

# Welcome to your CDP Climate Change Questionnaire 2019

## **C0.** Introduction

### **C0.1**

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

Red Eléctrica de España (REE) is the Spanish TSO (transmission -system operator). It is the sole company in Spain that carries out this kind of activities. REE is the owner and manager of the transmission grid in Spain (building and maintaining transmission infrastructures: lines and substations) and is responsible for the technical operation of the Spanish electricity system. As the manager of the transmission grid, Red Eléctrica must guarantee that facilities are adequately developed and enlarged as needed, that they are maintained and enhanced on the basis of uniform and consistent criteria, that the transmission of power between external systems using the Spanish power system is properly managed, that the managers of other interconnected grids receive the information they need to guarantee safe operations and that third party access to the grid is guaranteed under non-discriminatory conditions. As the operator of the Spanish power system, Red Eléctrica's principal mission is to guarantee the continuity and security of the power supply and to properly coordinate the production and transmission system, performing its functions in coordination with the operators and clients of the Iberian power market based on the principles of transparency, objectiveness and independence. Red Eléctrica is also responsible for electricity transmission and acts as system operator of the insular and extra peninsular power systems. Red Eléctrica Group also conducts other business in order to maximum the company's experience: Electricity activities abroad, which are handled by Red Eléctrica International, Energy storage activity in the Canary islands, still in the project stage (REINCAN) and Telecommunications activities (REINTEL). The information reported for is only related to the facilities and activities in the Spanish power system which represent 93% of the total business operations, handled by Red Eléctrica de España. REE does not generate energy. In order to understand some of the answers provided it is important to mention that Electricity transmission in Spain is a regulated activity: the economic scheme is defined by government and regulated by law. Revenues are settled by the government according to defined criteria regarding investments, operational & maintenance costs and availability of the transmission grid.

### **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
Row	January 1,	December 31,	No
1	2018	2018	



## **C0.3**

(C0.3) Select the countries/regions for which you will be supplying data. Spain

## **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 climaterelated 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.

Operational 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 Transmission

Other divisions

## 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) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of Please explain individual(s)



Board Chair	The ultimate responsibility for Climate Change Policy in REE is shared by the Board Chairman (president) and the CEO. The main responsibility of the Chairman and the CEO regarding climate change is to approve and promote the company's Climate Change Commitment. The chairman, as an external director, has the responsibilities of supervision and control. The Sustainability Commission is the sub-set of the Board who is responsible of the Sustainability Policy (which includes Climate Change). The executive tasks are delegated to the Sustainability Steering Committee, directly appointed by the Board of Directors. The Chief Sustainability Officer (Sustainability and External relationships Corporate Director), who reports to the Board Chair (President), leads the Sustainability Steering Committee.
Chief Executive Officer (CEO)	The ultimate responsibility for Climate Change Policy in REE is shared by the Board Chairman (president) and the CEO. The main responsibility of the Chairman and the CEO regarding climate change is to approve and promote the company's Climate Change Commitment. The CEO has the executive responsibilities for implementation of policies regarding Climate Change. The Sustainability Commission is the sub-set of the Board who is responsible of the Sustainability Policy (which includes Climate Change). The executive tasks are delegated to the Sustainability Steering Committee, directly appointed by the Board of Directors. The Chief Sustainability Officer (Sustainability and External relationships Corporate Director), who reports to the Board Chair (President), leads the Sustainability Steering Committee.

## 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 – all meetings	Reviewing and guiding major plans of action Reviewing and guiding business plans Monitoring implementation and performance of objectives	-Business plan: Due to the characteristics of the company, energy and climate change policies are the main drivers to define business strategy. In particular, the European policy framework for climate and energy has been the main reference for the last update of the business plan (2018-2022). This plan is mainly focused on the Spanish energy transition (53% of the total investment). - Major plans and actions included in REE's business plan related to climate change are: Electricity planning



		<ul> <li>(2015-2020 in force and future planning 2020-2026), whose main objective is to integrate renewable energy into the electricity system and develop future interconnections with France; Large scale storage:</li> <li>Chira –Soria Project; Infrastructures improvement and renovation plans.</li> <li>Monitoring implementation and performance of objectives: managerial targets performance are reviewed every meeting. As established in the remuneration report, which is publicly available, managerial target determine the CEO's bonus. This can make up for 15% to 25% of their annual bonus and around 10% of their multiannual bonus. Managerial targets are also taken into account when calculating the annual salary revision for all employees covered by collective agreement. Managerial targets always comprise some projects about Climate Change issues, mainly emission reduction projects.</li> </ul>
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding risk management policies Reviewing and guiding annual budgets Setting performance objectives	Climate Change issues are taken into account when reviewing strategies and some policies (including risk policies). According to this, climate change is considered to set objectives and annual budgets. The revision of strategies and policies are not addressed every meeting. Performance objectives are usually set once a year and revision of climate change annual budget is addressed twice a year.

## C1.2

# (C1.2) Provide the highest management-level 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
Chief Executive Officer (CEO)	Both assessing and managing climate- related risks and opportunities	More frequently than quarterly
Other, please specify	Both assessing and	More frequently than
Sustainability Commission: it was created within the Board of Directors in 2018 and its aim is to generate a proactive attitude for the integration of sustainability into the decision-making process of the organisation.	managing climate- related risks and opportunities	quarterly



$\mathcal{P}_2$		
Other, please specify Sustainability Steering Committee: The executive tasks are delegated to the Sustainability Steering Committee, directly appointed by the Board of Directors. $\mathcal{P}_3$	Both assessing and managing climate- related risks and opportunities	More frequently than quarterly
Chief Sustainability Officer (CSO)	Both assessing and managing climate- related risks and opportunities	More frequently than quarterly
Other, please specify	Assessing climate- related risks and opportunities	Half-yearly

 $\mathcal{O}^{1}$ The CEO has the executive responsibilities for implementation of policies regarding Climate Change

 $\mathcal{P}^2$ The Chief Sustainability Officer (Sustainability and Innovation Director), who reports to the Secretary of the Board, leads the Sustainability Steering Committee.

 $\mathcal{P}^{3}$ The executive tasks are delegated to the Sustainability Steering Committee, directly appointed by the Board of Directors (appointed by the Appointments and Remuneration Committee).

 $\mathcal{P}^4$ Appointments and Remuneration Committee is the sub-set of the board responsible for Climate Change policy

 $\mathcal{O}^5$ Risk Committee: Audit Committee is the sub-set of the Board who is responsible of the risks assessment

## 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 (do not include the names of individuals).

- The ultimate responsibility for Climate Change Policy in REE is shared by the **Board Chairman** (president) & the **CEO**. The main responsibility of the Chairman & the CEO regarding CLIMATE CHANGE is to approve and promote the company's CLIMATE CHANGE Commitment. The chairman, as an external director, has the responsibilities of supervision and control. The CEO has the executive responsibilities for implementation of climate-related policies. These responsibilities lies on the Chairman and the CEO because REE has decided that climate change responsibilities must remain at the highest level of the company. There are two sub-sets of the Board with climate related responsibility:

- The **Sustainability Commission** is the sub-set of the Board who is responsible for CLIMATE CHANGE Policy (since it is responsible for the Sustainability Policy). This commission was created in 2018 as a result of the strategic nature of the Sustainability Commitment of REE Group, with the aim to generate a proactive attitude for the integration of sustainability into the decision-making process of the organisation.



- The **Audit Commission** is the sub-set of the Board who is responsible for the CLIMATE CHANGE risks assessment (because it is the commission responsible for risk assessment in REE).

- The executive climate-related tasks are delegated to the Sustainability Steering Committee, directly appointed by the Board. The Sustainability Steering committee monitors and guarantees the fulfilment of the CLIMATE CHANGE Strategy, Commitment and Action Plan, which includes the fulfilment of the targets and the management of climate-related risks and opportunities. This committee also participates in climate-related risks assessment. This Committee monthly reports to the Board (Sustainability Commission). Members of the Committee: Chief Sustainability Officer (Sustainability and External Relationships Corporate Director), Sustainability and Institutional Relationships Director, Human Resources Director, Procurement Director, Business Units Directors, Financial Director and Sustainability Manager. (The main units in the company are represented in this committee). The Chief Sustainability Officer (Sustainability & External Relationships Corporate Director), who reports to the Board Chair (president), leads the Sustainability Steering Committee. The Chief Sustainability Officer leads the necessary actions and best practices in order to implement the principles defined in the Climate Change Commitment. The CSO proposes the Climate Change Action Plan, which includes targets and actions to assess and manage climate change related risks and opportunities. The CSO is also involved in in climate change related risks assessment.

### 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 (do not include the names of individuals).

Who is entitled to benefit from these incentives? Chief Executive Officer (CEO)

#### **Types of incentives**

Monetary reward

#### Activity incentivized

Emissions reduction project

#### Comment

Since 2015, Environmental, Social and Governance (ESG) criteria has been applied by Red Eléctrica in the calculation of the variable remuneration of the CEO and members of the senior management team. As established in the remuneration report, which is publicly available, managerial targets determine the CEO's bonus. This can make up for 15% to 25% of their annual bonus and around 10% of their multiannual bonus.



Managerial targets always include some sustainability projects, in particular climaterelated and emission reduction projects.

-In 2018, managerial targets included the achievement of the objectives of the sustainability program. The main project regarding emission reduction was an R&D project: Alternatives to SF6 gas in high-voltage switchgear. In 2018, the achievement of the objectives of the sustainability program meant 4% of the total managerial targets.
- In 2019, an specific project regarding climate change has been defined as a managerial target. "Analysis and implementation of the Task Force for Climate-related Financial disclosure recommendations" that accounts for the 8% of the total managerial targets.

Besides, every year, 48% of the managerial targets is linked to projects for nondispatchable renewable energy integration.

#### Who is entitled to benefit from these incentives?

Corporate executive team

#### Types of incentives

Monetary reward

#### Activity incentivized

Emissions reduction project

#### Comment

Since 2015, Environmental, Social and Governance (ESG) criteria has been applied by Red Eléctrica in the calculation of the variable remuneration of the CEO and members of the senior management team. The fulfilment of annual targets determine the bonus for directors (and also unit managers). Specific projects regarding climate change are always included as targets.

- For 2018, the following projects were chosen: (a) Project "REE Forest", for emissions offsetting. (b) Definition of Scope 1 emission reduction target according to SBTi, (c) Reduction of energy consumption in buildings: implementation of energy efficiency measures equivalent to a theoretical saving of 60,000 kWh per year (d) Definition and monitoring of electricity consumption reduction targets by workcenter (e) Update of the identification and assessment of the risks related to climate change (taking TCFD into account). -For 2019: (a) Reduction of SF6 leakages: reparation works in 4 substations (b) "REE forest" for emissions offsetting; (c) Improvement of carbon footprint calculation methodology for the lifecycle of assets.

#### Who is entitled to benefit from these incentives?

All employees

Types of incentives Monetary reward



#### Activity incentivized

Emissions reduction project

#### Comment

Managerial targets are also taken into account when calculating the annual salary revision for all employees covered by collective agreement. Incentive indicator: % of achievement of the managerial targets. Managerial targets always include some sustainability projects, in particular climate-related and emission reduction projects. -In 2018, managerial targets included the achievement of the objectives of the sustainability program. The main project regarding emission reduction was an R&D project: Alternatives to SF6 gas in high-voltage switchgear. In 2018, the achievement of the objectives of the sustainability program meant 4% of the total managerial targets. - In 2019, an specific project regarding climate change has been defined as a managerial target. "Analysis and implementation of the Task Force for Climate-related Financial disclosure recommendations" that accounts for the 8% of the total managerial targets.

Besides, every year, 48% of the managerial targets is linked to projects for nondispatchable renewable energy integration.

#### Who is entitled to benefit from these incentives?

All employees

#### **Types of incentives**

Recognition (non-monetary)

#### Activity incentivized

Efficiency project

#### Comment

Recognition (non-monetary): REE established in 2012 "Red Eléctrica eficiente", a seal of recognition awarded to efficiency projects (promoting the efficient use of energy and resources) developed by REE. The awards are for the responsible/main participants of the project. 3 of the most outstanding projects of the 5th edition of Red Electrica Eficiente 2018 were:

1) Geothermal energy: HVAC systems with geothermal energy in the buildings of Tres Cantos and San Sebastián de los Reyes. Both projects have been successful and represent significant savings in electricity consumption.

2) Selling off of power machines: commitment to the circular economy looking for alternative solutions for equipment and material that has reached the end of its useful life.

3) Smart Grids Flash App: mobile application developed to spread the content of the Smart Grid Flash newsletter via mobile phones. This bulletin aims to keep the staff of Red Eléctrica informed about the future of the energy transition and about the changing role of the Company and its backing for this ongoing trend.



# **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	1	2	This range has been chosen in order to be aligned with the interim short-term targets to 2020.
Medium- term	2	5	This range has been chosen in order to be aligned with the strategic plan of the company (it is defined for 5 years).
Long-term	5	50	This range has been chosen in order to be aligned with our Science Based Targets.

### 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	Six-monthly or more frequently	>6 years	As a result of risks assessment, relevant risks are included in the risks' map of the company. Relevant risks are monitored and reported to the Board of directors.

## C2.2b

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

Company level:

REE's Comprehensive Risk Management Policy (CRMP) establishes principles and guidelines to ensure the systematic identification and assessment of material risks that may affect the company's objectives and activities, applying uniform criteria. The organisational structure for this process is as follows:



- The BoD, via the audit committee: approve the comprehensive risk management policy of the group, approve the criteria of the acceptable risk level, and periodically monitor the efficiency of the CRMP.

- The advisory committee (chairman's office): monitor the relevant risks map and ensure the adequate control and monitoring of risk management and mitigation action plans

- The identification and assessment of climate change risks is developed by the internal Audit and Risk Control Management area (Risk Management and Compliance Department), who works with the different Business Units.

The Risk Management System of REE establishes a methodology for determining the level of risk. (There are some difference between the criteria to assess short/medium term risks and long term risks). The level of a risk is established by combining two variables:

the probability of occurrence (for long term risks this is based on scenario analysis)
the impact that risk would have on the Company: this impact is analysed from both a financial perspective and from a strategic perspective (impacts on electricity supply - operational, company strategy and reputation). This means that financial impact is not the only driver to consider a risk as relevant. However, REE defines a minimum financial impact (100.000 Euros) in order to consider a risk as relevant.

The risks assessed as relevant are reported to the Board of Directors. The risk assessment is reviewed twice a year. In 2018, the Company carried out a review of the risk classification, in order to facilitate a more complete identification of relevant risks and allow a more detailed analysis. This new structure allows the risks identified to be classified individually into three categories: high-level risks, medium-level risks and low-level risks. Depending on the probability of occurrence and the level of impact of each risk, it is plot into the probability / impact matrix (risk map), which automatically determines the level of risk.

Short/medium- and long-term relevant risks related to climate change include:

- Risks associated to regulation and legislation

- Risks for the electric operation

- Physical risks to assets.

Asset level:

The organisational units responsible for processes or projects are in charge of:

- Identifying and reporting to the Internal Audit and Risk Control Management Area on the appearance of new relevant risks, or relevant changes in risks already identified, that may have an impact on the activities, processes and projects managed.

- Assessing relevant risks with the support of the Internal Audit and Risk Control Management Area and manage such risks

- Manage the activities, processes and projects in accordance with the acceptable risk level established. Design and execute, when appropriate, action plans to take the risks to the corresponding acceptable level, maintaining them at said level. Carry out said management in accordance with principles and guidelines established in the CRMP.

For instance, risks associated with changes in the physical parameters of climate change (e.g. physical risks to assets) are considered as long-term risks to our assets. Within the framework of the commitment to climate change and action plan, (where the commitment to work in adaptation projects is formalized), REE performs additional works, like our recent analysis on "Climate risks for electrical infrastructures".



## 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	REE, as Transmission and electricity system Operator in Spain, is a regulated company. For this reason, regulation is very important for the company and is always considered when identifying risks and opportunities, as it can have a direct impact on REE's business. For instance, the current European Policy framework for climate and energy has been deeply reviewed by REE in order to identify possible risks or opportunities, such as potential investment in new facilities. This risk has been classified according to its probability of occurrence and its financial impact and has been regularly assessed. Current regulation is also taken into account in REE's compliance policy framework. REE has established different procedures to identify and assure legal compliance and works to identify current legislation that could involve non-compliance risks (which leads to fines etc.).
Emerging regulation	Relevant, always included	Emerging and possible future regulation is taken into account in climate-related risks assessment and opportunities identification. One relevant example is the Concern about F-gases is increasing and, therefore, regulation initiatives. Changes in SF6 regulation could affect the company. The main changes that could affect REE are the following: - Taxes on the gas bought or installed, taxes on the emissions: if taxes increase, operational costs increase - Fines in case of accident: also increase costs - New requirements regarding equipment (switchgears): can affect operational costs but also investments (new facilities will be more expensive) - New requirements regarding management or reporting: increase costs and human resources needs. This risk is integrated into the company's risk map and regularly assessed in line with the probability of it occurring and the potential impact it would have, not only financially but also from a strategic and operational point of view. In 2018, this risk was determined a Medium-level risk, in line with our risk categorisation.
Technology	Relevant, always included	At REE we take into account the risks associated with the technological improvements or innovations that support the transition to a lower-carbon. As an example of that, there is a risk that the use of fluorinated gases, including SF6, may become increasingly stringent, potentially requiring that SF6 is no longer used and therefore some alternatives are needed in order to be able to safely operate. This is included as a risk in our CRMP and regularly



		assessed and monitored. As a result, REE is participating in innovation projects aimed at finding alternatives to SF6 gas. During 2017 and 2018, significant progress was made in the study of alternatives to SF6 in GIS switchgear. Lastly, two 66 kV gas insulated switchgear units using alternative gases were purchased; said units will be installed as mobile switchgear units in the Canary Islands. The development of this project has been considered a priority for the Company in 2018 (managerial objective). During 2019, in addition to continuing to develop this project, work will begin on the study of alternatives to SF6 in AIS switchgear. It is worth to mention that the company is working to implement TCFD recommendations and is reviewing some criteria and some new risks/opportunities regarding technology may be included in the next risk assessment revision.
Legal	Relevant, always included	Legal requirements are considered in the same way as regulation. Emerging and possible legal requirements are taken into account in climate-related risks assessment, being classified according to its probability vs impact and regularly monitored at company level. A particularly example, in regards to SF6. More stringent legal requirements regarding SF6 has been identified as a potential risk for REE and a priority issue. The company has, therefore, taken different courses of action aimed at better gas control and leakage reduction. Additionally, Red Eléctrica continues working in collaboration with the public administration and other entities in the search for solutions aimed at controlling and reducing these emissions within the framework of the "Voluntary Agreement signed in May 2015 between the Ministry of Agriculture, Food and Environment, the manufacturers and suppliers of electrical equipment that use SF6, the electricity transmission and distribution companies and the waste managers of this gas and the equipment that contains it, for a comprehensive management of the use of SF6 in the electricity industry that is more respectful to the environment.
Market	Not relevant, explanation provided	As REE is a regulated company (revenues are fixed by law and many activities of the company are ruled by mandatory procedures), it is not affected by factors such as market changes or consumers attitude in the same way as non-regulated companies. For this reason, market risk have been considered as not relevant. Nevertheless, the company is working to implement TCFD recommendations and is reviewing this criteria.
Reputation	Relevant, always included	As a listed company, a loss of reputation could have a detrimental impact to our business, affecting our share price and leading to a loss of influence amongst our stakeholders. Failing to meet our public climate commitments or not being perceived as a key player in the Spanish low carbon transition could impact negatively our business REE does not include reputational risks as specific risks for the



		company because reputation is included in the risks assessment process as a criteria to define the impact of the risks. Most of the risk can have an impact on company's reputation and this must be considered when defining a risk as relevant. Nevertheless, the company is working to implement TCFD recommendations and is reviewing this criteria. Regarding opps, REE has identified an specific one related to reputation: Opp3.
Acute physical	Relevant, always included	Acute physical risks are always taken into account in the risk assessment process, both in the short and in the long-term evaluation. For example, increased severity of the extreme weather events and its impact both on our assets and on our ability to secure electricity supply have been included in REE's risk assessment process. E.g. Risk 2: Acute phenomena (such as wind or floods) that affect lines or substations. This risk have been classified as a medium-high level risk and some mitigation measures have been put in place such as improving vulnerable existing lines or establishing an emergency plan to face emergency situations.
Chronic physical	Relevant, always included	Chronic physical risks are always taken into account in the risk assessment process, in the short but mainly in the long-term evaluation. E.g., phenomena such as an increase of extreme and medium temperatures can increase the fire risk associated with power lines. This risk is included in the risk map of the company Risk 3, classified as high level risk, and hence some actions put in place to mitigate it such as forest management procedures or establishing emergency plans.
Upstream	Not relevant, explanation provided	Although our supply chain is exposed to climate change vulnerability, REE has not identified this as a relevant issue. REE has a vast network of contractors and suppliers, hence reducing its dependency on key suppliers. Moreover, we don't depend particularly on any key raw material and therefore this is not a concern for the Company. However, we monitor this on an annual basis to ensure it remains updated and we will review this criteria more in-depth as part of our work to implement the TCFD recommendations.
Downstream	Relevant, always included	Red Eléctrica, in its role as sole transmission agent and operator of the Spanish electricity system, will promote the energy transition. Therefore, the Company's main strategy is based on, amongst other pillars, the maximum integration of renewable energy guaranteeing the security and quality of the electricity supply, with the aim of contributing to the provision of a safe, efficient and sustainable electricity supply to citizens. For this reason, the impact on the energy supply is one of the criteria to asses all the company risks. Indeed, most of the risks included in the risk map could have a very



	high impact on the supply (e.g. Risk 2- Extreme events; risk 3-fire
	risks and 4- changes that can affect the operation of the grid).

### C2.2d

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

REE has a CRMP in place to facilitate fulfilment of the Group's strategy & objectives, ensuring that risks are identified, assessed & managed systematically, with uniform criteria & within the level of acceptance approved by the BoD. The management system conforms to the ISO31000 standard on the guidelines in risk management & is ongoing & comprehensive in nature, consolidating said management per business unit, subsidiary & support areas at corporate level. Our CRMP is based on the Framework COSOII. It includes the following phases once the risks are assessed:

- Action Plans that mitigate the risk to maintain them at the acceptable level

- Monitoring & control: incorporate information on relevant risks and inform the governing bodies .

The comprehensive nature risk management system ensures the involvement of all REE units so that the different governing bodies responsible for risk control are kept fully informed. The CRMP defines the different responsibilities of the governing bodies & the organisational units, as well as establishing the flow of information within the company & the activities to be undertaken by each of them. Relevant risks are monitored & reported to the BoD at least twice a year.

Relevant risks regarding CC are classified in 3 types:

-Legislation risks - transitional risks- (assessed at company level): an example of these is the risk due to changes in SF6 legislation. The most important actions to manage this risk are :(a) alliances with stakeholders to identify & prepare for future requirements. The main one is the SF6 Voluntary Agreement 2015-2020 signed by all actors involved in its management: REE, Ministry, SF6 & equipment manufacturers, electricity & waste management companies. This is the main tool to manage possible changes in national regulation. The work of the group in charge of the agreement are monitored twice a year. (b) Achieving emissions reductions to prepare for any tax on SF6 emissions. Reduction targets & improvement actions are included in the CC Action Plan. KPIs have been defined & are reported regularly to the Sustainability Commission, & twice a year to Audit Commission (sub-sets of the board).

-Physical Risks for the operation of the electricity system (assessed at company level): changes in physical climatic variables affect to electricity generation and demand that involve some risks & opps for the operation of the electricity system. Although these risks do not involve a strong financial impact, they affect other aspects such as energy supply. Some measures considered to manage these risks are: improvement of generation forecasting methods, proposal & development of new infrastructures to strength the grid, etc. These risks are considered as long-term risks. Some KPIs have been defined to monitor these risks & are revised at least twice a year by the Audit Commission.

- Physical Risks to assets (assessed at company & assets level, based on their location in the different areas in Spain): some measures considered to manage these risks are: assets adaptation works, emergency plans, maintenance works, development of the transmission grid to increase reliance & insurance policies. Some KPIs have been defined to monitor them & are revised at least twice a year by the Audit Commission. Physical risks are



considered as short/medium and long-term risks. Within the framework of the commitment to CC & action plan, REE performs additional works. Measures will be as well defined both at company & asset-level. All work related to adaptation projects is being developed by a specific multidisciplinary working group.

### 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

Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

#### **Company- specific description**

Changes in SF6 regulation: SF6 fugitive emissions are the main source of GHG emissions in the company (462.12 t of SF6 installed). SF6 GWP is very high: 22800. Concern about F-gases is increasing and, therefore, regulation initiatives. Changes in SF6 regulation could affect the company. The main changes that could affect REE are the following: - Taxes on the gas bought or installed, taxes on the emissions: if taxes increase, operational costs increase - Fines in case of accident: also increase costs - New requirements regarding equipment (switchgears): can affect operational costs but also investments (new facilities will be more expensive) - New requirements regarding management or reporting: increase costs and human resources needs.

#### **Time horizon**

Medium-term

#### Likelihood

More likely than not



#### Magnitude of impact

Medium

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

#### Potential financial impact figure (currency)

#### Potential financial impact figure - minimum (currency)

1,500,000

Potential financial impact figure – maximum (currency) 5,000,000

#### Explanation of financial impact figure

Financial impacts are difficult to estimate due to the wide range of changes in regulation that could arise. For instance, taxes on new equipment could involve a bigger impact than taxes on emissions, accidents or changes in management procedures. The minimum value has been calculated taken into account an increase on SF6 taxes and progressive change of the equipment (without strong obligations to change old equipment or change technology) is 1,500,000 Euros. This is the financial impact that corresponds to the most probable scenario and it is the one that have been considered to assess the medium- term risk.

The maximum value has been calculated considering a stronger change in regulation, with bigger taxes on new equipment installed and even progressive prohibition of F-gases use (involving a progressive change in SF6 equipment): 5,000,000 Euros. This financial impact would correspond to a less probable scenario.

#### **Management method**

-Establishing alliances with stakeholders (government, peers & suppliers) to identify R&O and be prepared for future requirements. E.g, in 2015 a "SF6 Voluntary Agreement 2015-2020" was signed by all actors involved in SF6 management (national level): REE, Ministry, manufacturers, electricity distribution & waste management companies. This is the main tool to discuss &manage possible changes in national regulation.

-Participating in new regulation development (national&European), discussing and amending aspects that could have impacts on our business.

-Working to reduce emissions. Achieving better performance to face any SF6-related tax. Reduction targets & improvement actions are included in CC Action Plan, which was updated in 2018 to introduce more ambitious emission reduction targets consistent with our global 2030 SBT (e.g. SF6: 20 % in 2020 and 25 % in 2030 compared to 2015). Case study: replacement plan for old SF6 equipment by lower leakage rate equipment. Renovations in 2017-18 will manage to avoid 1,447 tCO2e.

-R&D: working with international associations (EPRI) and suppliers to improve management procedures and support any new technology.

The main costs of management are approximately 4.5 million Euros. These are associated with:

-Equipment renewal, estimated in 3 million Euros /year.

-Training: 550,000 Euros



#### -R&D: 1,831,085 Euros in 2016-18

-Human resources costs (management, relationship with regulators etc.): Could be estimated to be around 20,000 Euros

#### Cost of management

4,500,000

#### Comment

This risk is consider a relevant risk for REE

#### Identifier

Risk 2

#### 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

Increased capital costs (e.g., damage to facilities)

#### **Company- specific description**

The wind is the main factor that can affect the pylons of REE's transmission lines, since strong wind can knock down the pylons and consequently affect grid availability (even put the line out of operation). Additionally, extreme rains can cause floods in substations and/or damages in pylon foundations due to the erosion caused by strong flows. This risk (short and medium term) had been identified and included in the company's risks map of the company. This was classified as a low-level risk. As a consequence of climate change, we expect that in the long term, the probability of these phenomena and their impact will increase so the risk probability and effects can increase as a consequence of climate change.

#### Time horizon

Long-term

#### Likelihood

About as likely as not

#### Magnitude of impact

Medium-high

#### Are you able to provide a potential financial impact figure?

Yes, an estimated range



#### Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency) 460,000

#### Potential financial impact figure - maximum (currency)

9,000,000

#### Explanation of financial impact figure

According to REE risks management procedures, impacts on financial statements for risks are estimated after taking the preventive measures/action plans (not before). The value expressed in the response is the estimated value of residual risk. It ranges between 460,000 Euros and 9,000,000 Euros and takes into account:

- Damages to facilities and fines from the local administration resulting from events such as blackouts. Inherent risks would be higher than 100 million Euros, but thanks to the insurance policies, the financial implications are reduced to a maximum of 460,000 Euros

- Application of preventive and corrective measures: studies, monitoring and adaptation works, possible increase in the insurance policies, increase of maintenance or emergency works. (All together could amount 9,000,000 Euros)

#### **Management method**

REE manages this risk through:

- Design of the power lines taking into account these risks (design over legal requirements)

- Improvement of vulnerable existing lines. Some examples: (a) Improvement works of vulnerable facilities in 2014: 2.3 million Euros. (b) Improvement plan on Canary islands facilities (2011 to 2018) 150 million Euros.

- Maintenance plan: 25 million Euros

- Emergency plan to be able to respond adequately to a disaster, crisis or emergency situation. In this way, its impact on the business is reduced to a minimum & decision-making in crisis situations is streamlined & automated

- Emergency pylons to face critical situations.

- Insurance policies for damages in REE's facilities & damages to third parties.

- Besides, REE considers that it is necessary to work in the identification of new measures that could be needed to adapt assets. For that reason, REE has started to work in CC adaptation. Adaptation is one of the principles in the CC Strategy & one of the 4 lines of work included in the new CC Action Plan. An analysis on "Climate risks for electrical infrastructures was completed in 2015 & is being reviewed in the context of the works that the company is developing to adopt TCFD recommendations.

- Other projects: Development of wind maps & identification of grid reinforcement needs; review of the design parameters with new wind hypothesis. (Approx. 300.000 Euros). Overall, the cost of management amounts to approximately 180 million Euros.

#### **Cost of management**



#### 180,000,000

#### Comment

This risk is consider a relevant risk for REE

#### Identifier

Risk 3

#### 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

Other, please specify capital, operational and insurance costs

#### **Company- specific description**

Climate change can increase the frequency and intensity of fires, affecting our power lines. This risk has already been identified as short/medium term. However, this will be intensified in the long term due to climate change. Change in weather conditions are expected to increase desertification in Spain leading to an increase in the probability of fires and in their impacts. On the other hand, it is also worth mentioning that a high increase in temperatures involves changes in the properties of the conductors and, therefore, can increase the sag (the different in level between points of supports and the lowest point on the conductor), affecting security distance between conductor and vegetation and, consequently, an increase in fire risk. This can be avoided by improving our work in vegetation management, which would in turn increase operational costs.

#### **Time horizon**

Long-term

#### Likelihood

More likely than not

#### Magnitude of impact

Medium-high

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

#### Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)



#### 100,000

#### Potential financial impact figure – maximum (currency)

9,000,000

#### Explanation of financial impact figure

According to REE risks management procedures, impacts on financial statements for risks are estimated after taking the preventive measures/action plans (not before). The value expressed in the response is the estimated value of residual risk. It ranges between 100,000 Euros and 9,000,000 Euros and takes into account:

- Damages to the environment: Inherent risk could be higher than 50 million Euros (value based on the value of current insurance policies for damage to environment), but, thanks to insurance policies the financial implications are reduced to a maximum of 100.000 Euros (we consider this value as the minimum potential impact)

- Application of preventive and corrective measures: studies, monitoring and adaptation works, possible increase in the insurance policies. & possible fines in case that the fire is caused by REE activities (All together could amount 9,000,000 Euros)

#### Management method

- Forest management procedure (for fire prevention)

- Cutting & pruning program (to maintain safety corridors of electricity lines)

- Signing cooperation agreements with public administrations responsible for forestry management (13 agreements in force)

- R & D projects. e.g. VEGETA project: the objective has been the definition of an algorithm, that based on the analysis of different variables of the vegetation, allows felling works to be more efficient. The project includes making detail inventories of vegetation in the safety corridors and identifying precisely compatible and non-compatible species. PRODINT Project: Development of fire detection devises, that can be installed in the lines based in "internet of the things "concept.

- Emergency plan. -Insurance policies for damages to environment The main costs are:

- Cutting & pruning program: 10-17 million Euros(every year)
- Cooperation agreements: 1,040,000 Euros (every four years)
- VEGETA project (2016-2018): 600,000 Euros

Taking the most conservative scenario, this amounts to approx. 20 million Euros

#### Cost of management

20,000,000

#### Comment

This risk is consider a relevant risk for REE

Identifier

Risk 4



#### 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

Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

#### **Company- specific description**

Please note that for REE "Production capacity "should be replaced by "transmission capacity". For REE, reduced revenue would be linked to a decrease in the quality of the service (impact on energy supply). It is also important to mention that financial driver is not the most important driver to consider this risk as relevant. According to REE's assessment methodology, there are other criteria, such as security of supply or reputation that are very relevant). Changes in weather patterns (including temperatures -average and extreme-, precipitation and other parameters such as wind flows and solar radiation) can lead changes in electricity generation and demand patterns and also in the efficiency of the transmission grid. These changes can affect operation of the electricity system: - Increase of temperature (average and extreme) will have different effects: changes in demand patterns, mainly variations in peak and valley demand values; decrease of efficiency in thermal and photovoltaic power generation facilities; and changes in conductors properties affecting transmission capacity and efficiency of the transmission grid. - Decrease of precipitations will lead to less regulation capacity based in hydro generation. Without enough hydro capacity is much more difficult to operate the system. - Changes in wind circulation patterns and periods of sunshine involves changes in renewable generation patterns and make more difficult to predict this generation.

#### **Time horizon**

Long-term

#### Likelihood

More likely than not

#### Magnitude of impact

Low

## Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

#### Potential financial impact figure (currency)

0

#### Potential financial impact figure - minimum (currency)



#### Potential financial impact figure - maximum (currency)

#### Explanation of financial impact figure

Changes in operation of the electricity system don't necessary have financial implications. If REE were not able to manage these changes, revenues could be slightly affected. REE is a regulated activity and therefore, revenues are settled according to investments, operation & management costs and availably of the transmission grid. REE is working to be prepared to manage these changes without affecting availability of the transmission grid. For that reason, the company does not consider this risk to imply any financial impact.

#### **Management method**

-Improvement of the transmission system: construction of new facilities to increase transmission capacity, improve grid meshing & interconnect electricity systems.

- Strengthening of international connections e.g. Spain-France & new interconnections planned beyond 2020 (Bay of Biscay, Navarra & Aragón)

- Optimization of the operation of the Control Centre of Renewable Energies: development of apps for real time analyses of the maximum renewable generation in the system (GEMAS+ Project 2017-2030).

- Improvement of forecasting tools for non-manageable renewable energy production to reduce the impact of its variability.

 Demand management initiatives: electric vehicle integration, active demand management in domestic use, large industry demand interruption actions etc. e.g.
 PRICE project: through the deployment of demand-side management measures in 1000 households.

- R&D projects: energy storage ALMACENA, installation&operation of a lithium-ion prismatic battery; ALISIOS, energy storage for the Integration of Renewables and Safe Operation of Isolated Electricity Systems in Tenerife.

The total cost of management has been estimated to be around 5 million Euros, including:

- PRICE Project: 717,009 Euros; ALMACENA: 3.6 million Euros; ALISIOS 109,495 Euros; NOWCASTING: 124,960 Euros.

Please note that investment to build infrastructures is not accounted as a management cost, (according to the regulation, REE recovers all the investments in infrastructures)

#### Cost of management

5,000,000

#### Comment

This risk is consider a relevant risk for REE

## **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



## **C2.4**a

(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**

Products and services

#### Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

#### Type of financial impact

Increased revenue through demand for lower emissions products and services

#### **Company-specific description**

Investment in new facilities (Short-Medium term and long term): Transmission grid development (increase of investments). REE is a regulated company, whose remuneration is set in accordance with its regulated asset base. This remuneration is directly and mainly related to the investment in infrastructures development. For this reason, this is clearly the most important opportunity for REE. Within the framework of 2020 and 2030 European targets (including 15% international interconnections), a lot of work is being developed in order to reinforce European grids and interconnections between the different countries. In Spain, the main climate-related investment of portunities are linked to: integration of renewable energy generation, development of high-speed train, storage (e.g. pumping facilities) and interconnections (international and submarine cables to connect different islands in the isolated systems).

#### **Time horizon**

Medium-term

#### Likelihood

Virtually certain

#### Magnitude of impact

High

#### Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

# Potential financial impact figure (currency) 3,000,000,000

#### Potential financial impact figure - minimum (currency)



#### Potential financial impact figure – maximum (currency)

#### **Explanation of financial impact figure**

REE has identified investment opportunities in the short-medium & long term. The financial figure included refers to medium term & correspond to the investment forecast in the Strategic plan 2018-2022. Some of the investments are already reflected in the Energy planning (2015-2020) but not all, there are investments that still have to be formalised. At the moment a new Energy planning (2021-2026) is being developed (the legal procedure has already started).

The potential financial impact included above refers to revenues resulting from the whole investment proposed in the Strategic Plan aimed to energy transition in Spain (53% of total investment of the company). In addition to the recovering of the investment, REE obtains benefits from infrastructures during the first 40 years since they are put into service. The revenues obtained from the investment are regulated. Total estimated revenues due to these investments: 75 million Euros per year (3,000 million Euros over the lifespan).

#### Strategy to realize opportunity

REE works with National, European and international bodies (authorities and other stakeholders) to understand and identify drivers (i.e. future requirements, energy scenarios) to draft the future infrastructure planning. Then the planning department works to define the different infrastructures (mainly lines and substations) that could solve each of the current or future requirements. REE makes a proposal to the Spanish Ministry of Energy (Electricity transmission is a regulated activity in Spain. This means that energy planning is defined by the Spanish government. REE has the mandate for drafting the proposal) & also works and negotiates with regional and national authorities with the aim to develop the best planning to fulfil all the requirements. Once the Ministry approves the Energy planning, the development of the infrastructures included in it is mandatory for REE. After 4 years of work, the electricity planning for 2015-2020 was finally approved in October 2015. At the moment the definition of a new Energy Planning (2021-2026) is taking place.

All the works related to the definition of the infrastructure planning are part of the regulated activities of REE as Spanish TSO. There is a specific unit for managing these issues. Estimated costs added up to 1.3 million Euros/year human resources costs.

#### Cost to realize opportunity

1,300,000

Comment

Identifier



#### Opp2

#### Where in the value chain does the opportunity occur?

**Direct operations** 

#### **Opportunity type**

Resource efficiency

#### Primary climate-related opportunity driver

Other

#### Type of financial impact

Reduced operating costs (e.g., through efficiency gains and cost reductions)

#### **Company-specific description**

Changes in environmental regulation, increase of reporting regulations, increase of stakeholders' requirements regarding climate change can lead to a more efficient use of resources: more efficient transport, buildings and substations; recycling, more efficient use of water etc. This efficiency can involve operational costs reduction. These changes can also boost the need to renew buildings and assets to adapt them to the new requirements. Renovation of the assets may involve many advantages. E.g. health, safety and satisfaction of employees.

#### **Time horizon**

Medium-term

#### Likelihood

Likely

#### Magnitude of impact

Low

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

#### Potential financial impact figure (currency)

1,000,000

#### Potential financial impact figure – minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact figure**

The estimated financial opportunities are less than 1,000,000 Euros. This includes investments in measures to achieve an increase in efficiency or fulfil other requirements (including renovation of the assets).

#### Strategy to realize opportunity

REE works in different ways:

- REE is up to date regarding energy efficiency legislation, including texts in



development.

- REE works with other organizations, sharing knowledge and good practices regarding new regulation about energy efficiency. e.g. REE has worked with CES (Club de Excelencia de Sostenibilidad) in the publication of an Energy Efficiency Guide about the adaptation of the Spanish companies to the new Energy Efficiency regulation, based on the Energy efficiency Directive 2012/27/EU. REE works to identify possible measures to improve energy efficiency, mainly in buildings and equipment: installation of energy management equipment in working centres and energy audits have been done in working centres.

- REE applies energy efficiency and water management measures in buildings e.g. Refurbishment of old offices (REE has a special budget for this kind of measures).; the offices of the Northwest Regional Office have been moved to a new building where savings in electricity consumption are estimated at 80%. The move took place in the final quarter of the year.

- REE has in force a sustainable mobility plan

Cost of management adds up to 1.2 million Euros and includes energy management equipment and energy audits 300,000 Euros, and energy efficiency measures in buildings (2015-2018): 880,000 Euros

#### Cost to realize opportunity

1,200,000

#### Comment

#### Identifier

Opp3

#### Where in the value chain does the opportunity occur?

Direct operations

#### **Opportunity type**

Markets

#### Primary climate-related opportunity driver

Other

#### Type of financial impact

Other, please specify Reputation/shares/finacing

#### **Company-specific description**

Reputation is important for the company.

"Decarbonisation of the economy" is a priority for the company, as mention in its Sustainability Commitment and included in the Strategic Plan (2018-2023). Being recognised as a crucial agent for energy transmission in Spain and reaching leadership regarding climate change is an opp to improve the reputation of the company. Better



reputation can involve opportunities:

- Increase the price of the shares or improvement of funding opportunities - Improve of authorization processes for new infrastructures (better perception of the company activities by stakeholders: society and government)

#### **Time horizon**

Medium-term

#### Likelihood

Likely

#### Magnitude of impact

Medium-low

#### Are you able to provide a potential financial impact figure?

Yes, an estimated range

#### Potential financial impact figure (currency)

#### Potential financial impact figure - minimum (currency)

1,000,000

#### Potential financial impact figure – maximum (currency) 88.000.000

#### **Explanation of financial impact figure**

The estimation of financial impact figure only takes into account the impact in the price of the share (as the other positive impacts are quite difficult to quantify in this moment). According to a study by Deloitte – "Finding the value in ESG performance", there are signs that if investors respond to positive environmental news, there is a 0.84% increase in stock returns. If REE continues to demonstrate good practices and is able to maintain high standings in Sustainability Indexes and ESG rankings, a potential gain of market value can be faced.

The minimum impact has been estimated in 1 million Euros.

The maximum potential financial impact (88 million Euros) has been calculated considering an increase of 0.84% over REE's market capitalization at the end of 2018. (31.12.2018).

#### Strategy to realize opportunity

REE works to improve reputation:

- REE is continuously working with stakeholders to identify their requirements. e. g. REE develops an annual survey to stakeholders.

- REE evaluates Sustainability Indexes requirements and results from the evaluation processes in order to identify improvement opportunities. e. g. Benchmark works with other transmission companies and specific studies about the results obtained in DJSI - REE works to improve information to stakeholders, (better information and verified data): e.g. Verification of Sustainability report, verification of GHG inventory;



participation in seminars and conferences; traveling exhibition "A highway behind the wall socket"; organization of technical visits to CECRE (Renewable energy control center)

REE works to improve its performance. e. g. REE has developed a Climate Change Action Plan where targets and actions to achieve them have been established.
REE develops projects that improve relationship with stakeholders (e.g. REE Forest) Different management costs must be considered amounting to approx. 700,000 Euros (some examples included): Dedicated technical units 400,000 Euros /year - Costs related to reporting. (i.e. Verification of the GHG inventory: 25,000 Euros/year); Climate Change projects to improve relations with stakeholders and reputation e.g. REE Forest 200,000 Euros/year

#### Cost to realize opportunity

700,000

Comment

### C2.5

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

	Impact	Description
Products and services	Impacted	Investment is necessary to connect renewable generation, increase power for rail transport, improve grid efficiency and interconnect isolated systems (islands). As explained in Opp1 above, these needs are investment opportunities for REE in the short-medium-long term. Investment opportunities due to climate change issues have already affected REE business because the infrastructures needed have been already included in the Energy planning approved 2015-2020, and some of them have already been built. One of the most important impacts of the infrastructures that have been put into service have been the increase of the % of electric international interconnection, from 4.2% to 6.2 %. (The increase of interconnection rate is very important to integrate renewable energy into the electricity system). There have also been financial impacts: the annual revenues due to the infrastructures already built (mainly to achieve this increase in the interconnection capacity) have overcome the 5% of the annual revenues expected for 2018 (revenues from infrastructures start the year after they are put into service).
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	REE has identified two physical risk that can affect its operations. Risk 2: Damage to the infrastructures caused by extreme whether events and Risk 3: Fire risks in power lines. Both risk have already been materialized in several occasions and



		their effects have affected energy supply (customers), although it must be taken into account that not every fire or extreme climatic phenomena are always link to climate change). Eg. One of the most recent events have been the partial outage in the electricity supply occurred in the western part of the island of Menorca in October 2018. The incident was caused by a waterspout that hit the Menorca from north to south. The storm and heavy rains caused severe damage to the two high voltage lines in the island. The demand lost due to the outage amounted to 32 MW out of a total of 55 MW at the time of the incident occurred. The electricity supply was restored two days after.
Adaptation and mitigation activities	Impacted	Two different mitigation impacts could be considered: a) REE has developed or planned some measures to reduce or avoid some effects of climate change, the most important ones being those to reduce the physical risks that can affect the assets: e.g. Infrastructure improvement plans, emergency plans (emergency pylons). The cost of these measures is estimated between 5 and 10% of the total operational costs per year. It must be taken into account that, although the cost of these measures is high, there are other reasons that justify these activities (they are not only linked to adaptation to climate change), so the current impact (in terms of climate change risks) is considered as a low impact. b) Mitigation measures associated to reparation of assets that have been damaged by climatic phenomena, which has been estimated at 2% of total operational cost per year. This is considered as a low impact in terms of climate change risk. (In this case, it must be taken into account, that not all extreme current climatic phenomena are linked to climate change) In addition to working on mitigation actions, Red Eléctrica is aware of the need to continue working in the field of adaptation to climate change. On the one hand, the inevitable physical changes in climatic parameters must be faced, as explained in risks 2 and 3, and on the other hand, we must address the social, economic and regulatory changes associated with the fight against climate change, as explained in Risk 1. For this reason, the Company regularly identifies and assesses both risks and opportunities derived from climate change and has begun to put in place various measures arising from said analysis. In 2018, work began the implementation of the recommendations of the Task Force on Climate-related Financial Disclosures, which implies a thorough review of the assessment and the incorporation of the consideration of the risks and opportunities identified.



Investment in	Impacted	- As transmission system operator, REE has established many
R&D		procedures to manage possible changes that could affect the
		operation of the electric power system such as the chronic physical
		changes described in Risks 4, many of them are implemented after
		validation in R&D projects. The main ones are aimed to improve
		forecasting tools for non-manageable renewable energy
		production, to improve demand-management and to develop
		energy storage systems and other tools for maximizing the suitable
		management of RES. Some of the most relevant projects have
		been:
		- Installation of a flywheel in Lanzarote.
		- Installation of a large-scale energy storage battery (ALMACENA
		project).
		- Implementation of the PRICE project for the deployment of
		demand-side management measures.
		- Completion of the ESP-Líder project (re-directing of power flows)
		of the INNPACTO programme.
		- Development of European projects: BEST PATHS (integration of
		massive amounts of renewable energy) and MIGRATE
		(improvement of the behaviour of the electricity system with a high
		penetration of devices based on power electronics).
		- Consolidation of innovation alliances with Spanish universities
		and technology centres.
		- Launching of the Grid2030 Innovation Collaboration Programme
		to promote long-term research through the call for technological
		initiatives applied to the transmission grid that have a direct impact
		on the efficiency and sustainability of electricity systems.
		The company's investment effort in these projects have
		represented more than 10% of the total R & D budged in the last 4
		years (EUR 3 million over EUR 30 million).
Operations	Impacted	As explained in Opp1, the road to decarbonisation involves the
		electrification of the economy, a vector that will enable emissions to
		be reduced, more renewables to be integrated and energy
		efficiency to be improved. To achieve this, the transformation of the
		electricity sector towards a more dynamic and flexible model will be
		crucial, where the combination of non-manageable renewable
		energies, distributed generation and selfconsumption. Within this
		context, Red Eléctrica plays a leading role in the energy transition
		of Spain as transmission agent and operator of the electricity
		system. This has already impacted our operations, as investment is
		necessary to connect renewable generation, increase power for rail
		transport, improve grid efficiency and interconnect isolated systems
		(islands). One of the most important impacts of the infrastructures
		that have been put into service have been the increase of the % of
		electric international interconnection, from 4.2% to 6.2 %. There



	have also been financial impacts: the annual revenues due to the infrastructures already built (mainly to achieve this increase in the interconnection capacity) have overcome the 5% of the annual revenues expected for 2018 (revenues from infrastructures start the year after they are put into service).
Other, please specify	

## C2.6

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

	Relevance	Description
Revenues	Impacted	Investment opportunities due to climate change issues have already affected REE business because the infrastructures needed have been already included in the Energy planning approved 2015-2020, and some of them have already been built. In 2018 investment in new infrastructure to bolster the transmission grid totalled 378 million euros (e.g. Arinaga substation, El Poris substation, both in the Canary islands and both necessary to evacuate renewable generation) The annual revenues due to the infrastructures already built, have overcome the 5% of the annual revenues expected for 2018 (revenues from infrastructures start the year after they are put into service).
Operating costs	Impacted	Two different impacts on operating cost have been considered: a) REE has developed or planned some measures that reduce or avoid some effects of climate change: adaptation and mitigation measures. The most important ones are those to reduce the physical risks that can affect the assets: e.g., Infrastructure improvement plans, emergency plans (emergency pylons). The cost of these measures is estimated between 5 and 10% of the total operational costs per year. It must be taken into account that, although the cost of these measures is high, there are other reasons that justify these activities (they are not only linked to adaptation to climate change), so the current impact (in terms of climate change risks) is considered as a low impact. b) Mitigation measures: the total estimated cost associated to reparation of assets that have been damaged by climatic phenomena has been estimated at 2% of total operational cost per year. This is considered as a low impact in terms of climate change risk. (In this case, it must be taken into account, that not all extreme current climatic phenomena are linked to climate change)



Capital expenditures / capital allocation	Impacted	For 2015-2020 (structure planning period), investment is necessary to connect renewable generation, increase power for rail transport, improve grid efficiency and interconnect isolated systems (islands). The electricity planning for 2015-2020 was approved in October 2015 by the Spanish regulator and it is mandatory for REE. The investment to develop the new facilities included in the planning has been already allocated: EUR 3,000 million for the whole period (2015-2020) EUR 1,878 million over 3,000 million have been already commissioned
Acquisitions and divestments	Not impacted	REE has not had activity in regards to acquisition and divestment in the last years. Therefore, this aspect has not been impacted. In following periods, if there is activity in this regard climate change aspects will be taken into consideration in the decision-making process.
Access to capital	Impacted for some suppliers, facilities, or product lines	Financing is crucial for the company to make possible its investment plans. The conditions to access capital haven't changed in the last years. Nevertheless, it must be mentioned that some of the very important projects developed by REE for the transition to a decarbonized energy system have been partially granted by the European Union to facilitate the integration of renewable energy into the grid. (E.g. Interconnection between Spain and France). REE has also noticed the increase of interest from investors in climate change related-issues, therefore, it is expected an increase of the impact in the next 5 years. A number of key ESG investors with positions in REE and relevant financial institutions consider its operations with REE as "green loans". For instance, Red Eléctrica has been included in the Euronext Vigeo-Eiris sustainability indexes (Eurozone 120, Europe 120, World 120), having achieved the leadership position within its sector within the business behaviour and ethics criteria. Vigeo Eiris is one of the most reputable providers of socially responsible investment services and which stands out for advising investors on how to incorporate ESG factors into their financial decisions. Lastly, noteworthy is the fact that Red Eléctrica has maintained its presence in business ethics indexes; of note is its continued presence for 3 consecutive years in the Ethibel Sustainability Index (ESI)
Assets	Impacted	As explained in Risks 2&3, climatic phenomena can damage part of the electrical infrastructure. Taking into account the historical data about the frequency of the impacts due to climatic phenomena on the assets, we can still consider the impacts as very low because: the infrastructures have been repaired and put again into service. The total estimated costs



		for this work only represent 2% of total operational costs. Nevertheless, REE keeps on monitoring these events in other to improve information.
Liabilities	Not impacted	Risk and opportunities identified have not impacted on liabilities (and no future impact has been identified).
Other	Not impacted	No other risks and opportunities have impacted REE.

# **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) and ii) Business strategy is defined taking into account the internal and external context of the company, whereby economic, regulatory and policy factors are considered. Due to the nature of the company, energy and climate change policies are the main drivers defining our business strategy. In particular, the European policy framework for climate and energy, which aims to make the EU's economy and energy system more competitive, secure and sustainable has been the main reference for the definition of the last business plans (2014-2019 &2018-2022). This is best exemplified by the way the infrastructures required to integrate the % of RE required by the EU have been included in REE's investment planning. As such, changes in EU renewable integration goals affect REE s planning. The strategy has also been influenced by stakeholder's demand of a higher commitment with climate change: REE developed and promoted its Climate Change Commitment and Climate Change Action Plan 2015-2020-2030,



which includes the reduction of GHG emissions as one of its cornerstones in the shape of an SBT validated by the SBTi in 2018 (Scope 1 and 2 emissions reduction of 40% per MWh transported by 2030 compared to 2015). Collecting and reporting information to influence the strategy is a Strategic planning director's responsibility. The final strategy is approved by the Board iii) The most important business decisions regarding climate change have been made: a. Influenced by European climate change and energy policy: • Development of the transmission grid to integrate renewable energy, • development of interconnections to facilitate renewable integration and to increase energy efficiency, • support renewable energy integration (mainly through the CECRE) • development of storage facilities/devices to help renewable integration and increase energy efficiency (e.g. Almacena Project) b. Influenced by stakeholders demands and Paris Agreement: revision of Climate Change Strategy (Commitment) and Climate Change Action Plan (includes targets regarding TSO activities, GHG emissions reduction and communication strategies). One of the main decisions made during the reported period, in addition to the establishment of the SBT, was the start of the implementation of the TCFD recommendations, which implies a thorough review of the assessment and the incorporation of the consideration of different scenarios, as well as the intensification of financial quantification of the Risks&Opps identified iv) As explained above, due to the characteristics of the company, the main aspects that influence REE's strategy are regulatory changes and climate policies, including the need to work in the adaptation to climate change (adaptation is one of the principles of REE's Climate Change Commitment). v and vi) The main components of the strategy that have been influenced by Climate change are as follows (most of them are components of the short and also for the long-term strategy) • Investment in the development of the transmission grid: The infrastructures planned are necessary to evacuate renewable energy as well as to improve energy efficiency of the system (new evacuation lines and mainly electricity interconnections that make possible a bigger integration of renewable energy) • Integration of renewable energy into the electrical system: REE started up the Control Centre of Renewable Energies (CECRE) in 2006, a pioneering centre, of world reference, in order to monitor and control renewable energies, to integrate the maximum amount of generation from renewable energy sources into the electricity system under secure conditions. Supporting renewable energy is one of the main business decisions that the company has made. REE aims to maintain leadership in this area. • Development of new infrastructures/devices: Energy storage in order to achieve better renewable integration (e.g. Chira-Soria Project) • Other activities linked to increased efficiency of the electric system: boosting of demand management strategies, development of electric vehicle, smart grids, super grids, energy storage and etc. In addition to these aspects there are others that must be mentioned: • CC Strategy and CC Action Plan: REE defined in 2011 a special Strategy for CC (which was reviewed in 2017 - Climate Change Commitment). The strategy refers to all the aspects regarding REE activities as a TSO but also includes the aspects regarding the company Carbon Footprint and the commitment to reduce it. The CC Action Plan includes targets for 2015-2020-2030 period and actions to achieve them. - The Commitment is part of a long-term strategy. The Action Plan is for the short and long term (2015-2020-2030). Main objectives of Climate Change Action Plan are based on the following cornerstones: Integration of RE, backing for energy efficiency at all levels, protection of wooded areas, reduction of GHG emissions, definition and implementation of projects to adapt to CC, and extending this commitment to stakeholders. The Plan was updated in 2018, with the purpose of introducing more ambitious targets in terms of emission reduction, consistent with the global emissions reduction target for 2030 approved by the SBTi. The objectives are as follows: • to exceed



6,000,000 tons of equivalent CO2 avoided each year thanks to the construction of new facilities (as of 2020) and 8,000,000 tons of equivalent CO2 as of 2030 (Target under revision, to be updated to the new requirements of EU policy) • Participation of renewable energy sources in demand coverage >40% (2020) and > 58% (2030) - (Target under revision, to be updated to the new requirements of EU policy) • 2020: Reduction of 10 % of total Scope 1 and 2 emissions (compared to base year 2015) • 2030: Reduction of 30 % of total Scope 1 and 2 emissions (compared to base year 2015) • To make all stakeholders participant and inform them of REE's commitment to climatic change • To define Adaptation Plans that are suited to the company's activities, in order to reduce the possible risks derived from the effects of climatic change & to identify any opportunities for the company. vii) It is important to outline that REE has no competitors. REE is a regulated activity and is the sole company in Spain that develops transmission/operation of the electricity system. Nevertheless the company's aim is to maintain an outstanding position between the TSO companies in the world, so REE works very hard in the development of new technologies in order to increase renewable energy integration into the system and to improve energy efficiency by demand management projects, smarts grids & other issues as energy storage development. viii) One of the main reasons to review and update Climate Change Strategy (Commitment and Action Plan) has been to adapt it to Paris Agreement and 2°C scenario. EU targets for 2030 have been considered to define the new Plan (INDCs are in accordance to EU targets).

## C3.1d

Climate- related scenarios	Details
2DS	<ul> <li>How the selected scenario was identified: Due to the activity carried out by REE as transmission and electricity system operator and the fact that it is a regulated company, climate scenarios are decisive when defining the company's strategy. The primary climate related scenario on which the new strategic plan 2019-2022 was drawn upon is the NDCs, what in Europe is equivalent to the 2DS, aiming to achieve EU's climate objectives. This is the scenario that is therefore considered for the Spanish National Energy and Climate Plan (PNIEC).</li> <li>Time horizon: These climate scenarios are decisive when defining the company's strategy. The scenarios that have been evaluated contemplating the evolution of certain parameters, are closely linked to compliance with EU objectives and legislation and to national regulation, considering a time horizon up to 2030 aligned with our SBTs and strategy.</li> </ul>
	<ul> <li>Inputs and methods: The main parameters considered in the analysis have been the following: energy intensity in Spain, electrification of the economy (% of electricity/total energy), electricity demand, integration of renewables (renewable energy goals) and energy intensity goals (energy efficiency) in Spain.</li> <li>How the results of the scenario analysis have informed your business objectives and strategy: The recently approved strategic plan 2019-2022, foresees investments of 6 billion euros and identifies that 53% of them are earmarked for the energy transition in Spain, half of them specifically for the integration of renewables.</li> </ul>

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



	- Besides, REE is working on the implementation of the recommendations of the Task Force for Climate Disclosure (TCFD). In this framework The Company has defined different scenarios which have been considered as a basis to identify and categorize the risk and opportunities associated with climate change (physical and transition-related). 2DS is one of the scenarios considered to assess transition risks and opportunities.
RCP 4.5	REE is working on the implementation of the recommendations of the Task Force for Climate Disclosure (TCFD). In this framework The Company has defined different scenarios which have been considered as a basis to identify and categorize the risk and opportunities associated with climate change (physical and transition-related). RCP 4.5 is one of the scenarios that have been considered to assess physical risks and opportunities, looking at a horizon of 2050 and beyond, in line with the IPCC timeframes (2100) and our SBTs. The parameters considered for the assessment have been: Temperature: maxim and maximum in summer; Length of heat waves; Number of days with temperature below 0°; Rainfall and maximum rainfall in 5 days; Irradiation and Extreme winds. These climatic variables evolve according to the projections indicated by the Spanish State Meteorological Agency for the RCP 4.5. The qualitative analysis have already finished and the quantitative is expected to be completed by the end of 2019.
RCP 8.5	REE is working on the implementation of the recommendations of the Task Force for Climate Disclosure (TCFD). In this framework The Company has defined different scenarios which have been considered as a basis to identify and categorize the risk and opportunities associated with climate change (physical and transition-related). RCP 8.5 is one of the scenarios that have been considered to assess physical risks and opportunities, looking at a horizon of 2050 and beyond, in line with the IPCC timeframes (2100) and our SBTs. The parameters considered for the assessment have been: Temperature: maxim and maximum in summer; Length of heat waves; Number of days with temperature below 0°; Rainfall and maximum rainfall in 5 days; Irradiation and Extreme winds. These climatic variables evolve according to the projections indicated by the Spanish State Meteorological Agency for the RCP 8.5. The qualitative analysis have already finished and the quantitative is expected to be completed by the end of 2019.

## 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.


• REE, as the transmission agent and operator of the Spanish electricity system, is a key player in the transition to a low carbon energy model. **Decarbonisation of the economy is one of the five sustainability priorities for REE** who is engaged <u>"to be a proactive agent in the energy transition towards a zero-emission model</u>, advocating for the electrification of the economy and the efficient integration of renewable energies, through a robust and better interconnected grid and the development and operation of energy storage systems". • Aware of its important role, the Company has declared a **voluntary commitment in the fight against climate change**, approved by the CEO. The commitment is set out in a **Climate Change Action Plan 2015-2020-2030**, which was reviewed in 2018 with the purpose of introducing more ambitious targets, consistent with the global emissions reduction target for 2030 approved by the SBTi. The plan is divided into five main courses of action:

A. Contribution to a more sustainable energy model: Contribution to achieving the European 2020 and 2030 targets: A.1 Develop the infrastructure that enables the reduction of the CO2 emissions associated to the whole electricity system. A.2 Achieve the maximum integration of renewable energy into the system, maximising its use. A.3 Contribute to greater efficiency of the electricity system by improving knowledge regarding the electricity demand and the development of new measures for its management. A.4 Prepare the operation of the electricity system to undertake the efficient penetration of the electric vehicle. A.5 Develop studies and projects to reduce losses in the transmission grid and improve its efficiency. KPIs: Savings in emissions associated with the commissioning of facilities included in the electricity planning (t of CO2 eq) Renewable energy share in demand coverage (%) MW of Demand Response Resource Energy supplied for the electric vehicle connected to CECOVEL (MWh) B. Reduction of the Carbon Footprint. Overall targets reviewed in 2018: reduction of 10% of total scope1+2 emissions by 2020; reduction of 30% of total scope 1+2 emissions by 2030. B.1 Improve the carbon footprint calculation method. B.2 Reduce SF6 emissions. B.3 Reduce electricity consumption and emissions. B.4 Reduce emissions associated with REE vehicles. B.5 Reduce business travel and employee commuting emissions. B.6 Reduce emissions associated with the supply chain and involve suppliers in REE's commitments. B.7 Work towards reducing other emissions. B.8 Offset part of the emissions. B.9 Move forward in the inclusion of criteria regarding efficiency and the saving of materials in the design of facilities and infrastructure. B.10 Continue to make progress in the emission management models. KPIs: Scope 1; Scope 2; Scope 3 (t of CO2 eq); Electricity consumption. C. Positioning, communication and raising awareness: participation in initiatives related to climate change. Involve stakeholders and engage them in REE's commitment on climate change. C.1 Raise awareness of and communicate REE's stance and commitment on climate change and promote energy efficiency among stakeholders. C.2 Collaborate with the public administration on climate change matters. C.3 Increase transparency and improve the information provided to investors regarding climate change matters.

<u>D. Adaptation to climate change</u>: Define appropriate adaptation plans for the Company's activities to reduce the potential risks arising from the effects of climate change. Identify the opportunities that climate change and the present action plan offer the Company. D.1 Transmission grid facilities: "Study on the management of new climate risks over the life cycle of the transmission grid infrastructure". D.2 System operation: adaptation study to include activities related to system operation. D.3 Extend the risk analysis and climate change adaptation mechanisms to encompass the entirety of the Group. D.4 Opportunities: broaden the identification and consideration of opportunities associated with climate change.



• Strategic Plan: REE business plan and Climate Change Action Plan are completely aligned: due to the characteristics of the company, energy and climate change policies are the main drivers to define business strategy. In particular, European policy framework for climate and energy has been the main reference for the definition of the last business plan (2018-2022). One of the cornerstones in the <u>Strategic Plan (2018-2022) is "Making possible energy transition</u> <u>in Spain", based in the following pillars: Integrating renewables; more interconnected grid; user</u> in the centre (active consumer); electricity system platform, digitalization and smart grids; storage and promotion of electricity mobility. The 53% of the total planned investment will be dedicated to Spanish energy transition, 25.5% to integration of renewable energy (the rest to technology, digitalization and storage).

## **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 (market-based) % emissions in Scope 100 Targeted % reduction from base year 10 **Base year** 2015 Start year 2017 Base year emissions covered by target (metric tons CO2e) 1,176,028 **Target year** 2020



#### Is this a science-based target?

No, but we are reporting another target that is science-based

#### % of target achieved

16.5

#### **Target status**

Underway

#### **Please explain**

In 2018, the SBTi approved REE's targets in accordance to the SBTi criteria. In order to achieve our SBTs, REE defined a roadmap for 2020 and 2030. REE's validated targets are intensity based, although they are accompanied by absolute reductions: Int 1 (approved by SBT) and Int 2 (Int 1 but defined for a shorter term, 2020). Although our SBTs are long term objectives (2030), REE has also established an interim milestone for 2020: Reduction of 10% of total Scope 1 and 2 emissions (compared to base year 2015). This target includes transmission losses (95% of Scope 1+Scope2 in base year). It is important to explain that REE, as the operator of the electricity system cannot make decisions regarding the main factors that affects energy losses. Losses mainly depend on the geographical location units with respect to consumption areas, the generation mix, the size of the grid, the international power exchanges, the voltage level and the demand curve. The assessment of generation is based on market rules and performed by an independent body (not REE). REE must comply with operational procedures defined by the regulator (mandatory procedures) and according to them, it is not possible to operate the system with an energy losses reduction criteria. For this reason, it is very difficult for REE to establish targets to reduce emissions from energy losses. Nevertheless, REE has considered losses in the general targets, in order to be in accordance with SBTi criteria and to stress its commitment and ambition towards climate change and energy transition. REE has a crucial role in renewable energy integration and REE's activity is needed to increase the % of renewable energy in the energy mix.

Target reference number Abs 2
Scope Scope 1 +2 (market-based)
% emissions in Scope
Targeted % reduction from base year 30
Base year 2015



#### Start year

2017

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

1,176,028

#### **Target year**

2030

#### Is this a science-based target?

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

#### % of target achieved

5.5

#### **Target status**

Underway

#### **Please explain**

In 2018, the SBTi approved REE's targets in accordance to the SBTi criteria. In order to achieve our SBTs, REE defined a roadmap for 2020 and 2030. REE's validated targets are intensity based, and lead.

This target is equivalent to Int 1 (and lead to absolute reductions proved by SBT). General target 2030: Reduction of 30% of total Scope 1 and 2 emissions (compared to base year 2015). This target includes transmission losses (95% of Scope 1+Scope2 in base year).

It is important to explain that REE, as the operator of the electricity system cannot make decisions regarding the main factors that affects energy losses. Losses mainly depend on the geographical location units with respect to consumption areas, the generation mix, the size of the grid, the international power exchanges, the voltage level and the demand curve. The assessment of generation is based on market rules and performed by an independent body (not REE). REE must comply with operational procedures defined by the regulator (mandatory procedures) and according to them, it is not possible to operate the system with an energy losses reduction criteria. For this reason, it is very difficult for REE to establish targets to reduce emissions from energy losses. Nevertheless, REE has considered losses in the general targets, in order to be in accordance with SBTi criteria and to stress its commitment and ambition towards climate change and energy transition. REE has a crucial role in renewable energy integration and REE's activity is needed to increase the % of renewable energy in the energy mix.

The % of achieved target is expected to be more relevant in the second part of the target period because a huge increase in the renewable energy is expected to be integrated in the electricity system in order to fulfil European targets. Due to this increase, the emission factor of Spanish generation mix is expected to decrease significantly in the next years.



#### Target reference number

Abs 3

Scope

Scope 1

#### % emissions in Scope

5

#### Targeted % reduction from base year

30

#### Base year

2015

#### Start year

2017

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

2,124

#### Target year

2020

#### Is this a science-based target?

No, but we are reporting another target that is science-based

#### % of target achieved

100

#### **Target status**

Underway

#### **Please explain**

Partial target 2020: Reduction of 30% of emissions associated with the use of REE vehicles. It was approved in 2018. The former target, reduction of 15% of emissions associated with the use of REE vehicles (2017), was updated with the aim to increase ambitious and make REE's commitment firmer. Nevertheless, REE considers 2017 as start year (when the first target was set).

#### Target reference number

Abs 4

#### Scope Scope 1

% emissions in Scope

5

Targeted % reduction from base year



50

Base year 2015

Start year

2017

## Base year emissions covered by target (metric tons CO2e) 2,124

Target year

2030

#### Is this a science-based target?

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science-Based Targets initiative

#### % of target achieved

49

#### **Target status**

Underway

#### **Please explain**

Partial target 2030: Reduction of 50% of emissions associated with the use of REE vehicles. The target was approved in 2018. The former target, reduction of 30% of emissions associated with the use of REE vehicles (2017 target), was updated with the aim to increase ambitious and make REE's commitment firmer. REE considers 2017 as start year (when the first target was set).

Target reference number

Abs 5

#### Scope

Scope 2 (market-based)

% emissions in Scope

#### Targeted % reduction from base year

85

## Base year

2015

Start year 2017

Base year emissions covered by target (metric tons CO2e)



#### 5,440.68

#### **Target year**

2020

#### Is this a science-based target?

No, but we are reporting another target that is science-based

### % of target achieved

100

#### **Target status**

Underway

#### **Please explain**

Partial target 2020: Reduction of 85 % of emissions associated with electricity consumption in work centres.

#### Target reference number

Abs 6

#### Scope

Scope 2 (market-based)

#### % emissions in Scope

0.5

#### Targeted % reduction from base year

90

#### Base year

2015

#### Start year

2017

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

5,440.68

#### **Target year**

2030

#### Is this a science-based target?

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science-Based Targets initiative

#### % of target achieved

96

#### **Target status**



#### Underway

#### **Please explain**

Partial target 2030: Reduction of 90% of emissions associated with electricity consumption in work centres.

### 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 (market-based) % emissions in Scope 100 Targeted % reduction from base year 40 Metric Metric tons CO2e per megawatt hour (MWh)\* **Base year** 2015 Start year 2017 Normalized base year emissions covered by target (metric tons CO2e) 0.0045 **Target year** 2030 Is this a science-based target? Yes, this target has been approved as science-based by the Science Based Targets initiative % of target achieved 11.11 **Target status** Underway **Please explain** 



#### Please explain

In 2018, the Company presented its overall emissions reduction target which has been approved by the Science Based Targets initiative (SBTi). Red Eléctrica undertakes to reduce its Scope 1 and 2 emissions by 40 % per MWh transported by 2030 compared to 2015 figures. This relative target translates into a commitment to reduce absolute Scope 1 and 2 emissions by 30 % for the year 2030 with respect to 2015, having approved a previous emissions reduction target of 10 % for 2020 with respect to that same year. REE 2030 target includes transmission losses (95% of Scope 1+Scope2 in base year). It is important to explain that REE, as the operator of the electricity system cannot make decisions regarding the main factors that affects energy losses. Losses mainly depend on the geographical location units with respect to consumption areas, the generation mix, the size of the grid, the international power exchanges, the voltage level and the demand curve. The assessment of generation is based on market rules and performed by an independent body (not REE). REE must comply with operational procedures defined by the regulator (mandatory procedures) and according to them, it is not possible to operate the system with an energy losses reduction criteria. For this reason, it is very difficult for REE to establish targets to reduce emissions from energy losses. Nevertheless, REE has considered losses in the general targets, in order to be in accordance with SBTi criteria and to stress its commitment and ambition towards climate change and energy transition. REE has a crucial role in renewable energy integration and REE's activity is needed to increase the % of renewable energy in the energy mix.

The % of achieved target is expected to be more relevant in the second part of the target period because a huge increase in the renewable energy is expected to be integrated in the electricity system in order to fulfil European targets. Due to this increase, the emission factor of Spanish generation mix is expected to decrease significantly in the next years.

- % change anticipated in absolute Scope 1+2 emissions 30
- % 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 Energy usage

KPI – Metric numerator kWh

KPI – Metric denominator (intensity targets only)



N.A

Base year 2015

Start year 2017

Target year 2020

KPI in baseline year 16,169,681.8

KPI in target year

14,552,713.62

% achieved in reporting year

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**Target Status** 

Underway

#### **Please explain**

Target 2020: Reduction of 10% of electricity consumption in work centers The target has been approved in 2018. The former target, reduction of 3% (set in 2017), has been updated with the aim to increase ambitious and make REE's commitment firmer. REE considers 2017 as start year (when the first target was set).

#### Part of emissions target

Abs 1/abs 2: Reduction of global emissions Abs 5/abs 6: Reduction of emissions from electricity consumption

#### Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Target

Energy usage

#### **KPI – Metric numerator**

KWh

#### KPI – Metric denominator (intensity targets only)

N.A

Base year 2015

Start year 2017



## Target year

2030

KPI in baseline year 16,169,681.8

KPI in target year

11,318,777

#### % achieved in reporting year

43.12

#### **Target Status**

Underway

#### **Please explain**

Target 2030: Reduction of 30% of electricity consumption in work centers The target has been approved in 2018. The former target, reduction of 10%, was been updated with the aim to increase ambitious and make REE's commitment firmer. REE considers 2017 as start year (when the first target was set).

#### Part of emissions target

Abs 2/abs 2: Reduction of global emissions Abs 5/abs 6: Reduction of emissions from electricity consumption

#### Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

#### Target

Renewable electricity consumption

#### **KPI – Metric numerator**

%

#### KPI – Metric denominator (intensity targets only)

NA

## Base year

2015

Start year 2015

Target year 2020

KPI in baseline year

0

KPI in target year



85

#### % achieved in reporting year

100

#### **Target Status**

Underway

#### Please explain

Target 2020: more than 85% of electricity consumption must be renewable. It must be taken into account that a small part of REE electricity consumption is supplied directly from the transmission network, in this cases REE has not the option to choose the origin of the electricity.

#### Part of emissions target

Abs 1/ abs 2: Reduction of global emissions Abs 5/abs 6: Reduction of emissions from electricity consumption

#### Is this target part of an overarching initiative?

No, it's not part of an overarching 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 initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	7	
To be implemented*	3	12,000
Implementation commenced*	16	20,323
Implemented*	8	9,455.6
Not to be implemented	0	

## C4.3b

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



#### Initiative type

Fugitive emissions reductions

#### **Description of initiative**

Other, please specify SF6 leakage reduction

#### Estimated annual CO2e savings (metric tonnes CO2e)

1,447

#### Scope

Scope 1

#### Voluntary/Mandatory

Voluntary

#### Annual monetary savings (unit currency – as specified in C0.4)

7,237

#### Investment required (unit currency - as specified in C0.4)

4,194,269

#### **Payback period**

>25 years

#### Estimated lifetime of the initiative

21-30 years

#### Comment

Activity: replacement of old equipment, with high emission rate (2%) by new equipment with reduced emission rate (0.5%). Annual monetary savings are completely irrelevant comparing to the investment.

#### Initiative type

Fugitive emissions reductions

#### **Description of initiative**

Other, please specify SF6 leakage reduction

#### Estimated annual CO2e savings (metric tonnes CO2e)

4,560

#### Scope

Scope 1

#### Voluntary/Mandatory

Voluntary



## Annual monetary savings (unit currency – as specified in C0.4) 22,800

Investment required (unit currency – as specified in C0.4) 88,769

#### **Payback period**

4 - 10 years

#### Estimated lifetime of the initiative

6-10 years

#### Comment

Activity: repairing works on a GIS (SF6 insulated). Failures in this substation were one of the causes of the increase of SF6 leakages in 2018.

#### Initiative type

Energy efficiency: Building services

#### **Description of initiative**

Other, please specify Lighting & climatization

#### Estimated annual CO2e savings (metric tonnes CO2e)

2.8

#### Scope

Scope 2 (market-based)

#### Voluntary/Mandatory

Voluntary

#### Annual monetary savings (unit currency – as specified in C0.4)

6,801

#### Investment required (unit currency – as specified in C0.4)

135,555

#### Payback period

16-20 years

#### Estimated lifetime of the initiative

11-15 years

#### Comment

Activity: efficiency measures in work centres, improvement in lighting and climatization



#### Initiative type

Energy efficiency: Building fabric

#### **Description of initiative**

Insulation

#### Estimated annual CO2e savings (metric tonnes CO2e)

0.3

#### Scope

Scope 2 (location-based)

#### Voluntary/Mandatory

Voluntary

#### Annual monetary savings (unit currency – as specified in C0.4) 832

#### Investment required (unit currency – as specified in C0.4) 35,436

00,100

#### Payback period

>25 years

#### Estimated lifetime of the initiative

16-20 years

#### Comment

Activity: efficiency measures in work centres, improvement of isolation

#### Initiative type

Energy efficiency: Building services

#### **Description of initiative**

Lighting

#### Estimated annual CO2e savings (metric tonnes CO2e)

392

#### Scope

Scope 2 (market-based)

#### Voluntary/Mandatory

Voluntary

#### Annual monetary savings (unit currency – as specified in C0.4)

0

#### Investment required (unit currency - as specified in C0.4)

36,000



#### Payback period

No payback

#### Estimated lifetime of the initiative

21-30 years

#### Comment

Efficiency measures in electricity substations: implementing devises that allow the switching off of night-time lighting.

The electricity consumption savings do not involve monetary savings in this case, because the electricity consumed is supplied directly from the network.

#### Initiative type

Energy efficiency: Processes

#### **Description of initiative**

Other, please specify IT systems: replacing old equipment

#### Estimated annual CO2e savings (metric tonnes CO2e)

3.5

#### Scope

Scope 2 (market-based)

### Voluntary/Mandatory

Voluntary

### Annual monetary savings (unit currency – as specified in C0.4)

8,512

#### Investment required (unit currency – as specified in C0.4)

504,397

#### **Payback period**

>25 years

#### Estimated lifetime of the initiative

3-5 years

#### Comment

Efficiency measures in IT equipment: renewal of desktops and laptops, data storage systems and improvement in CECOEL IT systems. Annual savings are completely irrelevant comparing to the investment

#### Initiative type

Low-carbon energy purchase



#### **Description of initiative**

Other, please specify Electricity supply: renewable

#### Estimated annual CO2e savings (metric tonnes CO2e)

2,716

#### Scope

Scope 2 (market-based)

#### Voluntary/Mandatory

Voluntary

#### Annual monetary savings (unit currency - as specified in C0.4)

0

#### Investment required (unit currency - as specified in C0.4)

0

#### **Payback period**

No payback

#### Estimated lifetime of the initiative

1-2 years

#### Comment

There are not relevant monetary costs or savings associated to this activity.

#### Initiative type

Other, please specify Offsetting emissions: REE forest

#### **Description of initiative**

#### Estimated annual CO2e savings (metric tonnes CO2e)

334

#### Scope

Scope 1

#### Voluntary/Mandatory

Voluntary

#### Annual monetary savings (unit currency – as specified in C0.4)

0

#### Investment required (unit currency - as specified in C0.4)

282,386



#### Payback period

#### Estimated lifetime of the initiative

>30 years

#### Comment

REE forest: planting trees and recovering degraded natural areas.

## C4.3c

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

Method	Comment		
Compliance with regulatory requirements/standards	REE has defined some technical specifications applying to buildings and substation's equipment (which are mandatory such as every internal procedure in the company) regarding energy efficiency.		
Dedicated budget for energy efficiency	A special budget is defined for energy efficiency activities: efficiency measures (improve in lighting, insulation, HVAC etc.), efficiency policies and promotion of energy efficiency among the company.		
Dedicated budget for low- carbon product R&D	REE works to improve as much as possible the integration of renewable energy into the grid. A lot of research is developed in this way. There are also other R&D projects related to energy efficiency.		
Dedicated budget for other emissions reduction activities	Special budgets are designated to activities regarding emissions reduction. (E.g. renovation of equipment, REE forest, SF6 management- including research to look for alternative to the use of SF6 gas- etcetera).		
Employee engagement	Every year there is a piece of the budget dedicated to employee engagement (training- voluntary and mandatory- and awareness- voluntary-): news and information in the internal web, contests, awareness campaigns, general training for all employees (on –line) specific training for special tasks (e.g. SF6 management), etcetera.		
Internal incentives/recognition programs	The fulfilment of some of the objectives related to climate change is provided with monetary incentives (for members of the board and also managers). Besides, in 2012, REE created "Red Eléctrica Eficiente Recognition" with the objective to recognize the best projects regarding energy efficiency carried out in the year. In 2018, three projects were awarded with this recognition (geothermal energy, circular economy-transformers project-&smart grid flash app).		

### 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 lowcarbon products or that enable a third party to avoid GHG emissions.

#### Level of aggregation

Company-wide

#### Description of product/Group of products

REE's activities enable Scope 2 emissions reduction for all electricity consumers in Spain because REE's activities make possible the integration of renewable energy into the electricity system: the use of renewable energy is necessary to reduce the emission factor associated to the use of electricity. If renewable energy proportion in the energy mix increases, emission factor for electricity in Spain decreases. Therefore, the increase of renewable energy in the electricity system avoids CO2 emissions for all the electricity users in Spain and this reduction is reflected in their Scope 2 emissions. REE makes possible to integrate renewable energy by: - Building and maintaining infrastructures (lines and substations). That is essential to incorporate renewable energy into the electricity system - integrating the mayor quantity of renewable energy as possible into the system. (REE has created a special control center for this purpose) - carrying out many activities related to demand management, which are very important to increase the efficiency of the system, which means a reduction in CO2 emissions.

#### 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

Other, please specify Own methodology

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

0

#### Comment

Estimation of emissions avoided: at least 21380247 t CO2eq in 2018. It is important to point out that a slight reduction in emission factor for the electricity mix avoids a great amount of CO2 emissions, because is applicable to all the electricity consumed in Spain. (In 2018: 253495 Gwh). This estimation has been made only for Peninsular System (not including the islands), that represents 95% of the total national demand. Assumption made for the estimations: REE activities are necessary to integrate renewable, so a new emission factor has been calculated without considering wind and photovoltaic energy and considering energy generated with gas instead. New emission factor: 0.304 t CO2/Mwh (Real emission factor: 0.219 t CO2/Mwh). - It is necessary to point out that the calculations are made assuming that gas would substitute wind and solar and REE's activities are also necessary for integrating gas. Hydro generation hasn't been taken into account either. So calculations have been made based in the



better situation without renewable integration. Due to TSO activity it is not possible to give a separate data from low carbon revenues. The activities that enable Spanish electricity consumers to avoid emissions are part of REE activity.

## **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, 2015

Base year end December 31, 2015

## Base year emissions (metric tons CO2e)

34,796.81

Comment

#### Scope 2 (location-based)

Base year start January 1, 2015

## Base year end

December 31, 2015

#### Base year emissions (metric tons CO2e)

Comment

#### Scope 2 (market-based)

Base year start January 1, 2015

#### Base year end

December 31, 2015

#### Base year emissions (metric tons CO2e) 1,141,232

#### Comment



In 2018, the methodology to report the transmission gird losses was modified by REE. The new methodology provides more accurate data because is based in data collected from SIMEL (an intelligent system managed by REE that receives real time data from every telemeter installed in Spain). Base line emissions have been therefore recalculated according to the new criteria.

## 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.

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

Other, please specify

Spanish Climate Change Office; own methodology

## C5.2a

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

For the emission sources listed below, REE has developed its own calculation methodology based on the GHG Protocol and the Spanish Climate Change Office methodology:

- SF6 emissions: REE has implemented a new calculation process based on direct measurements of real SF6 leakage data that are obtained from direct measurements of the gas used to refill the equipment and the gas recovered from the equipment in maintenance works. Emissions resulting from accidents and emissions related to the end of life of equipment are also taken into account.

- Emissions from electricity consumption are calculated using the emission factor applicable to each case (market based): a) For electricity supplied by distribution companies: contract information or information supplied by Environmental Ministry (Spanish Climate Change Office) for each company b) For electricity directly consumed from the transmission grid REE uses its own emission factor according to the Spanish generation mix. This factor is calculated every year by REE (REE is the operator of the Spanish electricity system).

- Emissions from electricity losses: REE uses its own emission factor. A summary describing the complete methodology used is available in 5.2a REE website:

http://www.ree.es/en/sustainability/decarbonisation-of-the-economy/carbon-footprint

## C6. Emissions data

## **C6.1**

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

#### Reporting year

Gross global Scope 1 emissions (metric tons CO2e) 39,272.04



#### Start date

January 1, 2018

#### End date

December 31, 2018

#### Comment

## 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

Although we are reporting both location and market-based figures, the break downs and calculations included in this chapter are all specifically calculated using the market-based method.

### C6.3

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

#### **Reporting year**

#### Scope 2, location-based

1,119,899.77

#### Scope 2, market-based (if applicable)

1,117,406.81

#### Start date

January 1, 2018

#### End date

December 31, 2018

#### Comment

Please note that Scope 2 includes emissions associated to transmission grid losses and emissions due to electricity consumption. Emissions due to grid losses are not associated to "purchased and consumed electricity".



### **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** 

Relevant, calculated

#### Metric tonnes CO2e

267,901.2

#### **Emissions calculation methodology**

The annual expenditure is broken down for each group of items purchased by REE. Purchasing categories already included in Scopes 1 and 2 or in other categories of Scope 3 are excluded from this calculation to avoid double counting. The emissions are obtained by multiplying the expenditure of each group of items by the emission factor that best fits their denomination. Emission factors: those from the Comprehensive Environmental Data Archive (CEDA) 4.0 database that provides emissions per dollar of production for more than 400 sectors of the US economy are used. CEDA database is used by the US Environmental Protection Agency (U.S. EPA), the Department of Commerce (DOC) and the European Commission for policy support.

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

0

#### Explanation

During 2018, REE carried out a complete review of the calculation methodology for Scope 3 emissions, incorporating the categories that were not calculated so far. The most important change was the calculation of categories 1 (purchased good and services) and 2 (capital goods). In the methodology used prior 2017 many data was obtained from suppliers. Nevertheless, in 2018, supplier data has not been used since REE realized that there were some inconsistency in many data reported by suppliers. In 2019, REE is working precisely on a project whose objective is the definition of a medium and long-term action plan for the reduction of emissions in the REE supply chain. The action plan includes engagement with the main suppliers (20-40) and the definition of the collection processes and the incorporation to the calculation of the data provided by the suppliers. The objective is that this information is incorporated in a consistent & accurate way and that the data is comparable among different providers.



#### **Capital goods**

#### **Evaluation status**

Relevant, calculated

#### **Metric tonnes CO2e**

156,747.3

#### **Emissions calculation methodology**

Capital goods are final products that have a prolonged useful life and are treated as fixed assets, or as property, plant or equipment. The emissions of the assets acquired in the year are estimated by multiplying the area of the facilities acquired by the base values, or relevant benchmarks. The emissions of the goods acquired are only considered in the year of acquisition, without apportioning over time. Also included in this category are some groups of articles (mentioned in purchased goods and services category) that correspond to the concept of capital good. In this case, the emissions are calculated using the corresponding CEDA factors, as explained for purchased goods and services Operations Benchmark and Comprehensive Environmental Data Archive (CEDA) 4.0

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

0

#### **Explanation**

During 2018, REE carried out a complete review of the calculation methodology for Scope 3 emissions, incorporating the categories that were not calculated so far. The most important change was the calculation of categories 1 (purchased good and services) and 2 (capital goods). In the methodology used prior 2017 many data was obtained from suppliers. Nevertheless, in 2018, supplier data has not been used since REE realized that there were some inconsistency in many data reported by suppliers. In 2019, REE is working precisely on a project whose objective is the definition of a medium and long-term action plan for the reduction of emissions in the REE supply chain. The action plan includes engagement with the main suppliers (20-40) and the definition of the collection processes and the incorporation to the calculation of the data provided by the suppliers. The objective is that this information is incorporated in a consistent & accurate way and that the data is comparable among different providers.

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

#### **Evaluation status**

Not relevant, calculated

#### **Metric tonnes CO2e**

431.28

#### **Emissions calculation methodology**

These include emissions due to energy and fuel production, consumed by REE and that have not been included in Scope1 and Scope2: - Emissions associated with the



extraction, production and transport of fuels consumed by REE. To obtain associated emissions, fuel consumption is multiplied by an emission factor that results from combining the emission factors of DEFRA and the factors of Emission used by REE (Climate Change Spanish Office). - Emissions associated with the extraction, production and transport of fuel consumed in the generation of electricity used by REE. Only emissions associated with non-renewable energy consumption are considered. Emission factor: Well-to-tank (WTT) for Spain, DEFRA (upstream).

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

0

#### Explanation

These emissions represent only 0.1% of total Scope 3 emissions, so they are not considered as relevant.

#### Upstream transportation and distribution

#### **Evaluation status**

Not relevant, calculated

#### **Metric tonnes CO2e**

1,332.35

#### **Emissions calculation methodology**

This category includes emissions associated with the transport and distribution of products acquired by REE in vehicles not owned by REE. Two types of transport are considered: - External transport of products and materials between the supplier and REE facilities. The annual expenditure is broken down for the groups of items that refer to this type of service. The emission factor CEDA 4.0 for this type of articles is applied. (Kg CO2/Euro) - Internal transport of materials between REE facilities. Emissions are calculated from the litres of diesel consumed by the company that carried out the logistics service for REE. The logistics company monitors the kilometres travelled and litres of fuel used by each individual vehicle. REE obtains the data directly from the supplier. Emissions are then calculated using the same methodology used for Scope 1 emissions (REE vehicles. Emission factors from Climate Change Spanish Office).

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

39.4

#### **Explanation**

These emissions represent only 0.31% of total Scope 3 emissions, so they are not considered as relevant.

#### Waste generated in operations

#### **Evaluation status**

Not relevant, calculated



#### **Metric tonnes CO2e**

96.37

#### **Emissions calculation methodology**

This category includes emissions associated with the treatment of waste generated by REE's operations taking into account their final treatment: landfill disposal, recycling, incineration, composting, etc. Detailed information on the amount of waste (kg) is collected by type of waste and treatment method. For the calculation, DEFRA (for each type of waste and final treatment method) are used.

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

100

#### Explanation

Information about the amount of waste (kg) and treatment method is obtained from the suppliers.

These emissions represent 0.02% of total Scope 3 emissions, so they are not considered as relevant.

#### **Business travel**

#### **Evaluation status**

Not relevant, calculated

#### **Metric tonnes CO2e**

1,388.47

#### **Emissions calculation methodology**

These include emissions associated with business travel by plane, train (high-speed and long-distance) and car (private vehicles, shared leasing, rented vehicles, manager's vehicles and taxis). - Trips by plane: The travel agency provides the trip data, ticket type and number of routes. The emissions of each route are calculated by multiplying the total distance (distance of the route x number of routes) x emission factor of the ICAO (International Civil Aviation Organization). - Trips by train: The travel agency provides the trip data: type of train (high speed or long distance), distance of the route and number of routes ticket type and number of routes. The emissions of each route are calculated by multiplying the total distance (distance of the route x number of routes) x emission factor. Emission factor: Published by Renfe. AVE: Renfe Sustainability (2011); Long distance: Renfe, Environmental Report (2007). - Trips by car: a) Private vehicle: calculations are based on the number of kilometres travelled. Source: REE. Emission factor: DEFRA 2017. b) Rental vehicle: calculations are based on the number of kilometres travelled, provided by car rental suppliers. Emission factor: DEFRA 2017. c) Taxis: the company hired to carry out this service, with its own methodology, calculates the emissions.



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

100

#### **Explanation**

All the data is obtained directly from the travel agency in charge of business travel in REE or directly from corporate tools (SAP): Trips by plane: The travel agency provides the trip data, ticket type and number of routes. Emission factor is provided by ICAO (International Civil Aviation Organization). Trips by train: The travel agency provides the trip data: type of train (high speed or long distance), distance of the route and number of routes ticket type and number of routes. Emission factor: Published by Renfe. AVE: Renfe Sustainability (2011); Long distance: Renfe, Environmental Report (2007). Renfe is the railway company in Spain. Trips by car: number of kilometres is provided by car rental suppliers. Taxis: emissions are provided by the supplier.

These emissions represent 0.32% of total Scope 3 emissions, so they are not considered as relevant.

#### **Employee commuting**

#### **Evaluation status**

Not relevant, calculated

#### Metric tonnes CO2e

3,895.03

#### **Emissions calculation methodology**

Emissions associated with the employees commuting from their homes to the workplace. Necessary data (kilometres travelled by employees according to each transport method employed) are obtained from a survey to all employees. Once the calculation is made for the employees responding to the survey, the results are extrapolated for the entire workforce. Emission factors: Train: SACE tool (from Andalusian Autonomous Community) and Renfe Motorbike: SACE; Bus: SACE; Car: DEFRA.

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

53.06

#### Explanation

Employees responding the survey: 53.06% of total workforce. These emissions represent 0.9% of total Scope 3 emissions, so they are not considered as relevant.

#### **Upstream leased assets**

**Evaluation status** 



Not relevant, explanation provided

#### **Explanation**

REE only leases offices but emissions from leased assets (emissions from their electricity consumption) are already included in Scope 2.

#### Downstream transportation and distribution

#### **Evaluation status**

Not relevant, explanation provided

#### Explanation

Not applicable. REE does not sell physical products. Emissions associated to energy transmission (service) are already included in Scope 2.

#### **Processing of sold products**

#### **Evaluation status**

Not relevant, explanation provided

#### **Explanation**

Not applicable. REE does not sell physical products.

#### Use of sold products

#### **Evaluation status**

Not relevant, explanation provided

#### Explanation

Not applicable. REE does not sell physical products.

#### End of life treatment of sold products

#### **Evaluation status**

Not relevant, explanation provided

#### **Explanation**

Not applicable. REE does not sell physical products.

#### **Downstream leased assets**

#### **Evaluation status**

Not relevant, calculated

#### **Metric tonnes CO2e**

0

#### **Emissions calculation methodology**

This category includes the emissions associated with the operation of assets owned by REE and leased to third parties, whose impact has not already been considered in the Scope 1 and 2 inventory. Electricity consumption primary data is taken into account if it is available. If not, electricity consumption is estimated from leased area data (using



benchmark information: CIBSE (2000). Emission factor: same as in Scope 2. Please note that if thermal energy is consumed, the emission factor proposed by the Spanish Climate Change Office is used.

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

100

#### **Explanation**

In 2018, primary data has been used. (Electricity consumption and market based information- the energy used has been renewable).

#### Franchises

#### **Evaluation status**

Not relevant, explanation provided

#### Explanation

Not applicable. REE does not have any franchises.

#### Investments

#### **Evaluation status**

Not relevant, explanation provided

#### Explanation

Not applicable. REE does not have any investment or shares in any other company.

#### Other (upstream)

#### **Evaluation status**

Not relevant, explanation provided

#### **Explanation**

No more relevant sources of scope 3 emissions have been identified.

#### Other (downstream)

#### **Evaluation status**

Not relevant, explanation provided

#### Explanation

No more relevant sources of scope 3 emissions have been identified.

### C6.7

## (C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

Jui organizatioi

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

0.000595

Metric numerator (Gross global combined Scope 1 and 2 emissions) 1,156,679

Metric denominator unit total revenue

Metric denominator: Unit total 1,943,260,000

Scope 2 figure used Market-based

% change from previous year 8.98

**Direction of change** 

Decreased

#### **Reason for change**

The main reason for change has been the decrease of Scope1+2 emissions (3.03%) compared to an increase in revenues (6.54%). Emission reduction have been motivated by emission reduction in energy losses. The decrease in these emissions in 2018 is mainly due to the reduction of the average Spanish emission factor (0.257 t CO2eq/MWh in 2017 and 0.219 t CO2eq/ MWh in 2018), which reflects the increase in the integration of renewable energy into the electricity system.

#### **Intensity figure**

0.00431

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

1,156,679

#### **Metric denominator**

megawatt hour transmitted (MWh)

#### Metric denominator: Unit total

268,387,270



Scope 2 figure used

Market-based

% change from previous year

3.37

#### **Direction of change**

Decreased

#### Reason for change

The main reason for change has been the decrease of Scope1+2 emissions (3.03%) compared to a slight increase in energy transmitted (0.35%). Emission reduction have been motivated by emission reduction in energy losses. The decrease in these emissions in 2018 is mainly due to the reduction of the average Spanish emission factor (emission factor: 0.257 in 2017 t CO2eq / MWh and 0.219 t

CO2eq / MWh in 2018), which reflects the increase in the integration of renewable energy into the electricity system.

## **C7. Emissions breakdowns**

## **C7.1**

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

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	1,805.54	IPCC Fourth Assessment Report (AR4 - 100 year)
SF6	36,921.15	IPCC Fourth Assessment Report (AR4 - 100 year) ♀1
HFCs	545.35	IPCC Fourth Assessment Report (AR4 - 100 year)

*♀*<sup>1</sup>GWP: 22,800



## 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	1,619.35	37,466.5	Fugitive emissions: - SF6 emissions - Air conditioning emissions. (Gross Scope 1 emissions data includes both sources)
Combustion (Electric utilities)	0	0	0	0	REE does not perform any energy production activities. REE's activities are limited to the transmission of electricity and operation of the power system.
Combustion (Gas utilities)	0	0	0	0	Not applicable. REE does not perform any activity related to gas.
Combustion (Other)	1,805.54			1,805.54	Emissions included: -Mobile Combustion: emissions derived from fuel consumption of the fleet Stationary combustion: derived from the combustion of fuels used in diesel generating sets. Most of REE substations and some of the buildings have Diesel Generating sets in order to ensure the supply in the event of electricity failure. In general, the number of operating hours registered correspond to the time where they have been on in order to perform maintenance checks to ensure that they



					are in suitable working
					conditions.
Emissions	0	0	0	0	
not					
elsewhere					
classified					

## **C7.2**

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Spain	39,272.04

## 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)
Fugitive emissions from electrical equipment	36,921.15
Fugitive emissions from air conditioning equipment	545.35
Mobile combustion	1,603.87
Stationary combustion (generating sets for emergency situations)	201.67

## 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	Comment
Electric utility generation activities	0	Not applicable. REE does not perform any energy generation activities. REE' activities are limited to the transmission of electricity and operation of the power system.



## **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)
Spain 🔎 1	1,119,899.77	1,117,406.81	14,583.56	12,401.6

 $\mathcal{P}^1$ Please note that Scope 2 includes emissions associated to transmission grid losses and emissions due to electricity consumption.

Emissions due to grid losses are not associated to "purchased and consumed electricity".

## **C7.6**

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

By facility By activity

## C7.6b

#### (C7.6b) Break down your total gross global Scope 2 emissions by business facility.

Facility	Scope 2 location- based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Head and regional offices (including Control Centres & Electric vehicles)	2,681.53	462.01
Work centres (maintenance)	533.45	277.03
Telecommunication booths	79.22	62.2
Electrical infrastructures: lines and substations.(Emissions are due to transmission losses not electricity purchased)	1,116,605.57	1,116,605.57

## C7.6c

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

Activity	Scope 2, location-based	Scope 2, market-based
	emissions (metric tons	emissions (metric tons
	CO2e)	CO2e)



Offices, control centres, work centres (offices and maintenance activities)	3,214.98	739.04
Telecommunication activities	79.22	62.2
Electricity transmission	1,116,605.57	1,116,605.57

## 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?

Decreased

### 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	9.5		0	In 2018, REE changed part of the company fleet from conventional vehicles to electric vehicles. The reduction of emissions due to this change have been calculated taking into account the increase of km travelled by electric vehicles, that consume renewable energy (0 t CO2eq) in comparison with the same amount of km travelled by a medium combustion vehicle (9.5 t CO2eq). Emission value percentage =9.5 t CO2eq/1192805 t CO2eq *100=0.0086. Please note that 1,192,805 t CO2 figure corresponds to 2017 Scope1+2 emissions.
Other emissions reduction activities	24,989.11	Decreased	2.1	Decrease due to emission reduction activities: energy efficiency measures in work centres (isolation, climatization, lighting, energy management system, renewal of PCs, awareness campaigns):207.69 t CO2eq. Decrease due to renewable energy integration into the electricity system: REE has a crucial role in renewable energy integration because REE activity makes possible to integrate the renewable energy



				generated. The amount of renewable energy affects emissions due to transmission grid losses (because affects transmission losses rate and emission factor for the electricity system.) To estimate the decrease in emissions we have calculated the difference between 2017 and 2018 without taking into account the growth of the demand (applying 2017 conditions and 2018 conditions to the same demand): 49,562.82 tCO2eq. But renewable energy generation and transmission losses rate do not depend only on REE's activities. The physical conditions (water availability, wind, sun) are determining in renewable energy generation. For this reason we only consider 50% of these reduction as due to REE activity: 24,781.41 t CO2eq Total emission value percentage= (207. 69 +24,781.41) /1,192,805 t CO2eq *100=2.1%. Please note that 1,192,805t CO2 figure corresponds to 2017 Scope1+2 emissions.
Divestment	0	No change	0	
Acquisitions	0	No change	0	
Mergers	0	No change	0	
Change in output	3,360.41	Increased	0.28	The growth of electricity demand is a change in REE's output. Electricity demand has grown 933,791 MWh in 2018. To calculate emissions due to the increase of energy demand, we have calculated emissions for 2018 demand maintaining 2017 operational conditions (loosing rate & emission factor) Resulting emissions: increase: 3,303.38 tCO2eq. On the other hand, in 2018 there has been an increase in maintenance activity, which has involved an intensification of the use of fleet vehicles. Emissions related to this increase: 57.03 t CO2 eq. Total emissions increased due to change in output: 3,303.38 tCO2eq +57.03 t CO2 eq=3,360.41 tCO2 eq.


				Emissions value (percentage) is 3,360.41 /1,192,805*100=0.28% Please note that 1,192,805 t CO2eq corresponds to 2017 Scope1+2 emissions.
Change in methodology	0	No change	0	Some changes have been implemented in the methodology but emissions from previous years have been recalculated according to these changes. (All the data from 2015 is available in REE's website and CR report). To compare emissions, we have taken as a reference the new data (recalculated for 2017). It makes possible a right analysis of the evolution of emission targets. For this reason, the change in methodology cannot be taken into account in this question.
Change in boundary	72.8	Increased	0.06	In 2018 emissions from telecommunications activities have been included in the GHG inventory: 72.8 tCO2eq. Emissions value (percentage) is 72.8 /1,192,805*100=0.06% Please note that 1,192,805 t CO2eq corresponds to 2017 Scope1+2 emissions.
Change in physical operating conditions	24,781.41	Decreased	2.08	Changes in physical and operating conditions influence some aspects. The main one that affects emissions is the change in the generation mix, which depends on the physical operation conditions of each year (mainly water and wind availability). The generation mix affects the main factors regarding emissions associated to transmission grid losses: amount of transmission losses (%) and emission factor. The decrease of emissions in 2018 is mainly due to a decrease in the emission factor that depends on the energy mix of the year. In 2018 more renewable energy have been produced and integrated into the electricity system. To estimate emissions decrease, emissions without considering the increase of the demand



				have been calculated: (applying 2017 conditions – transmission losses rate and emission factor-and 2018 conditions to the same demand):49,562.82 tCO2eq. But renewable energy integrated into the electricity system not only depends on the physical conditions, REE activity is crucial to integrate generate energy in the electricity system. For this reason, we only consider 50% of the decrease of emissions due to physical operating conditions: 24,781.41 t CO2eq Emissions value (percentage): 24,781.41 /1,192,805*100=2.08%. Please note that 1,192,805t CO2eq corresponds to 2017 Scope1+2 emissions.
Unidentified	247.94		0.02	There has been a decrease in emissions associated to air conditioning (163.96 t CO2eq) and in generating sets emissions (73.38 tCO2eq) There are different reasons associated to these variations (operational conditions or increase of maintenance works) but we are not able to identify them exactly. Total increase: 163.96 +73.38 =247.94 tCO2eq Emissions value (percentage): 247.94/1,192,805*100=0.02 %. Please note that 1,192,805t CO2eq corresponds to 2017 Scope1+2 emissions.
Other	10,467.88	Increased	0.88	In 2018, there has been an increase in SF6 emissions (10,467.88 tCO2eq more than in 2017). This increase is related to an incident that occurred in a GIS substation (insulated with SF6) and some abnormal failures in other substations. Emissions value (percentage): 10,467.88 /1,192,805*100=0.88 %. Please note that 1,192,805t CO2eq corresponds to 2017 Scope1+2 emissions.



### **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?

Market-based

### C8. Energy

### **C8.1**

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

More than 0% but less than or equal to 5%

### **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	No

### 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)	0	6,600.7	6,600.7



Consumption of purchased or acquired electricity	12,401.6	2,182	14,583.6
Total energy consumption	12,401.6	8,782.7	21,184.3

### 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	No
Consumption of fuel for the generation of heat	No
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	No

### C8.2c

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

Fuels (excluding feedstocks) Diesel

. .

Heating value LHV (lower heating value)

Total fuel MWh consumed by the organization 4,733.3

Comment

Fuels (excluding feedstocks) Motor Gasoline

### Heating value

LHV (lower heating value)



**Total fuel MWh consumed by the organization** 1,867.4

Comment

### **C8.2d**

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

### Diesel

**Emission factor** 

2.52

Unit

kg CO2e per liter

### **Emission factor source**

Spanish Climate Change Office methodology (OECC)

### Comment

The Spanish Climate Office discloses that these emission factors are calculated through its own methodology based in the IPCC methodology and the Spanish Emissions Inventory.

### **Motor Gasoline**

### **Emission factor**

2.18

### Unit

kg CO2e per liter

### **Emission factor source**

Spanish Climate Change Office methodology (OECC)

### Comment

The Spanish Climate Office discloses that these emission factors are calculated through its own methodology based in the IPCC methodology and the Spanish Emissions Inventory.

### **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, Guarantees of Origin

### Low-carbon technology type

Other low-carbon technology, please specify Certified Guarantees of Origin – mix of renewable technologies

### Region of consumption of low-carbon electricity, heat, steam or cooling

Other, please specify Spain

MWh consumed associated with low-carbon electricity, heat, steam or cooling 12,401.6

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

0

### Comment

REE has established contracts for electricity supply with Guarantees of Origin. This means that the origin is 100% renewable, therefore the emission factor is 0. In Spain, it is not possible to have information about the technology used to generate the electricity supplied because suppliers do not have the obligation to specify the technology type used.

### **C-EU8.4**

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

Yes

### **C-EU8.4a**

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

Country/Region Spain

Voltage level Transmission (high voltage)

Annual load (GWh) 268,387.27

Scope 2 emissions (basis) Market-based

Scope 2 emissions (metric tons CO2e)

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1,117,406.81

Annual energy losses (% of annual load)

Length of network (km) 44,069

Number of connections 1,869

Area covered (km2)

506,030

### Comment

Annual energy losses: During 2018, the methodology for calculating the transmission grid losses was modified. The data has been recalculated for the historical series, according to the new methodology. They are available in the CR report 2018. Area covered: REE is the Spanish Transmission System Operator (TSO). It is the sole company in Spain that carries out electricity transmission. The area includes all Spanish territory (including Balearic and Canary Islands).

### **C9. Additional metrics**

### **C9.1**

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

Description Energy usage
Metric value 1,408.08
Metric numerator Electricity consumption in work centers (MWh)
Metric denominator (intensity metric only) N.A
% change from previous year 6.82
Direction of change Decreased
Please explain



Besides the emission reduction target regarding electricity consumption in work centres, REE has set an efficiency target: 10% consumption reduction by 2020 and 30% reduction by 2030.

### 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
Other renewable	0	0	2019	Please note that this question is NON-APPLICABLE to REE. REE does not perform any energy generation activities. REE activities are limited to the transmission of electricity and operation of the power system.

### 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
Other, please specify Development of the national transmission grid: renewable integration & other transmission grid	REE builds and maintains transmission infrastructures (lines and substations) being the owner and manager of the transmission grid in Spain. REE is responsible for the technical operation of the Spanish electricity system, so, as the manager of the transmission grid, REE must guarantee that facilities are adequately developed and enlarged as needed. The main investment of the company is therefore to	2,446,000,000	40.76	2022



	develop new infrastructures that are needed to achieve a more decarbonized electricity system at a national level. The CAPEX planned corresponds to the complete planning period 2018- 2022 (New Strategic Plan). The new infrastructures are necessary to achieve the national renewable energy & emission reduction targets (EU targets 2020 & 2030).			
Smart grid	The new Strategic plan includes investments in Technology and digitalization aiming to improve the entire Spanish national grid. Projects included in this category are referred to: Intelligent network, big data, active consumes, integration of distributed generation and development of electric mobility. Some examples of projects we are implementing are: CECOVEL (Electric Vehicle Control Centre), an initiative to support electric mobility in the current scenario of energy transition, or "Datahub project", focused in the management of all the data registered by electricity meters. These projects will contribute to achieve 2020 & 2030 national targets (emission reduction, renewable integration & energy efficiency)	560,000,000	9.3	2022
Large-scale storage	The main project we are developing in this category is Soria-Chira pumped-storage hydroelectric power station. This infrastructure will enable a greater development and use of renewable energy on the island of Gran Canaria (storage of	215,000,000	3.58	2022



renewable ene	ergy).			
This project will contribute to				
achieve 20208	2030 national (EU)			
targets (renew	able integration and			
emission redu	ction).			

### 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 March 31, 2015

Investment end date

December 20, 2019

Investment area R&D

Technology area Renewable energy

Investment maturity Applied research and development

Investment figure

497,000

### Low-carbon investment percentage

81-100%

#### **Please explain**

Projects (4 projects) with the aim to improve the forecasting tools for non-manageable renewable energy production in order to reduce the impact of its variability on scheduling the reserve (2015-2020). A better knowledge of renewable energy production (forecast) involves a better integration of these energies. -Improvement of prediction models to reduce forecasts errors, for wind and for photovoltaic and solar thermal. - Development of models (Nowcasting model) for the prediction of direct and global solar radiation with the objective of this project is the improvement in the prediction of photovoltaic and thermosolar energy in a very short-term horizon (first 4 hours).

Investment start date October 3, 2016 Red Eléctrica S.A.U CDP Climate Change Questionnaire 2019 29 July 2019



### Investment end date

December 21, 2018

Investment area

R&D

Technology area Renewable energy

### Investment maturity

Small scale commercial deployment

### **Investment figure**

60,000

#### Low-carbon investment percentage

81-100%

### **Please explain**

Development of HVAC systems for buildings and substations based on the use of geothermal energy. For Gas Insulated Substations, REE is working in the operation of a cooling system using geothermal ventilation.

#### Investment start date

January 4, 2016

Investment end date December 20, 2019

Investment area R&D

Technology area Renewable energy

Investment maturity

Pilot demonstration

**Investment figure** 

571,250

#### Low-carbon investment percentage

61-80%

#### **Please explain**

MIGRATE project: Massive Integration of power electronic devices (2017-2020). Analysis and search for alternatives to the impacts that the proliferation of devices based on power electronics has on the operation of the pan-European electricity system. The development of this kind of devices is needed to maximize the renewable energy integration into the electricity system.



Investment start date November 2, 2015

### Investment end date

December 20, 2019

### Investment area

R&D

### Technology area Demand side response programs

Demand side response program

### Investment maturity

Large scale commercial deployment

### **Investment figure**

666,000

### Low-carbon investment percentage

41-60%

### **Please explain**

Development of research projects that contribute to a greater efficiency of the electricity system by improving knowledge regarding electricity demand and the development of new measures for its management.

### Investment start date

January 7, 2019

Investment end date December 20, 2021

Investment area R&D

### Technology area Distributed energy resources

### Investment maturity Pilot demonstration

Investment figure 150,000

## Low-carbon investment percentage 61-80%

**Please explain** 



Distributed Generation Limitations Management Platform: aimed to improve distributed generation integration into the electricity system.

Investment start date

February 6, 2017

Investment end date

December 21, 2018

Investment area R&D

Technology area Energy storage

#### **Investment maturity**

Large scale commercial deployment

#### **Investment figure**

3,500,000

#### Low-carbon investment percentage

61-80%

#### **Please explain**

\* Batteries in Tenerife (ALISIOS project) The purpose of the initiative is to evaluate the impact the installation of a high capacity energy storage system may have on an isolated electricity system, such as the island of Tenerife, from the point of view of improving the quality of the system frequency, mitigating sudden variations in renewable generation and increasing the contribution of this form of energy to the generation mix under safe conditions and ensuring the security of supply. The results obtained will allow the possibilities that these systems offer to be gauged so as to resolve the present and future challenges arising from the massive introduction of non-manageable renewable generation in isolated electricity systems.

\* Development of tests and the evaluation of energy storage systems for their technicaleconomic assessment in field tests: OSMOSE projects/Stability plus project: Hybrid energy storage system consisting of a STATCOM, ultracapacitor and an electrochemical battery. Development of the hybrid system's own controls and that of a superior control hierarchy at an electricity system level for the coordination of storage devices (flywheel).

Investment start date

June 6, 2016

Investment end date

December 20, 2021

#### Investment area



#### R&D

**Technology area** Other, please specify

SF6 leakages reduction

### **Investment maturity**

Applied research and development

#### **Investment figure**

398,585

#### Low-carbon investment percentage

81-100%

### **Please explain**

Projects (3 ongoing) related to the improvement in the handling of SF6 gas in order to reduce leakages (emissions).

- Development of a new methodology for repairing leaks in GIS installations/facilities (Applied research development)

- Systems for capturing gas leaks in indoor GIS substations (Basic research)
- High-sensitivity SF6 detectors, proposed R&D+i project. (Basic research)

Investment start date

January 8, 2018

### Investment end date

December 21, 2021

#### Investment area R&D

Technology area

Other, please specify SF6 alternatives

#### **Investment maturity**

Pilot demonstration

#### **Investment figure**

1,432,500

#### Low-carbon investment percentage

81-100%

#### **Please explain**

Projects related to SF6 gas replacement: Study of alternatives to SF6 gas in gasinsulated or conventional switchgear. Red Eléctrica S.A.U CDP Climate Change Questionnaire 2019 29 July 2019



Investment start date October 19, 2015

Investment end date December 31, 2020

Investment area Services

Technology area Infrastructure

Investment maturity Large scale commercial deployment

**Investment figure** 3,000,000,000

### Low-carbon investment percentage

81-100%

### **Please explain**

REE builds and maintains transmission infrastructures (lines and substations) being the owner and manager of the transmission grid in Spain. REE is responsible for the technical operation of the Spanish electricity system, so, as the manager of the transmission grid, REE must guarantee that facilities are adequately developed and enlarged as needed. The main investment of the company is therefore to develop new infrastructures that are needed to achieve a more decarbonized electricity system at a national level. The investment corresponds to the complete planning period 2015-2020.

Investment start date October 31, 2018

Investment end date

December 31, 2021

Investment area R&D

Technology area Renewable energy

Investment maturity

Pilot demonstration

Investment figure

779,300

### Low-carbon investment percentage

81-100%



### **Please explain**

Design and validation of an energy storage system (green battery) powered by renewable generation sources (wind and photovoltaic) for auxiliary services in substations.

### **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 Limited assurance Attach the statement Report on independent assurance\_GEI\_REE\_2018.pdf **Page/ section reference** 1-2 +Appendix (all document) **Relevant standard ISAE 3410** Proportion of reported emissions verified (%) 100



Report on independent assurance\_GEI\_REE\_2018.pdf

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 Limited assurance Attach the statement Report on independent assurance\_GEI\_REE\_2018.pdf **Page/ section reference** 1-2 +Appendix (all document) **Relevant standard ISAE 3410** Proportion of reported emissions verified (%) 100 Report on independent assurance\_GEI\_REE\_2018.pdf

### C10.1b

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

Scope 3- all relevant categories

### Verification or assurance cycle in place

Annual process

### Status in the current reporting year

Complete

### Attach the statement

Report on independent assurance\_GEI\_REE\_2018.pdf



### Page/section reference

1-2 +Appendix (all document)

Relevant standard ISAE 3410

### 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 emissions intensity figure	ISAE 3000	All the information included in the annual Sustainability report has been verified by third party according to ISAE 3000 (limited assurance) GHG emissions intensity data are reported in pg. 134. (305-4) - Independent review report of the sustainability indicators, according to ISAE 3000 is included in Sustainability report (pg. 327).
C6. Emissions data	Year on year change in emissions (Scope 1)	ISAE 3000	All the information included in the annual Sustainability report has been verified by third party according to ISAE 3000 (limited assurance) Scope 1 emissions data (2015-2018) are reported in pg. 133 (305-1) - Independent review report of the sustainability indicators, according to ISAE 3000 is included in Sustainability report (pg. 327).
C6. Emissions data	Year on year change in emissions (Scope 2)	ISAE 3000	All the information included in the annual Sustainability report has been verified by third party according to ISAE 3000 (limited assurance) Scope 2 emissions data (2015- 2018) are reported in pg. 134 (305-2) - Independent review report of the sustainability



			indicators, according to ISAE 3000 is included in Sustainability report (pg. 327).
C4. Targets and performance	Emissions reduction activities	ISAE 3000	Information included in sustainability report has been verified by third party according to ISAE 3000 (limited assurance) Description of the measures are reported in pg. 122-129 Energy savings data: pg. 133 (302-4) - Emissions reduction data: pg. 134. (305-5) - Independent review report of the sustainability indicators, according to ISAE 3000 is included in Sustainability report (pg. 327).
C8. Energy	Other, please specify Energy consumption (indicators) and energy efficiency measures	ISAE 3000	Information included in the annual Sustainability report has been verified by third party according to ISAE 3000 (limited assurance) Energy consumption information is included in pg. 132-133. (302-1; 302-2); energy efficiency measures information is included in pg.125-127 - Independent review report of the sustainability indicators, according to ISAE 3000 is included in Sustainability report (pg. 327).
C6. Emissions data	Year on year change in emissions (Scope 3)	ISAE 3000	All the information included in the annual Sustainability report has been verified by third party according to ISAE 3000 (limited assurance) Scope 3 emissions data (2015-2018) are reported in pg. 134 (305-3) - Independent review report of the sustainability indicators, according to ISAE 3000 is included in Sustainability report (pg. 327).

0 1ree\_sustainability\_report\_2018.pdf

### 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)?

No, and we do not anticipate being regulated in the next three years



### C11.2

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

Yes

### C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase Credit purchase Project type Forests **Project identification** ID: VCSR803; Madre de Dios Amazon REDD Project Avoided deforestation-Peru Verified to which standard VCS (Verified Carbon Standard) Number of credits (metric tonnes CO2e) 2,090 Number of credits (metric tonnes CO2e): Risk adjusted volume 2,090 **Credits cancelled** Yes Purpose, e.g. compliance Voluntary Offsetting  $\wp_{2,090}$  VCUs correspond to the offsetting of emissions from the commuting of all those employees who answered the mobility survey in 2018 (53.6% of total workforce). C11.3 (C11.3) Does your organization use an internal price on carbon?

No, but we anticipate doing so in the next two years

## C12. Engagement

### C12.1

(C12.1) Do you engage with your value chain on climate-related issues?



Yes, our suppliers Yes, other partners in the value chain

### C12.1a

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

### Type of engagement

Compliance & onboarding

### **Details of engagement**

Included climate change in supplier selection / management mechanism

### % of suppliers by number

35

% total procurement spend (direct and indirect)

### % Scope 3 emissions as reported in C6.5

90

### Rationale for the coverage of your engagement

90 One of the objectives of REE's Climate Change Commitment and Climate Change Action is to extend the commitment to fight against climate change beyond our operations.

REE focuses this engagement in suppliers with activities with the greatest potential impact, such as construction, refurbishment of facilities and some maintenance activities.

Standards on corporate responsibility and environment (ISO 14001) are taken into account during evaluation and qualification process. Environmental standards are required for those suppliers that have a greater environmental impact (35% of total supply chain).

#### Impact of engagement, including measures of success

Impact of engagement:

100% of our suppliers of goods and services with environmental impacts have an ISO 14001 certification or equivalent certified by a third party.

We measure the success of our engagement through the percentage of highenvironmental impact suppliers qualified. It is successful if this indicator amounts to 100%.

### Comment

REE is working in a very ambitious project regarding supplier engagement. The aim is to adapt environmental requirements to the different type of suppliers, taking into account the risks associated to the products/services supplied and the supplier's country. Moreover, and as part of the Climate Change Action Plan, REE is also working in a new climate change engagement initiative for suppliers that will include not only new



procedures regarding compliance and data collection but also collaborative engagement actions that will help progress both REE and the suppliers towards a low-carbon economy.

#### Type of engagement

Information collection (understanding supplier behavior)

#### **Details of engagement**

Other, please specify Survey to suppliers

### % of suppliers by number

10

### % total procurement spend (direct and indirect)

60

### % Scope 3 emissions as reported in C6.5

80

### Rationale for the coverage of your engagement

REE has carried out many surveys to suppliers in order to obtain information to prioritize them in terms of emissions. Whilst the first survey was launched for all suppliers back in 2012, in recent years REE focused on main suppliers in terms of total spend (88 suppliers), which also cover 80% of total Scope 3 emissions, hence the scope of this engagement.

The aim of REE is to involve the most significant suppliers in our commitment, providing appropriate guidelines to suppliers in order to promote changes in their emission management and foster collaboration.

#### Impact of engagement, including measures of success

The impact during the first years of the survey was very interesting, particularly because some suppliers started to calculate their emissions due to REE's requirement. (4.5% of the 88 supplier).

Besides, REE have been able to compare direct data from suppliers and data from tools or databases and achieve some conclusions.

#### Comment

According to REE experience, the positive impact of launching the supplier's survey have slowed down in the last years and some data provided don't result really reliable in order to calculate emissions compared to the use of data base information. For this reason, REE has started to work in a new climate change engagement initiative for suppliers. One of the aspects that is being reviewed is the utility to launch surveys to a big amount of suppliers. The objective is to develop new and more effective engagement activities for data compilation and comparison between peers (different



suppliers for the same service/product) and to achieve results regarding emission reductions.

#### 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

0.05

### % total procurement spend (direct and indirect)

0.85

### % Scope 3 emissions as reported in C6.5

0.15

#### Rationale for the coverage of your engagement

This engagement is targeted to suppliers of specific services, who can provide direct and primary data in order to calculate Scope 3 emissions. This includes logistic suppliers and waste management.

#### Impact of engagement, including measures of success

-In the case of logistics supplier, a better performance has been achieved through our engagement. The internal logistics supplier has improved noteworthy the system to compile and report fuel consumption in the activities contracted by REE. REE works with the supplier in order to improve the efficiency and optimization of the routes and some results are being achieved (Intensity consumption (I/100km): 26.6 in 2015 compared to 24.3 in 208).

- In the case of waste management suppliers the information regarding final destinations of the waste has improved noteworthy. However, better information is still needed to define improvement plans. REE is working with suppliers, in the framework of its "Circular economy Commitment" to improve this information and suppliers performance.

#### Comment

According to REE's experience, specific actions with a small number of suppliers perform very good results. However, the % in emission reduction compared with total scope 3 emissions is not always very high.

#### Type of engagement

Innovation & collaboration (changing markets)

#### **Details of engagement**

Run a campaign to encourage innovation to reduce climate impacts on products and services



### % of suppliers by number

0.3

- % total procurement spend (direct and indirect) 2.6
- % Scope 3 emissions as reported in C6.5

2.2

### Rationale for the coverage of your engagement

The engagement is focused on a specific product: Gas Insulated Substations. These substations are insulated using SF6 gas, which have a high GWP (22.800). SF6 emissions are the most relevant emissions for REE (scope 1). The objective is to engage with SF6 manufacturers in the development of Research and Development projects to reduce SF6 losses or to find an alternative for SF6 gas. Sf6 is one of the most important environmental challenges for REE. For this reason, although there are not many suppliers involved, we consider this engagement very relevant for the company,

#### Impact of engagement, including measures of success

In the case of logistics supplier, a better performance has been achieved through our engagement. The internal logistics supplier has improved noteworthy the system to compile and report fuel consumption in the activities contracted by REE. REE works with the supplier in order to improve the efficiency and optimization of the routes and some results are being achieved (Intensity consumption (I/100km): 26.6 in 2015 compared to 24.3 in 208).

- In the case of waste management suppliers the information regarding final destinations of the waste has improved noteworthy. However, better information is still needed to define improvement plans. REE is working with suppliers, in the framework of its "Circular economy Commitment" to improve this information and suppliers performance. Some projects have been launched in collaboration with suppliers:

- Development of a new methodology for repairing leaks in GIS installations/facilities in collaboration with the SF6 manufacturers successfully completed in 2018, which enables the repair of breakdowns without dismantling the damaged sections what significantly speeds up the work. Measure of success: Breakdowns in GIS substations have accounted for more than 50% of the total number of gas leaks in 2018. The use of this methodology has allowed correctly repair works to be carried out in the Murterar substation, where 20% of the total amount of leaks were registered this year. The result of the actions carried out will be reflected in the data for 2019. In addition, similar repairs have been planned at four other facilities for 2019.

- Pilot project of GIS substation, using an alternative gas to SF6 (2018-2021): In 2018, significant progress was made in the study of alternatives to SF6 in GIS switchgear. Measurement of success: Two 66 kV gas insulated switchgear units using alternative gases were purchased. These units will be installed as mobile switchgear units in the Canary Islands. The development of this project has been considered a priority for the Company in 2018 (managerial objective). During 2019, in addition to continuing to develop this project, a new project has started, based on the study of alternatives to SF6 in AIS switchgear.



### Comment

The projects' results will impact mainly on REE's scope 1 emissions. SF6 emissions represents more than 92% of REE Scope 1 emissions, so working with suppliers to find an alternative to this gas is a priority for the Company.

### C12.1c

## (C12.1c) Give details of your climate-related engagement strategy with other partners in the value chain.

### A. Other partners: economic agents, society in general

<u>a. Methods of engagement:</u> REE has the commitment to promote energy efficiency among its stakeholders. The company is involved in many initiatives related to climate change and energy efficiency:

-Development of communication tools that are able to explain REE's positioning and best energy efficiency practices to society overall (web site, brochures, road shows) E.g.: Travelling exhibition entitled "A highway behind the wall socket", to spread knowledge about electricity system and energy efficiency among general public-; - Educational program aimed at children, to show them how electricity arrives to their homes and instil in them the concept of responsible consumption. The educational activities revolve around 'entreREDes', a digital educational application.

-Support to training and disclosure of knowledge about the electricity system and energy efficiency through collaboration agreements with universities and administrations.

-Participation in projects to contribute to greater efficiency in the electricity system by improving awareness of electricity demand and developing new management measures.

-Participation in specific projects and development of communication contents for electrical vehicles issues (brochures, web site).

-Working with International Associations such as the Renewable Grid Initiative (RGI), through specific working groups aimed to improve renewable energy integration.

<u>b. Prioritization</u>: Working with administration, economical agents and society in general is equally important to REE.

<u>c. Measures of success</u>: In this case it is very difficult to evaluate the success of the initiatives (they are mainly addressed to change habits of society in order to achieve a more efficient system). Results should be achieved in a longer term. Nevertheless, some figures can show the success of some initiatives (e.g. 1,000,000 visits accumulated to "a highway behind the wall-socket" exhibition; more than 15,600 school children from all over Spain have participated in the educational program (the satisfaction generated by these conferences is reflected in the results of the surveys: 84 % liked the game a lot); Training of 926 students of master's or specialisation courses through the organisation of 38 visits to Company facilities and 20 collaboration agreements signed with universities in 2018)

#### B. Other partners: employees and collaborators

a. <u>Methods of engagement</u>: To make the Company's commitment to efficiency visible and to encourage employees to identify and drive projects that promote the efficient use of natural resources, the internal efficiency brand 'Red Eléctrica Eficiente' was created, which identifies all these projects. Each year, some of these projects are recognised for their contribution to the



achievement of the various efficiency targets. Moreover, REE has been working for some years on the optimisation of work-related trips and in the reduction of the emissions associated with them through the Sustainable Mobility Plan with the aim of incorporating a new culture of mobility within the Company. The most important measures developed in recent years include: efficient management of fleet vehicles; measures to optimise work-related travel and rationalisation of the use of private vehicles in the daily commute to work centres. The main tools to engage employees in the Sustainable Mobility Plan are the mobility survey and the awareness campaigns in the internal website.

b. Prioritization: the work is focused on employees.

c. <u>Measures of success</u>: Red Electrica Eficiente: - Reductions in the work centers' resources consumption rates. - Increase of participation in "Red Eléctrica Eficiente awards" (e.g. increase of the participation in the contest: more projects applying for the price and more employees attending the awards ceremony) - Increase of participation of the employees regarding energy efficiency; Sustainable Mobility Plan: % employees using Company bus regularly and car sharing; comments gathered through the mobility survey and maintenance of Ecological Fleet Accreditation.

### 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 Other

### C12.3a

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Other, please specify Energy transition in Spain: electrification of the Spanish power system & renewable energy integration.	Support	REE closely works with the Spanish Ministry of Ecological Transition to design the transmission grid planning for Spain. REE draws up an infrastructure proposal to the Ministry which, after a wide public consultation process, defines and approves the final planning. The development and structural reinforcement of the electricity transmission grid is necessary to achieve the following objectives: - Evacuation of the newly installed renewable generation	The transmission grid planning is a legal Mandate. The last planning was approved on 16th October 2015 for the period 2015- 2020. The legal process to define the new Electricity planning has already started (2021-2026) and REE is working on it with the Spanish Ministry of Ecological Transition.

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



		facilities: in this way, it is possible to reduce the emission factor of the energy mix Supply power to new high- speed train lines: contributing to the reinforcement of a more sustainable mobility model Increase grid efficiency by grid meshing and strengthen international interconnections and interconnections between islands Contribution to the electrification of the Spanish power system that facilitates the usage of renewable energy sources in a greater number of applications. REE main criteria for the proposal are efficiency and viability.	
Clean energy generation	Support	REE, as the Transmission System operator of the electric system in Spain, is engaged with the regulatory bodies in Spain and in Europe (both directly and through ENTSO-E, the European TSO association,) for the development of some Regulation that supports secure and affordable European energy transition (to low carbon scenario). REE is in charge of the proposal of Grid Codes (Operational Procedures) for the transmission system. Those Grid Codes are very important because they set the criteria for renewable connection and integration into the power system. REE also works within ENTSO-E in the development of the European Network codes and Guidelines, which are also necessary for renewable integration into the European power system.	National Grid Codes (operational procedures) and European Network Codes and Guidelines, have been approved by Member States, publish in the Official Journal of the European Union and enter into force. Intensive national implemented tasks have been launched by REE.



Clean energy generation	Support with minor exceptions	REE engages with the regulatory bodies in Spain an in Europe (through ENTSO-E or the European TSO association) for the development of a new set of regulations in the frame of the "Winter Package", clean Energy for Europeans.	11 European legislative proposals dealing with renewables, energy efficiency, governance, electricity market and energy consumers in order to prepare the European power system for the 2030.
Other, please specify Climate Change: all aspects	Support	REE is engaged in the development of the new Spanish Climate Change legislation framework: - In 2017 the Council of Ministers approved the establishment of a committee of Experts to prepare a report on different scenarios for energy transition, to achieve environmental sustainability commitments in the most efficient way possible. REE took part of this committee, whose results were presented to the Parliament REE also participated in the different workshops and public consultations organized by the Spanish Ministry in order to develop the future legislation. -In 2018 REE has given technical support to the Spanish Ministry of Ecological Transition in the development of the PNIEC (Spanish Energy and Climate Plan, according to EU legislation). REE has contributed in the elaboration of electric scenarios from different proposals.	Spanish Energy and Climate Change proposal has been sent to the EU in 2019. The process is still ongoing.
Other, please specify Development of interconnections $\mathcal{D}_1$	Support with minor exceptions	REE participates in Med-TSO (18 TSOs in the Mediterranean area). This organization works to promote electrical interconnections between EU and MENA (Middle East and North Africa) countries.	Legislative solutions haven't come from this Project yet.



		Electrical interconnections are very important to integrate renewable energy into the electricity system, so the aims of the association are to develop a coordinate methodology and planning process as well as promoting a regulatory framework in the MENA countries aligned with EU regulation.	
Other, please specify Regulation on fluorinated GHG	Support with minor exceptions	REE works with Spanish Ministry of Ecological Transition in the definition of better policies regarding SF6 emissions accounting and management. REE has participated in the consultation process and in some other activities (public consultations, forums, meetings with people involved in the process). In 2015 REE signed a Voluntary Agreement on this issue, led by the Ministry of Ecological Transition and has been a very active member of the Technical Working group set up in order to share knowledge and to collaborate in possible coming legislation.	F-gas European regulation: REE has supported proposed regulation with some exceptions regarding details about monitoring and reporting emissions. REE proposed some amendments to de different drafts, and the regulation was finally approved in 2014. Besides, although it is not a legislative solution, requirements included in the Voluntary Agreement are mandatory for all the signers. The aim of the agreement is to create a framework of collaboration between all the stakeholders related to SF6 in Spain and develop some specific requirements about SF6 management (in addition to what it is stated by the legislation).

 $\mathcal{P}^1$ Development of interconnections between Europe and MENA (middle East and Mediterranean area) countries.

### 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 ENTSO-E

Is your position on climate change consistent with theirs? Consistent

### Please explain the trade association's position

ENTSO-E was created by the Regulation (EC) 714/2009 (the third energy package) and is formed by the TSOs from European countries. REE as founder member of ENTSO-E, collaborates with this association in aspects regarding the European transmission grid development (Ten Year Network Development Plan), maintenance and operation at a European level. One of the main works as mentioned above is the elaboration of "Network codes". (Some of them refer to common requirements for generators also mandatory for renewable energy integration into the power system). There are many on-going works.

REE also works with ENTSO-E to achieve a common and strong position in some environmental aspects. e.g. During 2013 work was focused on "Regulation on fluorinated greenhouse gases COM/2011/643" consultation process. The work was based mainly in lobbying activities. ENTSO-E supports the legislation with minor exceptions regarding monitoring and reporting emissions and training of professionals.

#### How have you influenced, or are you attempting to influence their position?

- For Networks codes, the work is developed by working groups where EC, ACER (Agency for the Cooperation of Energy Regulators) and all stakeholders have participation.

- In the case of SF6 regulation, REE collaborated in the elaboration of the common position document and had the opportunity to make comments on it.

### **Trade association**

Spanish Green Growth Group

### Is your position on climate change consistent with theirs?

Consistent

#### Please explain the trade association's position

The Spanish Green Growth Group is formed by a Group of companies and the Spanish administration. The aim of the group is to join public and private forces to promote the creation of an efficient roadmap for a low-carbon economy. With this vocation to lead in the medium and long term, the companies which form the Group want to demonstrate their commitment to incorporating climate policies in their business strategies, because



they are convinced that there is a huge opportunity for the Spanish economy to promote low-carbon green growth initiatives.

How have you influenced, or are you attempting to influence their position? REE belongs to the SGGG and shares the position with the other members. REE participates in the initiatives developed in the framework of this group. REE has the same position as SGGG (except minor exceptions that are discussed in working meetings to reach a consensus).

#### Trade association

FORETICA (Spanish representative of the World Business Council for Sustainable Development WBCSD)

Is your position on climate change consistent with theirs?

Consistent

### Please explain the trade association's position

Foretica is the Spanish partner for WBCSD, whose mission is to promote the integration of social, environmental and governance related aspects in the strategy and management of companies and organizations. The Climate Change Cluster, a working group formed by large companies, was launched in 2015. One of the objectives of this group is to bring the main trends in climate change to the Spanish context, through studies to generate practical solutions in collaboration with government and opinion leaders.

#### How have you influenced, or are you attempting to influence their position?

REE is a partner of Foretica and belongs to the Climate Change Cluster. REE shares the position with this group and participates in the meetings and initiatives developed by the cluster. REE has the same position as Foretica. Therefore, it is not necessary to influence Forieticas's position.

#### **Trade association**

CES (Excellence in Sustainability Club)

#### Is your position on climate change consistent with theirs?

Consistent

#### Please explain the trade association's position

CES is a trade association of outstanding companies from different sectors that work for a sustainable development growth. Its main position is fostering sustainable development. Its main roles are: collaborating with policy makers in the development of projects or acting as consultant when developing new legislation; benchmarking environmental, social and governance (ESG) good practices, sharing experiences and promoting sustainability (including climate change and energy efficiency issues).

### How have you influenced, or are you attempting to influence their position?



REE has the same position as CES. Therefore, it is not necessary to influence CES's position. REE works on some of the projects developed by the association. One of the most important works regarding new legislation has been the development of a study to foster domestic emissions reductions projects in Spain. REE, as a member, actively participated in this project. This work has been used to develop the CLIMA project regulation in Spain, to promote emissions reduction projects. Other relevant works are those related to energy efficiency (an Energy Efficiency Guide about the adaptation of the Spanish companies to the new Energy Efficiency regulation, based on the Energy efficiency Directive 2012/27/EU has been recently published).

### C12.3e

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

i) and ii)<u>Description and topic of the engagement</u>: REE has the commitment to promote energy efficiency among its stakeholders. Working with stakeholders on climate change issues can be very important in order to achieve some changes in public policies.

iii) <u>Nature of engagement</u>: participation in initiatives related to climatic change and energy efficiency through different actions (described below). iv) <u>Actions advocated as part of engagement</u>:

1.- Actions addressed to society in general: •Development of communication tools that are able to explain REE's positioning and best energy efficiency practices to society overall (web site, brochures, road shows) •Information and awareness of energy efficiency in events where REE is participating as a speaker or sponsor, in visits to its facilities (CECOEL and substations) or in ventures with various entities. •Participation in initiatives related to climatic change and energy efficiency, as well as applying for the rewarding and recognition of practices or projects in this field. •Support to training and disclosure of knowledge about the electricity system and energy efficiency through collaboration agreements with universities. •Development of specific communication contents for electrical vehicles (brochures, web site) • Progress in the distribution of information related to the performance of the CO2 emissions ratio associated to Spain's electricity consumption (mainly website) •Travelling exhibition entitled "A highway behind the wall socket", to spread knowledge about electricity system and energy efficiency among public. •Engagement activities linked to REE Forest Project: workshops held in different schools, awareness campaigns and voluntary work held by employees and their families. 2.- Actions addressed to the administration (policy makers) in climate change and energy efficiency issues through voluntary agreements. e.g.: •REE works with IRENA (International Renewable Energy Agency) through specific working groups aimed to improve renewable energy integration •Agreement with Palma de Mallorca Council to optimize electricity consumption (energy efficiency measures will be developed) •Participation in sustainable mobility initiatives (Mobility Observatory-CES, AEGFA-Association of Fleet managers- etc.) 3.-REE also has developed actions addressed to employees and supply chain. (e.g. "Every gesture counts" campaign, for contractors working on the premises of REE).

### 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?



- Climate Change Commitment is approved by the chairman and the CEO. The commitment has been communicated to the management team, to all employees and has been published. The management team is responsible to ensure that the proposed actions and activities developed in their units are in accordance to the company policies and standards. REE's commitment towards Climate Change is part of these policies, and therefore, all the company's direct and indirect activities (including those that influence policy) must be consistent with it. - In 2017, the Board of Directors approved the 2030 Sustainability Commitment of the Red Eléctrica Group. Said commitment is set out on four priorities: anticipating change and taking action; decarbonisation of the economy; responsible value chain, and the contribution to social, economic and environmental development. With this commitment, the Company addresses its long-term sustainability through a business model capable of responding to the challenges of the future that therefore must be taken into account in every decision that may affect REE strategy. One of the cornerstones of the model is "decarbonisation of the economy", that means that climate change commitment will be considered in any strategic decision for the company. The Sustainability Steering Committee is in charge of the integration of all the sustainability principles (sustainability model, including climate change) into the strategic decisions of the company. - Besides, the fulfilment of internal standards and regulation is reviewed through different auditing process (internal and third party processes), in order to certify the compliance. The accordance to climate change commitment is also reviewed in those processes.

### 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

■ REE\_Consolidated\_Annual\_Accounts\_2018.pdf

### **Page/Section reference**

Strategy (pg 151-152) Emissions figures (pg 153) Other metrics (electricity consumption, pg153) Targets (pg 152)

#### **Content elements**

Strategy Emissions figures Red Eléctrica S.A.U CDP Climate Change Questionnaire 2019 29 July 2019



Emission targets Other metrics

Comment

### Publication

In voluntary sustainability report

#### Status

Complete

#### Attach the document

Uree\_sustainability\_report\_2018.pdf

### **Page/Section reference**

Decarbonization od the economy (pg 90-131) Strategy (pg 92-98) Risks & opportunities (pg 73) Emissions figures(pg 132-134) Emission targets (pg 120-131) Other metrics (pg 132-134)

#### **Content elements**

Strategy Risks & opportunities Emissions figures Emission targets Other metrics Other, please specify Information about emission reduction measures, targets achievement, stakeholder relationship

Comment

### 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	Chairman of Red Eléctrica (President)	Board chair

### SC. Supply chain module

### SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

### SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	1,818,828,000

### SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

Yes

### SC0.2a

(SC0.2a) Please use the table below to share your ISIN.

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	ES	0173093115

### SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member Endesa Red Eléctrica S.A.U CDP Climate Change Questionnaire 2019 29 July 2019



Scope of emissions

Scope 2

Allocation level Company wide

Emissions in metric tonnes of CO2e 1,116,605.57

Uncertainty (±%) 0.5

### Major sources of emissions

Transmission grid losses

Verified

Yes

### **Allocation method**

Other, please specify

## Please explain how you have identified the GHG source, including major limitations to this process and

### assumptions made

Emissions reported have not been allocated. The figure reported corresponds to total emissions from transmission losses. These emissions are indirect emissions for REE, they do not occur during the REE activities as they take place at the various electricity generation points.

To allocate emissions is necessary to know the total MWh generated or distributed in Spain by the customer. Emissions should be allocated by Endesa because REE doesn't have this information. (REE doesn't have data of energy generated & distributed by Endesa).

For example, as a distribution company Endesa may consider emissions from transmission losses as part as its Scope 3 emissions. Taking into account that the reported figure (1,116,605.57 t CO2 eq) corresponds to all the electricity transported in 2018 in Spain (268,387,270 MWh), knowing the total amount of energy distributed by Endesa, allocation can be easily make. (1,116,605.57/268,387,270)\* total energy distributed by Endesa= Total allocated emissions (tCO2 eq)

#### **Requesting member**

Naturgy Energy Group SA

### Scope of emissions

Scope 2

Allocation level Company wide
Red Eléctrica S.A.U CDP Climate Change Questionnaire 2019 29 July 2019



#### Emissions in metric tonnes of CO2e

1,116,605.57

#### Uncertainty (±%)

0.5

#### Major sources of emissions

Transmission grid losses

#### Verified

Yes

#### Allocation method

Other, please specify

# Please explain how you have identified the GHG source, including major limitations to this process and

#### assumptions made

Emissions reported have not been allocated. The figure reported corresponds to total emissions from transmission losses. These emissions are indirect emissions for REE, they do not occur during the REE activities as they take place at the various electricity generation points.

To allocate emissions is necessary to know the total MWh generated or distributed in Spain by the customer. Emissions should be allocated by Naturgy because REE doesn't have this information. (REE doesn't have data of energy generated & distributed by Naturgy).

For example, as a distribution company Naturgy may consider emissions from transmission losses as part as its Scope 3 emissions. Taking into account that the reported figure (1,116,605.57 t CO2 eq) corresponds to all the electricity transported in 2018 in Spain (268,387,270 MWh), knowing the total amount of energy distributed by Naturgy, allocation can be easily make. (1,116,605.57/268,387,270)\* total energy distributed by Naturgy= Total allocated emissions (tCO2 eq)

## SC1.2

# (SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

The verified information of REE emissions is published in the company website. https://www.ree.es/sites/default/files/04\_SOSTENIBILIDAD/Documentos/Informe\_revision\_inde pendiente\_inventario\_GEI\_REE\_2018\_ANEXO\_EN.pdf

This information is also included in the annual sustainability report https://www.ree.es/en/publications/annual-report-2018

### SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?



Allocation challenges	Please explain what would help you overcome these challenges
Other, please specify Information not easilly available for REE	As customers develop generation and distribution activities, it is not clear the methodology that should be used to allocate emissions. Moreover, it is difficult for REE to find out the information of energy generated & distributed by each costumer. Clear information is not available.

## SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

No

## SC1.4b

(SC1.4b) Explain why you do not plan to develop capabilities to allocate emissions to your customers.

Customers emissions' allocation is not a material issue for REE in this moment. REE has a climate change strategy and a climate change action plan. Cornerstones of the strategy have been defined and main issues of actions have been approved. REE hasn't identified customers' emissions allocation as a priority, by this moment. There are other issues to start working on; that have been considered more relevant than allocation. REE is focused on the improvement of the calculation of its own emissions and on the development of emission reduction projects.

### SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

**Requesting member** 

Group type of project

Type of project

**Emissions targeted** 

Estimated timeframe for carbon reductions to be realized

Estimated lifetime CO2e savings



Estimated payback

Details of proposal

## SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

### SC3.1

(SC3.1) Do you want to enroll in the 2019-2020 CDP Action Exchange initiative? No

## SC3.2

(SC3.2) Is your company a participating supplier in CDP's 2018-2019 Action Exchange initiative?

No

## SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

Yes, I will provide data

## SC4.1a

(SC4.1a) Give the overall percentage of total emissions, for all Scopes, that are covered by these products.

## SC4.2a

(SC4.2a) Complete the following table for the goods/services for which you want to provide data.

### SC4.2b

(SC4.2b) Complete the following table with data for lifecycle stages of your goods and/or services.



# SC4.2c

(SC4.2c) Please detail emissions reduction initiatives completed or planned for this product.

Name of good/	Initiative	Description of	Completed or	Emission reductions in kg
service	ID	initiative	planned	CO2e per unit

## SC4.2d

(SC4.2d) Have any of the initiatives described in SC4.2c been driven by requesting CDP Supply Chain members?

# 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	Are you ready to submit the additional Supply Chain Questions?
I am submitting my response	Public	Investors Customers	No, Submit Supply Chain Questions Later

#### Please confirm below

I have read and accept the applicable Terms