accounts for 99,87% of EDP's total scope 1 GHG emissions. The company monitors GHG emissions from its thermal generation assets according to the European Union Emission Trading System (EU ETS): The Monitoring and Reporting Regulation (MMR) – General guidance for installations. These guidelines do not contemplate CH4 emissions, as they are immaterial in thermal electricity generation. According to official data from the Portuguese Environmental Agency, CH4 emissions from fuel combustion in electricity generation account for 0,08% of total GHG emissions (expressed in CO2e) from that activity. (Source: Portugal National Inventory Report 2017. CRF Table 1.s1 - 1.a - Public Electricity and Heating. Five year average for the most recent available years).

Mobile combustion in company fleet represents less than 0,1% of EDP's total scope 1 GHG emissions and the company accounts for the immaterial methane emissions associated with this source. EDP is implementating a plan to renew its company fleet to more efficient vehicles, including electric and hybrid vehicles. The target is to achieve electrification of 100% of the light duty fleet segment by 2030. Since 2010, the number of electric vehicles has grown tenfold representing, by the end of 2017, 3% of the total fleet; primary energy consumption decreased by 19%; and GHG emissions (including small quantities of methane) by 23%. Methane emissions are incorporated into our absolute (Abs 1) and intensity (Int 1) GHG emissions reduction Science Based Targets, as they pertain to 100% of our scope 1 and scope 2 emissions, including all GHGs.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start
January 1 2008

Base year end
January 31 2008

Base year emissions (metric tons CO2e)
19813643

Comment
Base year data refers to our first Group-wide complete GHG inventory (scope 1, 2 and 3 emissions). Nevertheless, base year for our active reduction targets are 2005 (scope 1 target) and 2015 (science-based target for scope 1, scope 2 and scope 3).

Scope 2 (location-based)

Base year start
January 1 2008

Base year end
December 31 2008

Base year emissions (metric tons CO2e)
1571028

Comment
Base year data refers to our first Group-wide complete GHG inventory (scope 1, 2 and 3 emissions). Base year for our active reduction targets are 2005 (scope 1 target) and 2015 (Science Based Target for scope 1, scope 2 and scope 3). Scope 2 emission results are the same for location-based and market-based methods because almost all electricity consumed by EDP and included in this scope (electricity consumption in office buildings, renewable power stations self-consumption and electricity losses in distribution networks) was generated and supplied by the EDP Group and therefore emissions are accounted for under scope 1. Exceptions are markets where EDP distributes more electricity than it generates (Portugal and Brazil) and markets where EDP does not have supply activities and, therefore, consumes electricity supplied by third parties (North America and European countries other than Portugal and Spain). In Portugal and Brazil no country-wide Garantees of Origin system is currently in place, therefore residual mix figures, used to calculate our scope 2 emissions in these markets according to the market-based method, are very similar to average grid emission factors, used in the location-based method. Markets where we don't distribute or supply electricity (North America and Rest of Europe) contribute only marginaly to our electricity consumption and, therefore, even if we use RECs to certify 100% of our North America consumption, scope 2 global figures are the same calculated with the two methods.

Scope 2 (market-based)

Base year start
January 1 2008

Base year end
December 31 2008

Base year emissions (metric tons CO2e)
1571028

Comment
Base year data refers to our first Group-wide complete GHG inventory (scope 1, 2 and 3 emissions). Base year for our active reduction targets are 2005 (scope 1 target) and 2015 (Science Based Target for scope 1, scope 2 and scope 3). Scope 2 emission results are the same for location-based and market-based methods because almost all electricity consumed by EDP and included in this scope (electricity consumption in office buildings, renewable power stations self-consumption and electricity losses in distribution networks) was generated and supplied by the EDP Group and therefore emissions are accounted for under scope 1. Exceptions are markets where EDP distributes more electricity than it generates (Portugal and Brazil) and markets where EDP does not have supply activities and, therefore, consumes electricity supplied by third parties (North America and European countries other than Portugal and Spain). In Portugal and Brazil no country-wide Garantees of Origin system is currently in place, therefore residual mix figures, used to calculate our scope 2 emissions in these markets according to the market-based method, are very similar to average grid emission factors, used in the location-based method. Markets where we don't distribute or supply electricity (North America and Rest of Europe) contribute only marginaly to our electricity consumption and, therefore, even if we use RECs to certify 100% of our North America consumption, scope 2 global figures are the same calculated with the two methods.

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

European Union Emission Trading System (EU ETS): The Monitoring and Reporting Regulation (MMR) – General guidance for installations

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Row 1

Gross global Scope 1 emissions (metric tons CO2e)

23158909

End-year of reporting period

<Not Applicable>

Comment

Despite the increase in renewable capacity, the generation mix changed significantly compared to 2016 due to the severe drought that occurred in the Iberian Peninsula, and specially in Portugal, where the hydropower index (HPI) was 53% below the average hydrological year. Therefore, there was a decrease of about 10 TWh in hydropower production compared to 2016, implying a more intensive use of thermal power plants (coal and gas) to meet the electricity demand and the consequent increase in scope 1 emissions.

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

Scope 2 emission results are the same for location-based and market-based methods because almost all electricity consumed by EDP and included in this scope (electricity consumption in office buildings, renewable power stations self-consumption and electricity losses in distribution networks) was generated and supplied by the EDP Group and therefore emissions are accounted for under scope 1. Exceptions are markets where EDP distributes more electricity than it generates (Portugal and Brazil) and markets where EDP does not have supply activities and, therefore, consumes electricity supplied by third parties (North America and European countries other than Portugal and Spain). In Portugal and Brazil no country-wide Garantees of Origin system is currently in place, therefore residual mix figures, used to calculate our scope 2 emissions in these markets according to the market-based method, are very similar to average grid emission factors, used in the location-based method. Markets where we don't distribute or supply electricity (North America and Rest of Europe) contribute only marginaly to our electricity consumption and, therefore, even if we use RECs to certify 100% of our North America consumption, scope 2 global figures are the same calculated with the two methods.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Row 1

Scope 2, location-based
802181

Scope 2, market-based (if applicable)
802181

End-year of reporting period
<Not Applicable>

Comment
Scope 2 emission results are the same for location-based and market-based methods because almost all electricity consumed by EDP and included in this scope (electricity consumption in office buildings, renewable power stations self-consumption and electricity losses in distribution networks) was generated and supplied by the EDP Group and therefore emissions are accounted for under scope 1. Exceptions are markets where EDP distributes more electricity than it generates (Portugal and Brazil) and markets where EDP does not have supply activities and, therefore, consumes electricity supplied by third parties (North America and European countries other than Portugal and Spain). In Portugal and Brazil no country-wide Garantees of Origin system is currently in place, therefore residual mix figures, used to calculate our scope 2 emissions in these markets according to the market-based method, are very similar to average grid emission factors, used in the location-based method. Markets where we don't distribute or supply electricity (North America and Rest of Europe) contribute only marginaly to our electricity consumption and, therefore, even if we use RECs to certify 100% of our North America consumption, scope 2 global figures are the same calculated with the two methods

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

C6.5

(C6.5) Account for your organization's Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
53900

Emissions calculation methodology
Life Cycle Assessment (LCA) study performed with Simapro software. Scope and emissions categorization defined to comply with the requirements of The GHG Protocol Value Chain (Scope 3) Accounting and Reporting Standard. Activity data sources: EDP; Ecoinvent database when primary data was not available. Emission factors source: calculated from publish data (national energy authorities and LCA studies). GWP source: IPCC Assessment Report 5 (2014).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
50

Explanation
Purchase of chemicals products and use of municipality water. Categories that account for less than 1% of total scope 3 emissions or are not applicable to EDP, are considered not relevant.

Capital goods

Evaluation status
Relevant, calculated

Metric tonnes CO2e
323857

Emissions calculation methodology
Life Cycle Assessment (LCA) study performed with Simapro software. Scope and emissions categorization defined to comply with the requirements of The GHG Protocol Value Chain (Scope 3) Accounting and Reporting Standard. Activity data sources: EDP; Ecoinvent database when primary data was not available. Emission factors source: calculated from publish data (national energy authorities and LCA studies). GWP source: IPCC Assessment Report 5 (2014).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
20

Explanation
Facilities construction (power plant and buildings) and equipment acquisition.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status
Relevant, calculated

Metric tonnes CO2e
8344400

Emissions calculation methodology
Life Cycle Assessment (LCA) study performed with Simapro software. Scope and emissions categorization defined to comply with the requirements of The GHG Protocol Value Chain (Scope 3) Accounting and Reporting Standard. Scope 2 emissions calculated according to location-based method. Activity data sources: EDP; Ecoinvent database when primary data was not available. Emission factors source: calculated from publish data (national energy authorities and LCA studies). GWP source: IPCC Assessment Report 5 (2014).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
50

Explanation
Generation/processing of electricity and natural gas purchased for retail. Production (extraction and processing) of fuels (coal, natural gas, fuel oil and diesel) used by EDP for electricity generation.

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Metric tonnes CO2e
453798

Emissions calculation methodology
Life Cycle Assessment (LCA) study performed with Simapro software. Scope and emissions categorization defined to comply with the requirements of The GHG Protocol Value Chain (Scope 3) Accounting and Reporting Standard. Activity data sources: EDP; Ecoinvent database when primary data was not available. Emission factors source: calculated from publish data (national energy authorities and LCA studies). GWP source: IPCC Assessment Report 5 (2014).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
50

Explanation
Transportation of fuels (coal, natural gas, forest biomass, fuel oil and diesel) used by EDP for electricity generation.

Waste generated in operations

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
22300

Emissions calculation methodology
Life Cycle Assessment (LCA) study performed with Simapro software. Scope and emissions categorization defined to comply with the requirements of The GHG Protocol Value Chain (Scope 3) Accounting and Reporting Standard. Activity data sources: EDP; Ecoinvent database when primary data was not available. Emission factors source: calculated from publish data (national energy authorities and LCA studies). GWP source: IPCC Assessment Report 5 (2014).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
50

Explanation
Transport and disposal of waste generated in EDP's activities (mainly gypsum and ashes from coal power plants). Categories that account for less than 1% of total scope 3 emissions or are not applicable to EDP are considered not relevant.

Business travel

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
11094

Emissions calculation methodology
Scope and emissions categorization defined to comply with the requirements of The GHG Protocol Value Chain (Scope 3) Accounting and Reporting Standard. Activity data sources: EDP. Emission factors source: calculated from publish data (national energy authorities or default data from GHG Protocol Transport tool). GWP source: IPCC Assessment Report 5 (2014).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
50

Explanation
EDP employee business travel (air, train and road travel). Categories that account for less than 1% of total scope 3 emissions or are not applicable to EDP are considered not relevant.

Employee commuting

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
4477

Emissions calculation methodology
Scope and emissions categorization defined to comply with the requirements of The GHG Protocol Value Chain (Scope 3) Accounting and Reporting Standard. Activity data sources: EDP. Emission factors source: calculated from publish data (national energy authorities or default data from GHG Protocol Transport tool). GWP source: IPCC Assessment Report 5 (2014).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
50

Explanation
EDP employee commuting. Categories that account for less than 1% of total scope 3 emissions or are not applicable to EDP are considered not relevant.

Upstream leased assets

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
33997

Emissions calculation methodology
Life Cycle Assessment (LCA) study performed with Simapro software. Scope and emissions categorization defined to comply with the requirements of The GHG Protocol Value Chain (Scope 3) Accounting and Reporting Standard. Activity data sources: EDP; Ecoinvent database when primary data was not available. Emission factors source: calculated from publish data (national energy authorities and LCA studies). GWP source: IPCC Assessment Report 4 (2007).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
Use of rented assets (especially machinery) in construction activities. Categories that account for less than 1% of total scope 3 emissions or are not applicable to EDP are considered not relevant.

Downstream transportation and distribution

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
712

Emissions calculation methodology
Life Cycle Assessment (LCA) study performed with Simapro software. Scope and emissions categorization defined to comply with the requirements of The GHG Protocol Value Chain (Scope 3) Accounting and Reporting Standard. Activity data sources: EDP; Ecoinvent database when primary data was not available. Emission factors source: calculated from publish data (national energy authorities and LCA studies). GWP source: IPCC Assessment Report 5 (2014).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
Support activities (offices and stores) associated with electricity and gas retail. Categories that account for less than 1% of total scope 3 emissions or are not applicable to EDP are considered not relevant.

Processing of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
0

Emissions calculation methodology
Not applicable

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
EDP’s products (electricity and gas) are supplied in their final consuming form, therefore they do not require processing. Categories that account for less than 1% of total scope 3 emissions or are not applicable to EDP are considered not relevant.

Use of sold products

Evaluation status
Relevant, calculated

Metric tonnes CO2e
3851929

Emissions calculation methodology
Life Cycle Assessment (LCA) study performed with Simapro software. Scope and emissions categorization defined to comply with the requirements of The GHG Protocol Value Chain (Scope 3) Accounting and Reporting Standard. Activity data sources: EDP; Ecoinvent database when primary data was not available. Emission factors source: calculated from publish data (national energy authorities and LCA studies). GWP source: IPCC Assessment Report 5 (2014).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
Use of natural gas sold by EDP to clients.

End of life treatment of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
0

Emissions calculation methodology
Not applicable

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
EDP's sold products (electricity and gas) do not generate waste, therefore no end of life treatment is required.

Downstream leased assets

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
0

Emissions calculation methodology
Not applicable

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
EDP did not use downstream leased assets in the reporting year.

Franchises

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
0

Emissions calculation methodology
Not applicable

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
EDP did not have franchised activities in the reporting year.

Investments

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
4127

Emissions calculation methodology
Life Cycle Assessment (LCA) study performed with Simapro software. Scope and emissions categorization defined to comply with the requirements of The GHG Protocol Value Chain (Scope 3) Accounting and Reporting Standard. Activity data sources: EDP; Ecoinvent database when primary data was not available. Emission factors source: calculated from publish data (national energy authorities and LCA studies). GWP source: IPCC Assessment Report 5 (2014).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
10

Explanation
Emissions from EDP's participated companies (minority interests). Categories that account for less than 1% of total scope 3 emissions or are not applicable to EDP are considered not relevant.

Other (upstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
0

Emissions calculation methodology
Not applicable

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
EDP has no emissions from upstream or downstream activities other than the ones reported in categories C1 to C15.

Other (downstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
0

Emissions calculation methodology
Not applicable

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
EDP has no emissions from upstream or downstream activities other than the ones reported in categories C1 to C15.

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?
No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure
0.0015

Metric numerator (Gross global combined Scope 1 and 2 emissions)
23961090

Metric denominator
unit total revenue

Metric denominator: Unit total
15745987677

Scope 2 figure used
Location-based

% change from previous year
14

Direction of change
Increased

Reason for change
Despite the 8% increase in total revenue, global combined scope 1 and 2 emissions increased about 23%, which explain the change from previous year. This emissions increase was merely circumstancial, and due to the severe drought that occurred in the Iberian Peninsula, and specially in Portugal, where the hydropower index (HPI) was 53% below the average hydrological year. There4fore, there was a decrease of around 10 TWh in hydropower production compared to 2016, implying a more intensive use of thermal power plants (coal and gas) to meet the electricity demand and a significant increase in scope 1 emissions. This has led to a slight shift from our decarbonisation trajectory, which does not prevent the achievement of our 2030 target.

Intensity figure
0.345

Metric numerator (Gross global combined Scope 1 and 2 emissions)
23961090

Metric denominator
megawatt hour generated (MWh)

Metric denominator: Unit total
69344168

Scope 2 figure used
Location-based

% change from previous year
23

Direction of change
Increased

Reason for change
Global combined scope 1 and 2 emissions increased about 23%, for approximately the same MWh generated, which explain the change from previous year. This emissions increase was merely circumstancial, and was due to the severe drought that occurred in the Iberian Peninsula, and specially in Portugal, where the hydropower index (HPI) was 53% below the average hydrological year. Therefore, there was a decrease of around 10 TWh in hydropower production compared to 2016, implying a more intensive use of thermal power plants (coal and gas) to meet the electricity demand and a significant increase in scope 1 emissions. This has led to a slight shift from our decarbonisation trajectory, which does not prevent the achievement of our 2030 target.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	23148289	IPCC Fifth Assessment Report (AR5 – 100 year)
SF6	10168	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	29	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	414	IPCC Fifth Assessment Report (AR5 – 100 year)

C-EU7.1b

(C-EU7.1b) Break down your total gross global Scope 1 emissions from electric utilities value chain activities by greenhouse gas type.

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 SF6 emissions (metric tons SF6)	Gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives	0	0	0.43	10168	Corresponds to SF6 fugitive emissions in gas insulated switchgears and transformers from generation and distribution activities
Combustion (Electric utilities)	23128959	0	0	23128959	CO2 emissions from thermal power plants, calculated according with the European Union Emission Trading System (EU ETS): The Monitoring and Reporting Regulation (MMR) – General guidance for installations. These guidelines do not contemplate the calculation of CH4 emissions, as they are immaterial in thermal electricity generation. According to official data from the Portuguese Environmental Agency, CH4 emissions from fuel combustion in electricity generation account for 0,08% of total GHG emissions (expressed in CO2e) from that activity. (Source: Portugal National Inventory Report 2017. CRF Table 1.s1 - 1.a - Public Electricity and Heating. Five-year average for the most recent available years).
Combustion (Gas utilities)	0	0	0	0	There are no combustion emissions associated with EDP's gas business. In 2017, EDP sold its gas distribution assets in Portugal and Spain, alienating its gas distribution networks and solely maintaining the gas supply activity.
Combustion (Other)	19339	1.04	0	19782	Emissions from stationary (natural gas consumption in office buildings) and mobile (company fleet) combustion in support activities. Gross scope 1 emissions include 414 tCO2e corresponding to N2O emissions from fleet.
Emissions not elsewhere classified	0	0	0	0	All gross scope 1 emissions are accounted for in the previous categories.

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Portugal	10746350
Spain	7013739
Brazil	5397406
North America *North America includes activities in the USA, Canada and Mexico*	1151
Other, please specify (Rest of Europe (FR, BE, IT, PL, RO))	263

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By activity

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Stationary combustion in thermal power plants	23128959
Fugitive emissions	10168
Mobile combustion in company fleet	19566
Natural gas consumption (office buildings)	216

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions, metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility generation activities	23139127	<Not Applicable>	Total refers to EDP's scope 1 emissions from stationary combustion of fossil fuels in our thermal power plants and to SF6 fugitive emissions from electricity generation and distribution equipament. Together, these sources represent 99.91% of our total scope 1 GHG emissions. The remaining 0.09% (excluded from this figure but reported in C6.1) refer to mobile combustion in the company fleet and to natural gas consumption in office buildings. Outside the electricity sector, EDP has only gas supply activities, with no material scope 1 emissions.
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Portugal	618739	618739	2077041	0
Spain	0	0	0	0
Brazil	176653	176653	1898380	0
North America *North America includes activities in the USA, Canada and Mexico*	0	0	31621	31621
Other, please specify (Rest of Europe (FR, BE, IT, PL, RO)) *Rest of Europe includes operations (wind and solar farms) in France, Belgium, Italy, Poland and Romania*	6789	6789	14177	0

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By activity

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Electricity consumption in office buildings	98	98
Electricity self-consumption in power plants	6691	6691
Distribution grid losses	795392	795392

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change	0	In 2017, EDP consumed aproximately the same amount of purchased renewable electricity, accounted for at low carbon emission factor, as in 2016. Therefore, no change in combined S1 + S2 emissions resulted from this reason.
Other emissions reduction activities	1035000	Decreased	5.3	Among the various emissions reduction initiatives disclosed in 4.3b, only the ones related with hydro in Portugal and grid losses reduction in all geographies have a direct impact on absolute scope 1 and 2 emissions. The other initiatives, namely wind and solar, contributed to EDP's overall emissions intensity. It is worth mentioning that, on one hand, not all the plants started operation at the beginning of the year and, on the other hand, the operating conditions of the additional hydropower capacity were unfavorable, i.e. the operation of this additional renewable power only generated about half of the total expected annual emission reduction in 2017. Under these circumstances, the contribution of hydro in Portugal and the grid losses reduction in all geographies amounted to emissions reduction of about 1,035,000 tCO2, which represents around 5% decrease in EDP's combined S1 + S2 emissions from 2016: (1,035,000/19,478,745)*100 = 5.3%. Note: 2016 S1+S2 emission figure was revised from the previously reported to CDP. Difference is immaterial (-0.1%).
Divestment	4901	Decreased	0.03	In 2017, EDP sold its gas distribution assets in Portugal and Spain and is currently active only in the supply segment of the gas business. Therefore, methane emissions from leaks in gas distribution netwoks where reduced from our scope 1 inventory. This emission reduction amounted to 4,901 tCO2e, which represents a 0.03% decrease in EDP's combined S1 + S2 emissions from 2016: (4,901/19,478,745)*100 = 0.03%. Note: 2016 S1+S2 emission figure was revised from the previously reported to CDP. Difference is immaterial (-0.1%).
Acquisitions	0	No change	0	No change in combined scope 1 and scope 2 emissions from previous year resulting from acquisitions.
Mergers	0	No change	0	No change in combined scope 1 and scope 2 emissions from previous year resulting from mergers
Change in output	0	No change	0	In 2017, EDP produced approximately the same electricity than in 2016, although with a differente mix.
Change in methodology	0	No change	0	No change in combined scope 1 and scope 2 emissions from previous year resulting from changes in methodology.
Change in boundary	0	No change	0	No change in combined scope 1 and scope 2 emissions from previous year resulting from changes in boundary.
Change in physical operating conditions	5236558	Increased	27	In 2017, unfavourable weather conditions (hydroelectric capability index IPH = 0.47 in Iberia), due to severe drought, led to hydropower production 10 TWh down compared to 2016, implying a more intensive use of thermal power stations (coal and gas) to meet the electricity demand. Additional resort to the company's thermal generation plants increased Scope 1 emissions by 4,228,558 tCO2e compared with the previous year. Moreover, if new hydroelectric capacity had not been added in Portugal, the use of thermal power plants would have been even higher, with an estimated impact of around 1,035 million tonnes of CO2. The result represents a 27% increase in EDP's combined S1 + S2 emissions from 2016: (5,236,558/19,478,745)*100 = 27%. Note: 2016 S1+S2 emission figure was revised from the previously reported to CDP. Difference is immaterial (-0.1%).
Unidentified	0	No change	0	No change in combined scope 1 and scope 2 emissions from previous year resulting from unidentified reasons.
Other	0	No change	0	No change in combined scope 1 and scope 2 emissions from previous year resulting from other reasons.

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 85% but less than or equal to 90%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	4059.3	76848025.4	76852084.7
Consumption of purchased or acquired electricity	<Not Applicable>	31621	3989598	4021219
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	38762622.5	<Not Applicable>	38762622.5
Total energy consumption	<Not Applicable>	38798302.8	80837623.4	119635926.2

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	Yes

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)

Bituminous Coal

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
56678985.8

MWh fuel consumed for the self-generation of electricity
56678985.8

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
0

Fuels (excluding feedstocks)
Natural Gas

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
15836865.2

MWh fuel consumed for the self-generation of electricity
15836865.2

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
0

Fuels (excluding feedstocks)
Blast Furnace Gas

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
3582490.4

MWh fuel consumed for the self-generation of electricity
3582490.4

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
0

Fuels (excluding feedstocks)

Coke Oven Gas

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
268750.2

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
268750.2

Fuels (excluding feedstocks)
Basic Oxygen Furnace Gas (LD Gas)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
319737.4

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
319737.4

Fuels (excluding feedstocks)
Other, please specify (Fuel oil)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
50792.1

MWh fuel consumed for the self-generation of electricity
50792.1

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
0

Fuels (excluding feedstocks)
Gas Oil

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
50422

MWh fuel consumed for the self-generation of electricity
50422

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
0

Fuels (excluding feedstocks)
Other, please specify (Fuels for mobile combustion)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
64041.6

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
64041.6

C8.2d

(C8.2d) List the average emission factors of the fuels reported in C8.2c.

Basic Oxygen Furnace Gas (LD Gas)

Emission factor
182

Unit
kg CO2e per GJ

Emission factor source
2006 IPCC Guidelines for National Greenhouse Gas Inventories

Comment
Gas from iron industry used in Sidergas co-generation plant in Spain

Bituminous Coal

Emission factor
94.6

Unit
kg CO2e per GJ

Emission factor source
2006 IPCC Guidelines for National Greenhouse Gas Inventories

Comment
Used in EDP's coal-fired power plants in Portugal, Sapin and Brazil

Blast Furnace Gas

Emission factor
260

Unit
kg CO2e per GJ

Emission factor source
2006 IPCC Guidelines for National Greenhouse Gas Inventories

Comment
Gas from iron industry used in Aboño coal power plant in Spain

Coke Oven Gas

Emission factor
44.4

Unit
kg CO2e per GJ

Emission factor source
2006 IPCC Guidelines for National Greenhouse Gas Inventories

Comment
Gas from iron industry used in Aboño coal power plant and Sidergas co-generation plant in Spain

Gas Oil

Emission factor
74.1

Unit
kg CO2e per GJ

Emission factor source
2006 IPCC Guidelines for National Greenhouse Gas Inventories

Comment
Used in EDP's termal power plants

Natural Gas

Emission factor
56.1

Unit
kg CO2e per GJ

Emission factor source
2006 IPCC Guidelines for National Greenhouse Gas Inventories

Comment
Used in EDP's CCGT plants and co-generation plants in Portugal and Spain, as well as in office buildings

Other

Emission factor
69

Unit
kg CO2e per GJ

Emission factor source
2006 IPCC Guidelines for National Greenhouse Gas Inventories

Comment
The emission factor disclosed was obtained from the weighted average of the emission factors of the fuels used for mobile combustion (gasoline, gas/diesel oil, natural gas liquids and biofuels)

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	71725266	2557151	39103890	1008459
Heat	0	0	0	0
Steam	862526	0	0	0
Cooling	0	0	0	0

C-EU8.2e

(C-EU8.2e) For your electric utility activities, provide a breakdown of your total power plant capacity, generation, and related emissions during the reporting year by source.

Coal – hard

Nameplate capacity (MW)
3124.2

Gross electricity generation (GWh)
23170.8

Net electricity generation (GWh)
21444.3

Absolute scope 1 emissions (metric tons CO2e)
19949749.7

Scope 1 emissions intensity (metric tons CO2e per GWh)
930.3

Comment
Figures refer to coal power plants in Portugal, Spain and Brazil.

Lignite

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment
EDP does not own lignite-fired power plants

Oil

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment
EDP does not own oil-fired power plants

Gas

Nameplate capacity (MW)
3729

Gross electricity generation (GWh)
8278.1

Net electricity generation (GWh)
8028.5

Absolute scope 1 emissions (metric tons CO2e)
3029659.2

Scope 1 emissions intensity (metric tons CO2e per GWh)
377.4

Comment
Figures refer to CCGT plants in Portugal and Spain

Biomass

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment
In 2017, EDP still owned a 50% stake in 4 biomass power plants in Portugal but had no financial or operational control . More recently, EDP sold its stake to the other stakeholder. Therefore, these plants are outside our reporting boundary.

Waste (non-biomass)

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment
EDP does not own waste plants

Nuclear

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment
EDP, through Iberenegia, S.A.U., a subsidiary company of EDP España S.A.U., holds a 15.5% stake in the Trillo nuclear power plant. So EDP is a minor shareholder and has no operational control or financial decisions regarding this power plant, which is outside our reporting boundary.

Geothermal

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment
EDP does not own geothermal plants

Hydroelectric

Nameplate capacity (MW)
9018.8

Gross electricity generation (GWh)
11615.8

Net electricity generation (GWh)
11141

Absolute scope 1 emissions (metric tons CO2e)
2720.2

Scope 1 emissions intensity (metric tons CO2e per GWh)
0.24

Comment
Figures refer to large and mini-hydro power plants in Portugal, Spain and Brazil. Scope 1 emissions in hydroelectric power plants are related to SF6 fugitive emissions.

Wind

Nameplate capacity (MW)
10530.7

Gross electricity generation (GWh)
27530.9

Net electricity generation (GWh)
27465.9

Absolute scope 1 emissions (metric tons CO2e)
408.5

Scope 1 emissions intensity (metric tons CO2e per GWh)
0.01

Comment
Figures refer to wind farms in Portugal, Spain, Brazil, North America and several European countries. Scope 1 emissions in wind farms are related to SF6 fugitive emissions.

Solar

Nameplate capacity (MW)
145.3

Gross electricity generation (GWh)
156.7

Net electricity generation (GWh)
155.1

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment
Figures refer to solar PV farms in several geograhies (USA, Romania and Portugal). No scope 1 emissions are associated with this electricity generation assets.

Other renewable

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment
Besides hydro, wind and solar, EDP does not own other renewable plants

Other non-renewable

Nameplate capacity (MW)
49.1

Gross electricity generation (GWh)
254.8

Net electricity generation (GWh)
246.86

Absolute scope 1 emissions (metric tons CO2e)
149639

Scope 1 emissions intensity (metric tons CO2e per GWh)
134.9

Comment
Relates to gas-fired CHP (including LDG and coke oven gas). Denominator of scope 1 emissions intensity includes steam generation (862.5 GWh).

Total

Nameplate capacity (MW)
26597.1

Gross electricity generation (GWh)
71007.1

Net electricity generation (GWh)
68481.6

Absolute scope 1 emissions (metric tons CO2e)
23132176

Scope 1 emissions intensity (metric tons CO2e per GWh)
333.6

Comment
Overall scope 1 emissions intensity includes 862.5 GWh from steam generation. The scope 1 figure disclosed (electricity generation activity) represents 99.9% of the total scope 1 emissions of the EDP Group, the remaining pertaining to the use of company fleet, consumption of natural gas in office buildings and SF6 fugitive emissions in electricity distribution technical facilities.

C8.2f

(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.

Basis for applying a low-carbon emission factor
Energy attribute certificates, Renewable Energy Certificates (RECs)

Low-carbon technology type
Wind

MWh consumed associated with low-carbon electricity, heat, steam or cooling
31621

Emission factor (in units of metric tons CO2e per MWh)
0

Comment
Power supplied to EDP Renewables office buildings and wind farms backfeed power in the North America.

C-EU8.4

(C-EU8.4) Does your electric utility organization have a global transmission and distribution business?
Yes

C-EU8.4a

(C-EU8.4a) Disclose the following information about your global transmission and distribution business.

Country/Region
Brazil

Voltage level
Distribution (low voltage)

Annual load (GWh)
24704.09

Scope 2 emissions (basis)
Location-based

Scope 2 emissions (metric tons CO2e)
176652.9

Annual energy losses (% of annual load)
10.5

Length of network (km)
91538

Number of connections
3376824

Area covered (km2)
50800

Comment
EDP, through their distribution companies EDP S. Paulo and EDP Espírito Santo, holds concession contracts for electricity distribution in the Brazilien States of S. Paulo and Espírito Santo

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Country/Region
Portugal

Voltage level
Distribution (low voltage)

Annual load (GWh)
44752.53

Scope 2 emissions (basis)
Location-based

Scope 2 emissions (metric tons CO2e)
618739.2

Annual energy losses (% of annual load)
10

Length of network (km)
226027

Number of connections
6186980

Area covered (km2)
89102

Comment
EDP, through its distribution company EDP Distribuição, holds concession contracts for electricity distribution in Portugal mainland. EDP Distribuição is also the portuguese DSO (Distribution System Operator), holding the High and Medium Voltage networks. Data disclosed includes all the networks.

Country/Region
Spain

Voltage level
Distribution (low voltage)

Annual load (GWh)
9331.35

Scope 2 emissions (basis)
Location-based

Scope 2 emissions (metric tons CO2e)
0

Annual energy losses (% of annual load)

3.5

Length of network (km)
20613

Number of connections
664099

Area covered (km2)
10056

Comment
EDP España, through its distribution company, holds concession contracts for electricity distribution in Asturias, Madrid, Comunidad Valenciana, Aragón and Cataluña

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description
Other, please specify (Renewable generation installed capacity)

Metric value
0.74

Metric numerator
Renewable installed capacity in 2017: 19,695 MW

Metric denominator (intensity metric only)
Total installed capacity in 2017: 26,597 MW

% change from previous year
2.2

Direction of change
Increased

Please explain
EDP's organic growth is focused on CO2-free technologies, mainly wind (international expansion, 60% of which in USA market) and hydro (conclusion of the Portuguese Hydro Programme and new capacity in Brazil). Target is to reach at least 75% of installed capacity on renewables by 2020. EDP is on track to meet this target, likely before 2020.

Description
Other, please specify (Smart meter deployment in Iberia)

Metric value
0.28

Metric numerator
Smart meters installed (end of 2017): 1,884,703

Metric denominator (intensity metric only)
Number of delivery points: 6,728,552

% change from previous year
56

Direction of change
Increased

Please explain

EDP publicly committed to install smart meters in more than 90% of EDP's low-voltage delivery points in Iberia by 2030.

Description
Other, please specify (Induced clients' savings (2015-2017))

Metric value
494.4

Metric numerator
Clients' savings (2015-2017): 494.4 GWh

Metric denominator (intensity metric only)
No metric denominator, this is an absolute target

% change from previous year
76

Direction of change
Increased

Please explain
EDP publicly committed to provide customers with ongoing energy efficiency products and services delivering more than 1 TWh in accumulated savings in the period 2015-2020.

Description
Other, please specify (R&D and innovation expenses in cleantech)

Metric value
136510000

Metric numerator
RDi expenses since 2015: EUR136,510,000

Metric denominator (intensity metric only)
No metric denominator, this is an absolute target

% change from previous year
90

Direction of change
Increased

Please explain
EDP publicly committed to Invest EUR 200 million in innovative clean energy, energy efficiency and smart grids projects from 2015 to 2020.

C-EU9.5a

(C-EU9.5a) Break down, by source, your total planned CAPEX in your current CAPEX plan for power generation.

Primary power generation source	CAPEX planned for power generation from this source	Percentage of total CAPEX planned for power generation	End year of CAPEX plan	Comment
Coal – hard	148028	3.1	2020	Figures refer to CAPEX planned for the remaining period of the current EDP Business Plan 2016-2020
Gas	6972	0.1	2020	Figures refer to CAPEX planned for the remaining period of the current EDP Business Plan 2016-2020
Hydroelectric	413499	8.8	2020	Figures refer to CAPEX planned for the remaining period of the current EDP Business Plan 2016-2020
Wind	2375788	50.5	2020	Figures refer to CAPEX planned for the remaining period of the current EDP Business Plan 2016-2020
Solar	155000	3.3	2020	Figures refer to CAPEX planned for the remaining period of the current EDP Business Plan 2016-2020

C-EU9.5b

(C-EU9.5b) Break down your total planned CAPEX in your current CAPEX plan for products and services (e.g. smart grids, digitalization, etc.).

Products and services	Description of product/service	CAPEX planned for product/service	Percentage of total CAPEX planned products and services	End of year CAPEX plan
Smart grid	Investment in smart grids in Portugal, Spain and Brazil, including roll-out of smart meters in the low voltage delivery points in Iberia	147861930	63	2020
Other, please specify (Energy end-use efficiency services)	EDP has a diversified portfolio of energy efficiency services targeted at the specific needs of different customer segments in Portugal, Spain and Brazil, which includes: distributed generation (solar PV micro-generation solutions), prosumer services, home storage systems, smart aplliances, heat pumps, compact smart energy management devices, integrated energy management solutions, fuel switching projects, energy audits, electric mobility solutions, education projects and awareness campaigns. For SMEs and large corporate customers in Iberia, we highlight the “Save To Compete” programme that identifies energy savings measures and funds its implementation through the induced savings. By the end of 2017, Save To Compete had already induced accumulated client savings of 323 GWh, avoiding about 122 ktCO2. In Brazil, through Soluções em Energia, EDP is also expanding its presence in energy efficiency and distributed generation services. EDP is also promoting sustainable mobility by offering commercially attractive packages combining special prices for electricity, home charging stations and partnerships with electric car manufacturers. Total accumulated savings provided to our customers since 2015, have now reached 494 GWh, avoiding 199 kt of CO2 emissions. It is expected that the target set for 2020 (accumulated savings of 1 TWh from 2015) will be largely exceeded. These indicators do not include the measures implemented by EDP under the PPEC programme in Portugal – Plan for Promoting Efficiency in Electricity Consumption (PPEC), promoted by the Portuguese Regulator - which have already generated accumulated savings, since the start of the programme in 2007, of around 4 TWh, with 1.6 Mt of CO2 emissions avoided.	86913909	37	2020

C-CO9.6/C-EU9.6/C-OG9.6

(C-CO9.6/C-EU9.6/C-OG9.6) Disclose your investments in low-carbon research and development (R&D), equipment, products, and services.

Investment start date
January 1 2017

Investment end date
December 31 2017

Investment area
R&D

Technology area
Renewable energy

Investment maturity
Pilot demonstration

Investment figure
262801

Low-carbon investment percentage
1

Please explain
Distributed generation, PV floating System, Demogravi project

Investment start date
January 1 2017

Investment end date
December 31 2107

Investment area
R&D

Technology area
Energy storage

Investment maturity
Applied research and development

Investment figure
833167

Low-carbon investment percentage
3

Please explain
European R&D projects: Sensible and Redox

Investment start date
January 1 2017

Investment end date
December 31 2017

Investment area
R&D

Technology area
Smart grids

Investment maturity
Applied research and development

Investment figure
2437478

Low-carbon investment percentage
10

Please explain
European R&D projects: UPGRID, Interoperability lab

Investment start date
January 1 2017

Investment end date
December 31 2017

Investment area
R&D

Technology area
Digital technology

Investment maturity
Full/commercial-scale demonstration

Investment figure
17306282

Low-carbon investment percentage
71

Please explain
Distribution IT innovative projects

Investment start date

January 1 2017

Investment end date
December 31 2017

Investment area
R&D

Technology area
Other, please specify (Operational and customer's efficiency)

Investment maturity
Small scale commercial deployment

Investment figure
3420059

Low-carbon investment percentage
14

Please explain
Several energy efficiency related projects , such as IoT - Artificial Intelligence and Smart Building, Smart Lab, new functionnalities for the Re:dy device

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Investment start date
January 1 2017

Investment end date
December 31 2017

Investment area
Equipment

Technology area
Renewable energy

Investment maturity
Small scale commercial deployment

Investment figure
849399

Low-carbon investment percentage
13

Please explain
PV Distributed generation for self-consumption in office buildings, PV floating systems

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Investment start date
January 1 2017

Investment end date
December 31 2017

Investment area
Equipment

Technology area
Digital technology

Investment maturity
Pilot demonstration

Investment figure
1226515

Low-carbon investment percentage
19

Please explain

Implementation of a high performance Big Data infrastructure and an "Outsystem" centre of competences

Investment start date
January 1 2017

Investment end date
December 31 2017

Investment area
Equipment

Technology area
Other, please specify (Energy efficiency equipment)

Investment maturity
Large scale commercial deployment

Investment figure
2943087

Low-carbon investment percentage
46

Please explain
Deployment of high eficiente lighting (LED) for street lighting and reactive power compensation

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 and/or Scope 2 emissions and attach the relevant statements.

Scope
Scope 1

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Reasonable assurance

Attach the statement
Sustainability Report 2017_EDP.pdf

Page/ section reference

KPMG Independent Assurance Report: p. 161-166 (printed pages) + GRI Indicators Table-GRI 305 Emissions: p.157 (printed page) + Emmisions data table: p.135 (printed page)

Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

Scope
Scope 2 location-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Reasonable assurance

Attach the statement
Sustainability Report 2017_EDP.pdf

Page/ section reference
KPMG Independent Assurance Report: p. 161-166 (printed pages) + GRI Indicators Table-GRI 305 Emissions: p.157 (printed page) + Emmisions data table: p.135 (printed page)

Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

Scope
Scope 2 market-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Reasonable assurance

Attach the statement
Sustainability Report 2017_EDP.pdf

Page/ section reference
KPMG Independent Assurance Report: p. 161-166 (printed pages) + GRI Indicators Table-GRI 305 Emissions: p.157 (printed page) + Emmisions data table: p.135 (printed page)

Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope
Scope 3- all relevant categories

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Attach the statement
Sustainability Report 2017_EDP.pdf

Page/section reference
KPMG Independent Assurance Report: p. 161-166 (printed pages) + GRI Indicators Table-GRI 305 Emissions: p.157 (printed page) + Emmisions data table: p.135 (printed page)

Relevant standard
ISAE3000

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?
Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C6. Emissions data	Year on year change in emissions (Scope 1)	ISAE3000	Verification under third party independent assurance of EDP Sustainability Report 2017. Annual verification of corporate-wide data. C6.1 – Scope 1 emissions.
C6. Emissions data	Year on year change in emissions (Scope 2)	ISAE3000	Verification under third party independent assurance of EDP Sustainability Report 2017. Annual verification of corporate-wide data. C6.3 – Scope 2 emissions.
C6. Emissions data	Year on year change in emissions (Scope 3)	ISAE3000	Verification under third party independent assurance of EDP Sustainability Report 2017. Annual verification of corporate-wide data. C6.5 – Scope 3 emissions.
C6. Emissions data	Year on year emissions intensity figure	ISAE3000	Verification under third party independent assurance of EDP Sustainability Report 2017. Annual verification of corporate-wide data. C6.10 – Scope 1 + scope 2 per MWh.
C9. Additional metrics	Renewable energy products	ISAE3000	Verification under third party independent assurance of EDP Sustainability Report 2017. Annual verification of corporate-wide data. C9.1a – % of renewable electricity generation installed capacity.
C4. Targets and performance	Financial or other base year data points used to set a science-based target	ISAE3000	Verification under third party independent assurance of EDP Sustainability Report 2017. Annual verification of corporate-wide data. C4.1b – Emissions and electricity generation data used in setting EDP SBT and reporting year % of achievement.
C4. Targets and performance	Emissions reduction activities	ISAE3000	Verification under third party independent assurance of EDP Sustainability Report 2017. Annual verification of corporate-wide data. C4.3b – GHG reduction from emissions reductions initiatives in the reporting year.
C8. Energy	Other, please specify (Energy consumption)	ISAE3000	Verification under third party independent assurance of EDP Sustainability Report 2017. Annual verification of corporate-wide data. C8.2a – Energy consumption totals. C8.2c – Energy consumption by fuel type.

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

EU ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading systems in which you participate.

EU ETS

% of Scope 1 emissions covered by the ETS

77

Period start date

January 1 2017

Period end date

December 31 2017

Allowances allocated

107208

Allowances purchased

10820000

Verified emissions in metric tons CO2e

17737325

Details of ownership

Facilities we own and operate

Comment

Includes only the facilities we own and operate in Europe (Portugal and Spain). In Brazil, there are no emissions trading system in place so far.

C11.1d

(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?

EDP's compliance strategy for the EU-ETS is based on emission reduction as well as in allowances purchase. The allocation of emissions allowances for the 2013-2020 period is made partially in auction, in accordance with Directive 2009/29/EC, which regulates the 3rd phase of the EU ETS - European Emission Trading Scheme. EDP's carbon credit management follows a hedging strategy, as in previous years, aiming at minimizing its exposure to market risk. The purchase of allowances is made on the secondary market and through over-the-counter transactions. In 2017, only one CHP plant in Portugal got allowances allocated for free. The power plants covered by the EU ETS emitted about 17,7 Mton of CO2 in 2017, 29% more than in 2016, which was explained by the severe drough that affected hydropower generation in the Iberian Peninsula. In 2017, to comply with EU-ETS, EDP has used allocated allowances, allowances purchased and banked allowances (allowances that EDP did not use in the past years).

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price
Navigate GHG regulations
Stakeholder expectations
Change internal behavior
Drive energy efficiency
Drive low-carbon investment
Stress test investments
Identify and seize low-carbon opportunities

GHG Scope
Scope 1

Application
Carbon price is used company-wide. Internal carbon prices are used by EDP to assess the impact of current and future carbon regulation - namely emissions trading schemes and carbon taxes - on energy prices, energy volumes and existing assets' value, as well as to evaluate capital investments in new electricity generation assets (fossil fuel based and renewable energy based).

Actual price(s) used (Currency /metric ton)
27

Variance of price(s) used
Price ranges are defined by the Energy Planning Department (Corporate Centre) based on several reference sources, either public or restricted, and are updated yearly. Price forecasts currently range from 5 to 60 €/t CO2, depending on scenario, year and geography. For example, in European markets, price projections take into account reasonable expectations for the evolution of the EU ETS, namely structural measures already adopted (e.g., the Market Stability Reserve, approved in July 2015). For the timeframe 2016-2030, the average price for the base scenario is about EUR 27/tCO2. For the timeframe of EDP's current Business Plan (2016-2020), the average expected price is 10 €/t, as disclosed in EDP's Capital Markets Day held in London in May 2016.

Type of internal carbon price
Shadow price
Implicit price

Impact & implication
EDP uses internal shadow and implicit carbon prices to assess the impact of regulation on energy prices, energy volumes and existing assest's value, as well as to evaluate capital investments. GHG regulation considered include the EU-ETS, which applies to our thermal power generation assests in Europe (Portugal and Spain), as weel as possible future ETS in the only other geography where we currently own thermal power plants (Brazil). Use of internal carbon price in investment evaluation is applied to construction/acquisition of new electricity generation assets (fossil fuel based and renewable energy based), in all geographies where we currently operate, taking into account the specifics of the markets, namely in what concerns regulation.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our suppliers
Yes, our customers

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement
Information collection (understanding supplier behavior)

Details of engagement

Collect climate change and carbon information at least annually from suppliers

% of suppliers by number
1

% total procurement spend (direct and indirect)
11

% Scope 3 emissions as reported in C6.5
67

Rationale for the coverage of your engagement
% of suppliers by number refers to the number of fuel suppliers EDP engages with annually (about 25% of the total) in the total number of Suppliers Under Procurement. Fuel suppliers are of particular importance to the management of EDP's supply chain GHG emissions, given their contribution to the total of our scope 3 emissions inventory. Scope 3 categories directly related to fuels (categories 3 and 4) accounted for 67% of all relevant scope 3 categories in 2017. Engagement is made in the context of the screaning process of suppliers classified as critical and entails evaluation against the criteria considered relevant according to the respective supplier risk(s) categorization. For coal suppliers, engagement is primarily conducted through Bettercoal initiative and entails on site audits, questionanires and commitment to the Bettercoal Code of Conduct.

Impact of engagement, including measures of success
Upstream value chain emissions associated with fuel (coal and natural gas) supply (categories 3 and 4) accounted for 67% of all EDP's relevant scope 3 emissions in 2017. Engaging with fuel suppliers on the mitigation of their environmental risks, notabily GHG emissions from fuel extraction and its transportation to EDP's thermal power plants, promotes the adoption of emission reductions measures in the activities of these suppliers. Between 2016 and 2017, GHG emissions from coal and natural gas (scope 3 categories 3 and 4) increased 12%, significantly below the 28% increase, driven by adverse hydrological conditions, in electricy generation in EDP's natural gas CCGT and coal thermal power plants.

Comment
EDP implemented ISO 20400 (guidance on integrating sustainability within procurement). According to this standard, the number of EDP's Suppliers Under Procurement is, on average, 1,526/year, accounting for ≈ 96.1% of all volume purchased. Critical suppliers are Suppliers Under Procurement that are exposed to, at least, one of the supply chain risks defined by EDP. One of the risk categories is environmental impact, including climate change. On average, in a 4-year series, EDP's engages with suppliers classified as critical, screening their activity against relevant criteria according to the supplier risk(s) categorization. EDP is part of the international Bettercoal initiative. This is an association of energy companies that ensures more effective monitoring and mitigation of the environmental and social risks in the coal industry, through an annual plan of audits of the coal mines and the promotion of a code of conduct of good practices among coal suppliers.

Type of engagement
Engagement & incentivization (changing supplier behavior)

Details of engagement
Climate change performance is featured in supplier awards scheme

% of suppliers by number
72

% total procurement spend (direct and indirect)
58

% Scope 3 emissions as reported in C6.5
0

Rationale for the coverage of your engagement
% of supplier and % of spend corresponds to total universe of EDP's suppliers in Portugal, Spain and Brazil. Suppliers in these geographies are elegible for EDP Partners Award, EDP organizes an anual internacional supplier award that recognizes best environmental practices amongst its suppliers.

Impact of engagement, including measures of success
EDP Partners Award evaluation criteria for the environmental category assesses the control and minimisation of the direct and indirect environmental impacts of suppliers including reductions in energy, water and material consumption and associated emissions.

Comment
EDP Partners Award – environmental category promotes best environmental practices, including GHG emissions reductions, amongst almost suppliers.

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement
Collaboration & innovation

Details of engagement
Run a campaign to encourage innovation to reduce climate change impacts

Size of engagement
100

% Scope 3 emissions as reported in C6.5
1

Please explain the rationale for selecting this group of customers and scope of engagement
Engagement activity applies to all customers in the three markets where EDP conducts electricity supply activities (Portugal, Spain and Brazil). In other markets (North America and Rest of Europe) EDP has only renewable generation. % of emissions refers to total GHG induced savings in 2017 in the total of scope 3 relevant emissions. Active promotion of energy efficiency improvement and demand-side management, together with anticipation of customer needs, is one of EDP Group's main commitments. EDP adapted its organizational structures, business models and operational plans to strengthen its leadership position in the global energy market, by developing and offering its customers innovative products and services (P&S) in the areas of energy efficiency and distributed generation. These products and services include: i) Energy efficiency improvement projects: supply of more efficient equipment and lighting (LED bulbs, street lighting, high performance engines, electronic speed drives, heat pumps), integrated energy services (e.g., Save to Compete, Cuota Ahorro, E:ficient). It is worth mentioning, in 2017, the extension of the Save to Compete programme to SMEs; ii) Energy audits, certification systems and energy management systems (e.g., Re:dy); iii) Regulatory programs, either voluntary (Plan for the Promotion of Electricity Consumption Efficiency - PPEC – in Portugal), or mandatory (schemes in Spain and Brazil).

Impact of engagement, including measures of success
In 2017, the P&S made available to customers in Portugal, Spain and Brazil generated energy savings of 214 GWh, thus avoiding 85 kt of CO2 emissions. Total accumulated savings since 2015 have now reached 494 GWh, avoiding 199 kt of CO2 emissions. It is expected that the target set for 2020 (savings of 1 TWh) will be largely exceeded. EDP also conducts regular customer awareness campaigns targeted at energy and GHG reduction on the use of its products and services. Examples of awareness campaigns are available on EDP's supply companies' websites: energia.edp.pt (in Portugal, for the liberalised market); www.edpsu.pt (in Portugal, for the regulated market); www.edpenergia.es (in Spain); and eee.edpbr.com.br (in Brazil).

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?
Direct engagement with policy makers
Trade associations
Funding research organizations
Other

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Cap and trade	Support with minor exceptions	In 2017, EDP participated actively in the discussion of the EC legislative proposal to revise the EU Emissions Trading System (EU-ETS) for the period after 2020, setting a 40% emissions reduction target for 2030.	EDP supports in general the EU initiative on the EU-ETS and defends a strengthened ETS that provides a meaningful price signal for decarbonisation. EDP believes the EU-ETS should remain the flagship European market that drives decarbonisation and welcomes this review because the former instrument failed to deliver a proper price signal to drive emissions abatement. However, to achieve this goal, EDP defends the adoption of Further structural measures, such as: - Definitive cancellation of a large share of the surplus of allowances (Market Stability Reserve). - Further increase of the Linear Reduction Factor in line with the ambition of limiting the global temperature increase to 1.5ºC, as expressed at the COP21. - Price mechanisms that complement the volume-based EU ETS market by providing it a minimum price level. - Increase of the rate at which excess allowances are moved into the MSR.
Energy efficiency	Support with minor exceptions	In 2017, EDP participated actively in the discussion of the European Union “Clean Energy for all Europeans”, a package of legislative proposals to revise, namely, the Renewable Energy Directive, the Energy Efficiency Directive, the Energy Performance of Buildings Directive, the Electricity Directive, as well as establishing the Energy Union Governance Regulation. The package addresses energy policy objectives aiming at better engaging consumers in the energy transition towards decarbonizing the economy.	EDP defends the view that energy efficiency is a fundamental pillar of energy sector sustainability. In this context, electrification of the economy should take centre stage as a key driver of efficiency in energy systems. Regarding the revise of the Energy Efficiency Directive, EDP defended that the transport sector should not be exempted as obligated party, the Primary Energy Factor (PEF) should be assessed by each Member State as a function of its energy mix or should not be higher than 2.0, alternative measures instead of obligated schemes to reach the target, DSOs should not be included as obligated parties, among others.
Clean energy generation	Support with minor exceptions	In 2017, EDP participated actively in the discussion of the European Union “Clean Energy for all Europeans”, a package of legislative proposals to revise, namely, the Renewable Energy Directive, the Energy Efficiency Directive, the Energy Performance of Buildings Directive, the Electricity Directive, as well as establishing the Energy Union Governance Regulation. The package addresses energy policy objectives aiming at better engaging consumers in the energy transition towards decarbonizing the economy. In fact, the 2030 targets reinforce the strategy established by the EU for 2020 by setting separate targets for greenhouse gas emissions reductions (40% by 2030), renewable energy consumption (27% by 2030) and energy savings (27% by 2030).	In order to achieve global leadership in renewable energies for Europe, the European Commission proposed a new renewable energy target of at least 27% of EU’s final energy consumption by 2030. EDP supported an even more ambitious target (30% by 2030). For the power sector, this means reaching nearly 50% of renewable generation by 2030. However, for this to happen, stable investment and a robust governance system must be in place and improvements must be made in the Clean Energy Package.
Other, please specify (Clean mobility)	Support	The European Commission proposed, in 2017, the Clean Vehicles Directive recast, setting new targets (-40% until 2030) for the EU fleet wide average CO2 emissions of new passenger cars and vans to help accelerate the transition to low- and zero emission vehicles.	EDP strongly supports this initiative, as we believe electric mobility is key to actively contribute to accelerating decarbonisation of transport. EDP, through its membership in Eurelectric, supports the Electro-Mobility Platform (that unites organisations from across civil society, industries, and transport modes to promote electro-mobility across Europe) and is currently a member of the Transport Decarbonisation Alliance, aiming at accelerating the worldwide transformation of the transport sector towards a net-zero emission mobility system before 2050.

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

EURELECTRIC - Union of the Electricity Industry

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association’s position

EURELECTRIC advocates the support of EU institutions and legislation to GHG reduction, carbon market mechanisms (EU

Emissions Trading Scheme), renewable energy support schemes, intelligent electricity grids, transport electrification and R&D and incentives for early deployment of not-yet-mature renewable technologies. EDP supports EURELECTRIC's position on climate change legislation. In 2017, Eurelectric participated in several European climate policy discussions in the framework of the Clean Energy for All Europeans and issued public statements, namely the legislative proposals to revise EU ETS Directive. Eurelectric's positions are available at its website www.eurelectric.org/publications/.

How have you, or are you attempting to, influence the position?
EDP is a member of the Board of Directors. From June 2015 to June 2017, EDP's CEO (António Mexia) was EURELECTRIC's President. EDP participates in several of the association's committees: Environmental and Sustainable Development Policy, Energy Policy and Generation, Markets, DSO and Retail Customers Committees. EDP regularly contributes with specific inputs to the association's common position papers and answers to consultation processes, namely in the discussion of the European Union "Clean Energy for all Europeans", a package of legislative proposals to revise former Directives. In 2017, the focus was on the Renewable Energy Directive, the Energy Efficiency Directive, the Energy Performance of Buildings Directive, the Electricity Directive, as well as the Energy Union Governance Regulation and the EU-ETS review.

Trade association
UNESA – Spanish Electricity Industry Association

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
UNESA is an electric sector organization aiming to represent, promote, manage and defend the general and common interests of its members. The entity was created in 1999 and focuses on various activities of this industry, developing studies and analyses of the various aspects of electrical activity, such as transportation or regulation, pricing and tariffs, economic and financial aspects, international and institutional relations, quality of service, research and social communication. The UNESA represents and coordinates the activities of the sector, developed by representatives of power companies in various international organizations, such as EURELECTRIC.

How have you, or are you attempting to, influence the position?
EDP Spain is one of the energy companies that is part of this association and member of the Board of Diretors.

Trade association
ELECPOR – Portuguese Electricity Industry Association

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
ELECPOR represents and defends the common interests of its associates, currently the five main national companies in the sector, including EDP. As a business sectoral association, it acts as an intermediary and instrument of such companies in the development and discussion of policies, guidelines and regulation of the electricity sector to the Portuguese and international entities. ELECPOR is a member of EURELECTRIC, whose positions are described above.

How have you, or are you attempting to, influence the position?
EDP chairs the Board of Directors.

Trade association
AWEA: American Wind Energy Association

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
AWEA is a national association in the United States representing the players in the wind power industry. With hundreds of members, ranging from utilities, researchers, parts manufacturers and energy companies, AWEA promotes wind energy as a clean source of electricity for American consumers. The wind force is creating a major impact on combating climate change and reducing greenhouse gases. Through sustainable initiatives, the association hopes to change attitudes and improve the environment.

How have you, or are you attempting to, influence the position?
EDP's subsidiary EDP Renewables is one of the partner companies and member of the Board of Diretors.

Trade association
WE - Wind Europe

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position
WE, formerly European Wind Energy Association, is the voice of the wind industry, actively promoting the use of wind power in Europe and worldwide, and representing the wind sector development before the European Commission. The association defends wind generation support. EWEA participated in the European Commission stakeholder consultation on the new renewable energy directive (REDII) for the period 2020-2030. EDP supports EWEA's position on climate change legislation.

How have you, or are you attempting to, influence the position?
EDP Renewables (EDP Group's subsidiary for renewable energy generation) is a leading member of the Board of Directors.

Trade association
WEF - Wind Energy Foundation

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
WEF is a Washington, D.C based, nonprofit organization founded in 2010 by the AWEA association to raise public awareness of the advantages of using wind as a source of energy for domestic use. Through the efforts made with communication, research and education, the foundation was born in order to educate the public about the benefits of wind energy. The foundation is also committed to support research and studies for wind energy growth. Headquartered in Washington, the foundation was established in 2010 and EDP is a partner company supporting the WEF in the legislation on climate change and wind generation support.

How have you, or are you attempting to, influence the position?
EDP Renewables (EDP Group's subsidiary for renewable energy generation) is represented in the Foundation's governance bodies.

Trade association
CanWEA - Canadian Wind Energy Association

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
CanWEA is a Canadian wind power industry association that promotes the realization of the country's abundant wind energy potential to build a cleaner, stronger future. It engages in this mission through advocacy, education, communication, partnerships and the promotion of industry best practices. It is a nonprofit organization that is responsible for publicizing the social, economic, health and environmental benefits that this type of energy offers to the communities and companies. Founded in 1984, CanWEA represents the wind energy community - organizations and individuals who are directly involved in the development and application of wind energy technology, products and services. Its members are the wind energy leaders in Canada. Aware of the importance of its role, EDP supports the association and its positions on climate change legislation.

How have you, or are you attempting to, influence the position?
EDP Renewables (EDP Group's subsidiary for renewable energy generation) is a member of the Board of Directors.

Trade association
APE - Portuguese Energy Association

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
APE is the Portuguese Association that represents the World Energy Council. APE strongly supports cap and trade schemes, EU-ETS reform, energy efficiency, clean energy generation and adaptation and resilience. EDP supports APE's position on climate change legislation.

How have you, or are you attempting to, influence the position?
EDP is a member of the Board of Directors and chairs the Board.

Trade association
APREN – Portuguese Renewable Energy Association

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
APREN is a non-profit association, founded in October 1988, that promotes the development of renewable energy generation in Portugal. Its associates are companies holding permits to explore power plants for electricity production from renewable sources, representing more than 90% of all renewable installed capacity in Portugal. APREN develops its work together with official authorities and other similar entities, either national or international, being an important key player in the development of energy policies for Portugal. The Association privileges the coordination and permanent contact with the Portuguese Government, the ministries responsible for energy and environmental issues and their official agencies, as well as a fruitful dialogue with the crucial national stakeholders related to the production of electricity from renewable sources and representatives from the civil society. APREN has also a strong involvement at European level, through the participation in European projects and through its partnership with several European Associations. This enables the monitoring of European Energy Policy. EDP supports APREN's position on all subjects related to renewable energy.

How have you, or are you attempting to, influence the position?
EDP Renewables (EDP Group's subsidiary for renewable energy generation) is a member of the Board of Directors (deputy chairman).

Trade association
APREAN Renewable Spain

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
APREAN Renewable arose from the need to coordinate the action of the companies promoting and producing renewable power (wind solar, biomass). The association acts as a liaison between the Local and Central Government in Spain, as well as with other public and private bodies, participating in the development of energy and environmental policies. Its main objective is to represent, coordinate and defend the common professional, economic and business interests of its members. EDP supports APREN's position on all subjects related to renewable energy.

How have you, or are you attempting to, influence the position?
EDP Renewables (EDP Group's subsidiary for renewable energy generation) is a member of the Board of Directors.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?
Yes

C12.3e

(C12.3e) Provide details of the other engagement activities that you undertake.

EDP also engages in climate policy making through its membership of organizations other than trade associations, namely national and international business associations specifically focused on sustainability advocacy. Most relevant in 2017:

- World Business Council for Sustainable Development (WBCSD): EDP is a member of the WBCSD, actively participating in the association's activities and regularly taking part in some of its high-level projects. In 2017, EDP participated in WBCSD led Low Carbon Technology Partnership Initiative (LCTPi), a partnership bringing together over 140 companies that aims to demonstrate the potential of existing business solutions to achieving the 2ºC climate objective. EDP, through the "Rescale LCTPI", is working on solutions to accelerate the deployment of RES and the transition to a low-carbon electricity system. The company is participating in three action plans to address some of the crucial barriers for renewables. EDP is also a member of the Business Council for Sustainable Development Portugal, part of the WBCSD network. António Mexia, CEO of EDP is currently President of BCSD Portugal and the company is also represented at the association's Executive Secretariat.

- Sustainable Energy for All (SE4ALL): born within the UN, the SE4ALL initiative is now a formal International NGO with several partners, particularly engaged in advancing and accelerating the Sustainable Development Goal #7 - Affordable and Clean Energy. Antonio Mexia, CEO of EDP, is currently chairman of the Administrative Board.

- In Brazil, EDP was one of the pioneer companies to participate on carbon markets, and has adopted stakeholder's engagement practices to raise awareness on the climate change management. The application of the Social Carbon Methodology (created by Brazilian NGO Ecologica Institute) corroborates the position adopted by the Company.

- "Empresas Pelo Clima" (Businesses for Climate), a Brazilian business platform whose goal is to mobilize, engage and involve corporate leaderships for managing and reducing GHG emissions, managing climate risks, and proposing public policies and positive incentives in the context of climate change. Case studies and sharing of experience are mostly important for the Group discussions, which aims to enable engagement among different sectors and companies and disseminate Best Practices through benchmarking. EDP participates mostly by sharing experience and case studies. Examples include EDP´s project ClimaGrid on electricity distribution network climate resilience. The barriers and challenges faced by the Company are also explored during the meetings, so that common solutions may come up quicker and coherently within different sectors context;

- The ONU´s Global Compact Brazilian Network, the 4th largest local network. EDP participates in the network's working group Energy and Climate, promoting a country level discussion on issues such as climate change mitigation and adaptation, carbon pricing, energy efficiency and renewable energy. This group is aligned with the International platform Caring For Climate.

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

For almost a decade, EDPs' corporate strategies targeted mainly renewables, efficiency and innovation, combining the need for competitiveness of its business with one of the world's leading concerns – climate change. The visibility of EDP's climate strategy was further reinforced with: i) the company's direct participation, at CEO level, in COP21 Climate Conference (December 2015); ii) the announcement of five ambitious climate-related targets addressing emissions reduction, renewable electricity generation, smart grids expansion, energy services for clients and clean technologies R&D (December 2015); iii) the announcement of a GHG reduction science based target (set in 2016 and approved by the Science Based Target Initiative in early 2017). These targets are fully integrated in the company's current Business Plan 2016-2020, presented to investors in May 2016. EDP's position has been stressed in all the fora and trade associations in which the company participates, as well as with all regulatory bodies EDP interacts with. Furthermore, EDP has dedicated structures in each geography that manage the relation with the supervisory bodies of the energy sector: - Portugal: Corporate Regulation and Competition Department, Stakeholder Relations Department - Spain: Regulation Management Department - EDP Renewables (Europe and North America): Regulations & Markets, Global Risk Strategy and Investor Relations and Sustainability Departments - Brazil: Regulatory Issues Department, Environmental Department and Sustainability Department- These structures ensure the overall alignment of EDP's climate policy engagement activities with the corporate climate strategy.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication
In mainstream reports

Status
Complete

Attach the document
Annual Report 2017_EDP.pdf

Content elements
Governance
Strategy
Risks & opportunities
Emission targets

Publication
In voluntary sustainability report

Status
Complete

Attach the document
Sustainability Report 2017_EDP.pdf

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Publication
In voluntary communications

Status
Complete

Attach the document
Climate_Change_EDP Website.pdf

Content elements
Governance
Strategy
Emissions figures
Emission targets

Publication
Other, please specify (Investor Presentations)

Status
Complete

Attach the document
EDP_CMD_2016.pdf

Content elements
Strategy
Emissions figures
Emission targets

Publication
Other, please specify (Investor Presentations)

Status
Complete

Attach the document
Investor_Presentation_EDP_feb-18_sri.pdf

Content elements
Strategy
Emissions figures
Emission targets

C14. Signoff

C-FI

(C-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.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

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

Submit your response

In which language are you submitting your response?
English

Please confirm how your response should be handled by CDP

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

Please confirm below
I have read and accept the applicable Terms