



**RED**  
**ELÉCTRICA**  
DE ESPAÑA



## EMAS Environmental Statement 2020

June 2021



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## 1. Who is Red Eléctrica

**Red Eléctrica de España S.A. (REE)** was set up on 29 January 1985 as the first company in the world dedicated exclusively to the transmission of electricity and the operation of the electricity system.

In 2008, in order to strengthen the transparency and separation of regulated activities (electricity transmission and operation of the electricity system in Spain) from the rest of the business activities, a change was made in the Company's corporate structure with the creation of **Red Eléctrica Corporación (REC)**, as the parent company of the **Red Eléctrica Group**.

On 1 November 2020, following a resolution of the Board of Directors, the corporatisation process was definitively consolidated by transferring the Corporate Services, which were encompassed within Red Eléctrica de España (REE), to the parent company: Red Eléctrica Corporación (REC).

The main activity that falls under the responsibility of REE is to carry out the functions of sole transmission agent and operator (TSO) of the Spanish electricity system. Its mission is to guarantee the security and continuity of the electricity supply at all times and to manage the transmission of high-voltage electricity. As the operator of the electricity system, it carries out its operational functions through its electricity control centres in order to guarantee the correct operation of the electricity supply process at all times, both in the mainland system and in the non-peninsular systems.

In its capacity as manager of the high-voltage transmission grid, REE transports electricity from the power generation facilities to the consumption areas through its own extensive transmission grid, which it improves, expands and maintains by applying uniform standards and efficiency criteria. Furthermore, it is responsible for managing the exchange of electrical energy between external electricity systems through cross-border connections<sup>1</sup> and for guaranteeing third party access to the grid under equal conditions.

The Company exercises this responsibility with transparency, neutrality, independence and economic efficiency with the goal of providing an electricity service of the highest quality for society as a whole.

We are therefore responsible for the technical management of the Spanish electricity system, owners of the Spanish high voltage electricity transmission grid and the only company in Spain specialising in the activity of electricity transmission<sup>2</sup>.

Our main facilities are comprised of electricity control systems that manage, monitor and supervise the operation of the system; 44,741 circuit kilometres of high voltage transmission line and 6,057 substation bays with a transformer capacity of 93,735 MVA.

| Evolution of the facilities <sup>3</sup> |   | 2017          | 2018          | 2019          |
|--|---|---------------|---------------|---------------|
| Transmission Lines                       | <b>Total circuit kilometres of line</b> | <b>44,173</b> | <b>44,356</b> | <b>44,471</b> |
|  | 400 kV                                  | 21,727        | 21,738        | 21,753        |
|  | 220 kV or less                          | 22,446        | 22,618        | 22,718        |
| Substations                              | <b>Total number of bays</b>             | <b>5,798</b>  | <b>5,963</b>  | <b>6,057</b>  |
|  | 400 kV                                  | 1,498         | 1,535         | 1,556         |
|  | 220 kV or less                          | 4,300         | 4,428         | 4,501         |
|  | <b>Transformer capacity (MVA)</b>       | <b>91,130</b> | <b>92,465</b> | <b>93,735</b> |

<sup>1</sup> In this regard, since 2018, Red Eléctrica owns 50% of the share capital of INELFE, a company jointly set up with its French counterpart, RTE, to develop electricity interconnections with France.

<sup>2</sup> *Clasificación Nacional de Actividad Económica – CNAE* (Spain's National Classification of Economic Activities) 35.12: Transmission of Electricity.

<sup>3</sup> Data corresponding to the last three years - revised and updated in 2021. Source: Sustainability Report 2020.



For the **complete** and adequate development of the described activity, the participation of both REE and REC is essential, each of them intervening in those tasks that are under their responsibility throughout the process.

Therefore, the scope of this environmental statement and the EMAS Register **encompasses the activity of both REE and REC:**

- Transmission and Operation of the Spanish electricity system
  - *Activity carried out by REE according to **NACE<sup>4</sup> Rev.2 code: 35.12. Transmission of Electricity.***
- Corporate services that support these activities
  - *Activity carried out by REC according to **NACE Rev.2 code: 64.20. Activities of holding companies.***

It should be noted that the ownership of the registration in the EMAS<sup>5</sup> Register is in the name of the parent company.

It is not possible to separate the data pertaining to REE with regard to the carrying out of its functions as transmission agent and operator of the Spanish electricity system from that data pertaining to the activities of REC and its personnel regarding its corporate support function for such activities. Therefore, the scope of the information provided throughout this document, in terms of the environmental management process and the environmental performance results obtained, **encompasses both companies.**

In order to make the reading process easier and improve understanding of the document, both companies are hereinafter referred to as **Red Eléctrica** for all activities carried out within the scope of the Environmental Statement.

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<sup>4</sup> Statistical Classification of Economic Activities in the European Community.

<sup>5</sup> Registration in the EMAS Register in 2021 and thereafter will be in the name of the parent company, Red Eléctrica Corporación (REC). In previous years, ownership of the EMAS register was in the name of Red Eléctrica de España (REE).



## 2. Environmental Management and Policy

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### 2.1. Environmental Policy<sup>6</sup>

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The Red Eléctrica Group expresses its commitment to protect the natural environment and undertakes to promote and ensure that each employee in the Group performs their daily work with the utmost respect for the environment. This is achieved through ongoing improvement in the fulfilment of their duties and responsibilities.

The principles of our environmental policy are as follows:

- Apply the principles of excellence adopted by the Company and incorporate and promote best practices in the field of environmental management.
- Ensure compliance with environmental legislation, regulations and laws applicable to the activities they carry out and adopt those voluntary commitments regarding environmental matters which are considered to be of interest.
- Guide the Group towards sustainable development, seeking to maintain the adequate balance between respect for the environment, the promotion of progress, social well-being and economic interests, with the objective of creating value on an ongoing basis.
- Achieve leadership in environmental matters in all the companies of the Red Eléctrica Group within their scope of activity.
- Ensure continuous improvement, the prevention of contamination and the principle of caution, according to the objectives and capacities of the Red Eléctrica Group.
- Promote research, development and the use of new technologies and processes with the objective of preventing or minimising environmental impacts.
- Contribute to a sustainable energy model, with a greater presence of energies generated by clean and efficient technologies regarding electricity consumption.
- Develop and maintain a transmission grid that is not only integrated into the landscape, but also into the socio-economic environment.
- Drive the conservation of biological diversity through active collaboration on those initiatives which help reduce its loss.
- Adopt a clear commitment in the fight against climate change, backing energy efficiency and sustainable mobility as fundamental pillars.
- Develop and provide ongoing actions regarding training, awareness and motivation concerning environmental protection.
- Develop and maintain dialogue channels and means of communication to keep all interested parties informed about environmental related actions whilst promoting collaboration frameworks with stakeholder groups.
- Consider the environmental policies and requirements as one of the criteria in the selection, qualification and assessment of suppliers.

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<sup>6</sup> Environmental policy applicable to all the companies that make up the Red Eléctrica Group. First Edition (PC01 replacing Edition 4 of Policy PG11) approved by the Management Committee in October 2014.



## 2.2. Responsible Environmental Management

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Red Eléctrica carries out all its activities taking into consideration environmental protection in accordance with the principles set out in its **environmental policy**, among which are included the commitment to the prevention of contamination and the principle of caution. All activities are undertaken from a position of ethical commitment to society, integrating environmental protection into the business management with the aim of creating ongoing value.

The main environmental impacts of Red Eléctrica are those derived from the presence of facilities in the territory, therefore the Company works non-stop to make their facilities compatible with the environment, considering their entire life cycle and paying particular attention to biodiversity conservation.

Furthermore, Red Eléctrica is a key player in the energy transition towards a decarbonised energy model and therefore has undertaken a specific commitment in the fight against climate change.

Red Eléctrica's commitment not only covers its own activities, but this commitment also extends to its supply chain.

## 2.3. Sustainability Indexes

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The firm and focused effort of Red Eléctrica to become a model company that is responsible, efficient and sustainable has been recognised by leading sustainability rating agencies, which has led to the Company being present in some of the key sustainability indexes as a result of their performance in this field, among the indexes of note are:

- Dow Jones Sustainability Index.
- FTSE 4 Good.
- Euronext Vigeo Index Eurozone 120 and Euronext Vigeo Europe 120
- MSCI (Morgan Stanley Capital International).
- **Ethibel Sustainability Index Excellence Europe, Ethibel PIONEER and Ethibel EXCELLENCE Investment Registers**
- **Sustainalytics**

Among the awards and recognitions received by Red Eléctrica in 2020 for its environmental management the following are noteworthy:

- **CDP Leadership Index.** The Company has achieved a rating of A- and has been included in the leadership position in recognition for its efforts and actions to combat climate change.
- **Worldwide leadership position** in the Dow Jones Sustainability Index in the Electric Utilities sector. Red Eléctrica has maintained a continued presence, consecutively for the last six years, in the Dow Jones Sustainability World Index, and in 2020 the REE Group has once again been included in the Dow Jones Sustainability Europe Index.
- **Silver Class** distinction in the Electric Utilities sector of the 'The Sustainability Yearbook 2021' published by S&P Global.

More information can be found at:

<https://www.ree.es/en/sustainability/commitment-to-sustainability/leadership-in-sustainability>

<https://www.ree.es/en/publications/sustainability-report-2020>





## 2.4. Environmental Management System

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In order to carry out a continuous improvement of its environmental performance Red Eléctrica has a certified Environmental Management System in accordance with UNE-EN ISO 14.001:2015 standard, certified since May 1999 and which, since October 2001, has been registered under the EU Eco-management and Audit Scheme (EMAS) with registration number N° ES-MD-000313 (previously ES-SB-000013).

This system covers all the activities and facilities of Red Eléctrica.

### • MANAGEMENT STRUCTURE

The Environmental Management System is part of a Comprehensive Corporate Management System which also encompasses the Quality, Occupational Health and Safety, and Corporate Responsibility management systems. The aforementioned management systems take into consideration all those regulatory aspects which have been defined as being potentially crosscutting based on the existing processes and resources dedicated to each one of them, with the aim of:

- Gearing the processes to achieving objectives, increasing the satisfaction of clients and stakeholders.
- Increasing the integration and reliability of operations and effectiveness at a personal and organisational level.
- Creating a culture oriented to safety, excellence and efficiency.

Specifically, the Environmental Management System comprises all the activities performed by Red Eléctrica in all its facilities and work centres, with special attention to those that generate an interaction with the environment. It is integrated across the board into the decision-making process and in the Company's activities, promoting a business model that takes into account the social, economic, ethical and environmental dimensions.

### • FUNCTIONAL STRUCTURE

Red Eléctrica's commitment to the environment, which stems from the Company's senior management, establishes the environmental policy and implements the means for compliance with environmental requirements, being the **Chairperson** of the Company who holds the maximum responsibility regarding the environment. This commitment not only covers the Company's own activities but also extends to its supply chain.

Additionally, the Company voluntarily created the **Sustainability Committee**, even though there was no legal requirement to do so. This Committee responds to the strategic nature that the Board of Directors wants to grant to sustainability within the Company, contributing significantly to the positioning of Red Eléctrica in this field. Monitoring and promoting Red Eléctrica's actions related to the environment and the fight against climate change are among the objectives of the Sustainability Committee.

At a tactical level, the management area responsible for defining and coordinating the development and monitoring of the Environmental Management System is the **Sustainability Area**. The Sustainability Department is part of the Sustainability Area and is integrated into the **Corporate Sustainability and Research Division** that reports to the Chairperson's Office.

The mission of the **Sustainability Department** is to design, coordinate and control the implementation of the strategies, policies, systems, criteria and actions regarding sustainability of the Red Eléctrica Group and, as part of its responsibilities, to coordinate the development and monitoring of the Environmental Management System.

The maintenance of the Environmental Management System involves all the Company's units, highlighting the key role of the **Environmental Department**, integrated within the Licenses and Environmental Area belonging to the Transmission Division, whose function is integrate the environmental variable in all phases of the life cycle of the facilities, ensuring compliance with the environmental conditioning factors required by the competent bodies in environmental matters and by internal and external regulations.





In addition, the involvement of all organisational units and the commitment of all those who work in the Company is fundamental for the implementation of an appropriate environmental management. The functional guideline manual includes, as a cross-cutting responsibility that is strategic in nature for all the units, that of undertaking all activities while ensuring the fulfilment of the objectives established in the various environmental management plans, in order to ensure the fulfilment of the Company's commitment to protect and respect the natural environment.

Both the Sustainability Department and the Environmental Department is comprised of a diverse range of professionals and experts in environmental matters and part of their mission is to actively support the territories in which the facilities are located. Red Eléctrica's facilities that are in the project definition, construction or maintenance phase are environmentally controlled on site by personnel from each specific regional area.

#### • DOCUMENTATION STRUCTURE

The Environmental Management System is based a set of applicable regulations.

The management processes include the drafting, custody, maintenance and registering of the documented information necessary for the Environmental Management System. The associated documentation is updated and easily accessible in different formats/media for all personnel.

The regulations of the Environmental Management System are composed of the following documents:

- **POLICIES:** set out general guidelines developed with the aim of achieving the business vision and strategies. The procedures and the rest of the associated regulations are derived from them.
- **ACTION GUIDES:** documents that establish and provide criteria or guidelines or information to facilitate the carrying out of activities from an environmental point of view. The action guides include those documents that set out the strategic guidelines contained in the corporate policies.
- **PROCEDURES:** regulations that govern processes of a general or corporate nature. They describe the purpose, scope, responsibilities and courses of action to be followed in each procedure.
- **TECHNICAL INSTRUCTIONS:** describe in detail some or all of the activities of a process. Their objective is to explain the methods and systems for carrying out tasks and functions to technical experts or positions that perform them within the company.
- **TECHNICAL SPECIFICATIONS:** describe in detail the terms and conditions as well as the technical specifications required for the acquisition of goods and services that are made on a regular basis from external suppliers of the Company.
- **MANUALS:** documents that govern certified or accredited activities.

#### ○ Changes in the documentation of the environmental management system 2020

During 2020 many of the environmental management system documents were modified in order to keep them updated on an ongoing basis and introduce improvements in the management thereof. The changes are indicated in the table below.

| Code  | Title  | Edition | Published on | Approval date | Cancels   |
|-------|--|---------|--------------|---------------|-----------|
| EA004 | Environmental specifications for work on substations, lines and buildings  | 5       | 27-01-2020   | 15-04-2020    | Edition 4 |
| AA008 | Drafting and management of environmental specifications for works and jobs | 2       | 13-10-2020   | 16-11-2020    | Edition 1 |
| ET239 | Specifications for the prevention and extinction of forest fires           | 1       | 20-11-2020   | 03-12-2020    | ----      |
| IT490 | Prevention and extinction of forest fires                                  | 1       | 20-11-2020   | 03-12-2020    | ----      |

No documentation regarding the environmental management system has been cancelled or annulled.



### 3. Scope of the EMAS Register

Red Eléctrica has an environmental management system, with EMAS Registration No. ES-MD-000313, whose scope covers the entirety of the Company's activities (*NACE Rev.2: 35.12. Transmission of Electricity and NACE 64.20. Activities of holding companies*) and complies with the requirements of Regulation (EC) No. 1221/2009 ('EMAS III'), Regulation (EU) 2017/1505 amending Annexes I, II and III to Regulation (EC) No. 1221/2009 and also Regulation (EU) 2018/2026 amending Annex IV to Regulation (EC) No. 1221/2009 which sets the environmental reporting requirement:

- **Transmission and Operation of the Spanish electricity system.**
- **Corporate services that support these activities.**

and that are performed at:

- **Moraleja Head Office and Central Regional Office:** Paseo Conde de los Gaitanes, 177. 28109 - Alcobendas (Madrid)
- **Albatros Head Office:** C/Anabel Segura 11. 28109 - Alcobendas (Madrid).
- **CECORE:** Parque Tecnológico de Madrid, C/Isaac Newton, 13. 28760 - Tres Cantos (Madrid).
- **CAMPUS Tres Cantos:** Parque Tecnológico de Madrid, C/Isaac Newton, 2. 28760 - Tres Cantos (Madrid).
- **Regional Office and System Operation Department of the Balearic Islands:** Camino Son Fangos, 100 Edificio A - 2ª planta. 07007 - Palma de Mallorca
- **Regional Office and System Operation Department of the Canary Islands** (Main Office in Las Palmas de Gran Canaria) Calle Juan de Quesada, 9. 35001 - Las Palmas de Gran Canaria (Las Palmas)
- **Regional Office and System Operation Department of the Canary Islands** (Main Office in Tenerife): Nuestra Señora de la Ternura (Los Majuelos), 38108 - San Cristobal de la Laguna (Santa Cruz de Tenerife)
- **Northern Regional Office:** C/Ibañez de Bilbao, 28 7ªA. 48009 - Bilbao (Vizcaya).
- **North-Eastern Regional Office:** Avenida Paralelo, 55. Edificio REE. 08004 - Barcelona.
- **North-Western Regional Office:** C/Gambrinus, 7 2ª Izq. 15008 - La Coruña
- **Southern Regional Office:** C/Inca Garcilaso, 1 Edificio REE. 41092 - Isla de la Cartuja (Sevilla)
- **Eastern Regional Office:** Avenida de Aragón, 30 Planta 14. 46021 - Valencia
- **Ebro Regional Office:** Plaza Aragón, 10, Planta 2, Oficina 3. 50004 - Zaragoza
- **Eastern Regional Transmission Office:** C/Puebla Larga, 18, 46183 - La Eliana (Valencia)
- **North-western Regional Transmission Centre:** Carretera N-601, Madrid-Valladolid-León, KM 218. 47630 - La Mudarra (Valladolid)
- **Northern Regional Transmission Centre:** Carretera Zaragoza-Sariñera, Km 9,2. 50162 - Villamayor (Zaragoza).
- **North-Eastern Regional Transmission Centre:** Carretera antigua Castellbisbal-Rubí, S/N Polígono Industrial Can Pi de Vilaroc. 08191 - Rubí (Barcelona).
- **Central Regional Transmission Centre:** Carretera N-I Madrid-Burgos, KM 20,7. 28700 – San Sebastián de los Reyes (Madrid).
- **Southern Regional Transmission Centre:** Carretera Sevilla-Utrera, KM 17. 41500 - Alcalá de Guadaira (Sevilla).
- **Balearic Islands Regional Transmission Centre:** C/ Gerrers esquina Siurells, 2ª Planta. Polígono industrial Marratxi. 07141 - Marratxi (Palma de Mallorca).
- **Canary Islands Regional Transmission Centre:** C/ Laura Grötte de la Puerta, 5. Polígono industrial El Mayorazgo. 38110 - Santa Cruz de Tenerife.



The following infrastructure or line sections are excluded from the scope of the EMAS register specifically in those areas where they are located, or through which they cross (municipalities indicated):

| Facility   | Municipality                           |
|--|--|
| Line: 220 kV Soto de Ribera - Trasona line   | Corvera de Asturias (Asturias)         |
| Line: 400 kV Ascó – Senmenat 2 line  | Santa Margarida de Montbui (Barcelona) |
| Line: 400 kV La Robla-Soto de Ribera line<br>400 kV Salas -Soto de Ribera line<br>220 kV Carrio-Soto de Ribera line<br>220 kV Soto de Ribera-Tabiella line | Ribera de Arriba (Asturias)            |



## 4. 2030 Sustainability Commitment. Sustainable Development Goals

The 2030 Sustainability Commitment of the Red Eléctrica Group, approved by the Board of Directors materialises the commitment made by the Company to its long-term continuity and success through a business model capable of creating shared value for all its stakeholders through the responsible execution of its activities.

The Commitment is underpinned by ten principles defined in the Sustainability Policy and is specified in four sustainability priorities, in order to address the challenges facing the organisation and to prioritise the existing opportunities, with the aim of occupying a position of reference in the global business context.

This Commitment has been driven by defining eleven sustainability goals for the 2030 horizon that are quantifiable and aligned with the Strategic Plan (<https://www.ree.es/en/sustainability/commitment-to-sustainability/sustainability-objectives-2030>).













These objectives, defined by the Sustainability Steering Committee and validated by the Sustainability Committee of the Board of Directors, contribute directly to the achievement of the United Nations Sustainable Development Goals (SDGs).

The most relevant 2030 Sustainability Goals for environmental management are the following:

- **Reduce our GHG emissions by more than 40% per MWh transported.**
- **Generate a positive net impact on the natural capital in the vicinity of our facilities.**
- **Be a leading company in circular economy.**

The 2030 Sustainability Commitment is deployed through multi-year plans. The 2020-2022 Sustainability Plan was approved by the Executive Committee in July 2020. The new plan is made up of 17 courses of action and consists of a total of 39 targets.

Aware that the role of companies is key to achieving the SDGs, the Red Eléctrica Group, based on the nature of its activity and the countries in which it operates, has carried out a process to identify priority SDGs. As a result of this process, the most relevant SDGs have been classified into two levels of relevance for Red Eléctrica:

| Identification and Prioritisation of SDGs for the Red Eléctrica Group |   |   |   |  |   |   |
|---|---|---|---|--|---|---|
| SDGs<br>High<br>Relevance   |  |  |  |  |  |  |
| SDGs<br>Medium<br>Relevance   |  |  |  |  |  |  |

In 2019, in order to advance in the Company's 2030 Sustainability Commitment, an update of the materiality study was carried out in accordance with the Global Reporting Initiative (GRI) standards in order to identify the Company's relevant material issues.



The materiality study carried out identified 16 material issues for the Red Eléctrica Group and its stakeholders.

Among the material issues identified, those with a more significant environmental component and also prioritised by a greater criticality for the achievement of the Company's long-term objectives were the following:

- **Climate Emergency (*Climate Change*)**
- **Biodiversity and Natural Capital**
- **Circular Economy**

The aforementioned material issues constitute two of the three vectors that articulate the Annual Environmental Plan of the Red Eléctrica Group. The 'Circular Economy' issue is included as a relevant area of action in the Environmental Management vector of facilities (*Landscape integration of the facilities into the environment and the prevention of pollution*) together with other areas of action.

In any case, and although it has not been determined in the analysis process as a material issue, **the landscape integration of the facilities into the environment and the prevention of pollution** is one of the main vectors of progress for Red Eléctrica in environmental management.

The three vectors are interrelated.



## 5. Red Eléctrica's Activities and the Environment

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Red Eléctrica's facilities are located nationwide due to the fact that the aim of the electricity transmission grid is to link the points of energy generation to the electricity distribution points, so it can be provided to the final consumer. The presence of electricity infrastructure, in no case, represents a significant alteration in the way of life of the communities affected.

The interaction of the electricity facilities with the environment is mainly linked to their presence in the territory and to the works associated with their construction and maintenance. Therefore, it can be understood that the main environmental impacts are associated with the territory and landscape where the substations are located, and which are crossed by electricity lines.

The main measure to reduce and even avoid the undesired effects of Red Eléctrica's facilities on the environment is the selection of the site where facilities will be located. In this regard, it is essential to consider environmental and social variables at all stages of the development of the transmission grid.

This includes carrying out a viability analysis of the facilities before their incorporation into the electricity planning proposal that Red Eléctrica, as System Operator, submits to the Ministry of Ecological Transition and the Demographic Challenge. Since 2019, Red Eléctrica has worked on the feasibility analysis of the infrastructures proposed for the next Electricity Planning for 2021-2026, which is binding in nature, having analysed the different alternatives and studied the complexity of their implementation within the territory.

Once the Electricity Planning is approved, which is subject to the strategic environmental assessment procedure, the Company conducts a detailed study of the territory and defines, in a coordinated manner with the public administrations and key stakeholders, the siting (location) of substations and the routes the electricity lines will follow. Furthermore, with the aim of minimising the potential impact of facilities and lines, the appropriate and necessary preventive and corrective measures to be applied during the construction or maintenance of facilities are established.

The best tool that makes it possible to define the most appropriate project and establish the suitable preventive and corrective measures is the **Environmental Impact Assessment** procedure; a procedure which the majority of the Company's projects are legally required to carry out.

To ensure the implementation, continuity and effectiveness of the established measures, **environmental monitoring programmes** are defined and executed. These are applied in the construction of the facilities and in the first years of their operation, and they facilitate the definition of new measures that may be deemed necessary.

For the facilities in operation, the Company conducts periodic reviews in order to verify compliance with environmental standards.

It should be noted that, during the last three years, the **'Maintenance management and territorial observatory' project**, which consisted of integrating into the corporate mapping system all the environmental, social, cultural and technical conditioning factors that must be taken into account when requesting authorisation and carrying out maintenance works on facilities (more than 70 layers of digitalised information covering 200m on each side of an electricity line), in order to facilitate that all conditioning factors are accessible to all Company staff and are taken into consideration and analysed before carrying out any activity.

Among the preventive and corrective measures applied noteworthy are those aimed at the protection of biodiversity, habitats and species, and those aimed at reducing potential impacts on the socioeconomic environment. Currently one of the most relevant issues in relation to the integration of facilities into the environment is to improve their social acceptance. Carrying out public consultation and participation processes represents a key tool to accomplish this goal. Among other objectives, the aim is to enrich stakeholder information, to strengthen the environmental impact assessment processes of projects and to minimise potential conflicts.



In 2020, more than 10 specific actions were carried out with various bodies of the government administrations with competence in environmental issues (technical and informative workshops and visits to facilities) that contribute to improving their knowledge of the Company, facilitating the decision-making process and strengthening relations and joint working.

The diagram on the following page schematically illustrates the main environmental criteria applied in the main transmission grid development phases:





## Development and implementation phases for transmission grid infrastructure

| <br><b>Infrastructure proposal</b><br>[Drawn up by REE]   | <br><b>Transmission grid planning</b><br>[Drawn up by MITECO]                                     | <br><b>Project design</b><br>[New facilities and modifications]   | <br><b>Construction or modifications of facilities</b>   | <br><b>Maintenance</b>  |
|--|--|--|---|--|
| <b>Environmental Feasibility Study</b> <ul style="list-style-type: none"><li>· Analysis of all proposals from an environmental point of view.</li><li>· Only includes environmentally feasible projects.</li></ul> | <b>Strategic environmental assessment of plans and programmes.</b><br><br><b>Public participation of stakeholder groups (SGs) through the submission of comments or arguments.</b> | <b>Prior dialogue with stakeholders before defining the project (Autonomous Communities, local councils and NGOs).</b><br><br><b>Environmental Impact Assessment.</b> <ol style="list-style-type: none"><li>1 Prior consultation with SGs.</li><li>2 Defining the alternative of least impact.</li><li>3 Public information. Submission of arguments by SGs.</li><li>4 Proposal for preventive and corrective measures.</li><li>5 Publication of results. Environmental authorisation.</li></ol> | <b>Implementation of preventive and corrective measures.</b><br><br><b>Environmental monitoring [monitoring of preventive and corrective measures].</b><br><br><b>Monitoring the work of contractors regarding compliance with environmental requirements.</b><br><br><b>Environmental certification of works taking into account compliance with environmental requirements.</b> | <b>Environmental monitoring programmes in the initial years of operation of a facility.</b><br><br><b>Periodic inspections of facilities to verify compliance with standards and identify improvement measures.</b><br><br><b>Application of environmental improvement measures.</b> |



Taking the previously shown diagram regarding the environmental criteria applied as a reference, the following are relevant events that occurred during 2020:

## 1. Transmission Grid Planning

The current infrastructure planning, approved by the Council of Ministers in October 2015, covers a period of six years and is binding in nature for Red Eléctrica. This planning includes the projects for new transmission grid infrastructure that is necessary to guarantee the electricity supply nationwide, taking into account the sustainability and economic efficiency of the electricity system.

The planned infrastructure is essential for the integration of new renewable energy, the commissioning of electricity lines for the high-speed train, the improvement of the efficiency of the electricity system and maximising the use of the existing renewable energy capacity (thanks to grid meshing and international interconnections) and the electrification of the Spanish energy system, which facilitates the increased use of renewable energy.

All the proposals included in the Planning have been analysed from the point of view of physical, technological and environmental viability, prioritising those alternatives that allow better use to be made of the existing grid.

The Planning undergoes a Strategic Environmental Assessment process regarding plans and programmes by the competent environmental authority. Furthermore, and as a result of the obligations derived from the Environmental Report, Red Eléctrica collaborates with the Ministry of Ecological Transition and Demographic Challenge (MITERD) in the drafting of the annual reports of environmental monitoring; these basically consist of the calculation of a series of performance indicators defined in said environmental report.

In 2019, the process for drafting the 2021-2026 Planning was started (Order TEC/212/2019) and in 2020 the Company collaborated on the environmental part with MITERD, as was done in the previous periods with the Energy section of the Ministry of Industry, participating in the preparation of the Strategic Environmental Study.

## 2. Definition of projects

Environmental permitting processes were initiated for **1 investment project**:

|                            | Permitting process initiated |      |                |
|----------------------------|------------------------------|------|----------------|
|                            | 2018                         | 2019 | 2020           |
| Initial document           | 1                            | 1    | 0              |
| Environmental Document     | 4                            | 5    | 0              |
| Environmental Impact Study | 13                           | 10   | 1 <sup>7</sup> |
| Total initiated            | 18                           | 16   | 1              |

<sup>7</sup> Tenerife-La Gomera Submarine Cable (Chío-El Palmar). The environmental impact study on the Submarine Interconnection with France (Bay of Biscay) was drafted and completed in 2020 but will be processed in 2021.



The evolution of the conclusion of the environmental permitting process of projects for new facilities in the last three years is as follows:

|   | Permitting processes completed |          |          |
|---|--------------------------------|----------|----------|
|   | 2017                           | 2018     | 2019     |
| Positive Environmental Impact Statement | 3                              | 3        | 3        |
| Negative Environmental Impact Statement | 0                              | 0        | 0        |
| Environmental Resolution                | 6                              | 2        | 4        |
| <b>Total</b>                            | <b>9</b>                       | <b>5</b> | <b>7</b> |

Environmental authorisation was obtained for **7** projects, all of which received a positive environmental impact statement.

| Positive Environmental Impact Statement <sup>8</sup> |
|--|
| 220kV Sancho Llop substation                         |
| 400 kV Baza substation                               |
| 132 kV Formentera substation                         |

| Environmental Impact Statement/ Environmental Resolution <sup>9</sup>                                     |
|---|
| The 220 kV San Fernando substation not submitted to an Environmental Impact Assessment.                   |
| Unified Environmental Authorisation for the 400kV Baza-Caparacena line                                    |
| The 220 kV Castellar substation not submitted to an Environmental Impact Assessment.                      |
| Favourable Environmental Impact Report for the 220 kV Cáceres - Los Arenales - 1st phase to Trujillo line |

At the end of 2020, **51** investment projects are at different stages of the environmental permitting process.

In the environmental subsection of the sustainability area of the corporate website you will find the section 'Environmental permitting process' where the procedure of environmental processing of projects is described and the documents related to the projects that are being processed are published: <https://www.ree.es/en/sustainability/the-natural-environment/status-of-the-environmental-permitting-process-of-projects>

<sup>8</sup> Authorisation resulting from the Ordinary Environmental Impact Assessment process (Environmental Impact Study)

<sup>9</sup> Authorisation resulting from the Simplified Environmental Impact Assessment process (Environmental Document)



### 3. Construction or modification of facilities

Red Eléctrica performs environmental monitoring on the construction of new electricity lines and substations as well as renovations, upgrading and enlargements of those facilities already in service. This monitoring consists mainly of verifying that the preventive and corrective measures defined in the project are implemented, verifying their effectiveness and defining new measures, if deemed necessary, based on the results obtained.

Additionally, there is a continued increase in the dedication of resources to the tasks prior to the commencement of works (e.g. inventories of trees felled) and the subsequent tasks included in the Environmental Monitoring Programmes to be carried out during the start of the operating phase of the facility, primarily due to the increased requirements included in the environmental authorisations.

The following infrastructure was under construction in 2020: 36 substations and 801 km of line.

With the aim of ensuring the adequate fulfilment of the environmental requirements and verifying the effectiveness of the implemented preventive and corrective measures, during the year environmental monitoring was carried out on 100% of all construction works for new infrastructure (a total of 90).

The permanent<sup>10</sup>, environmental supervision, aimed at intensifying the control and monitoring of measures, covered **95.5%** of total works performed.

| Environmental supervision of construction works |                                      | 2018 | 2019 | 2020 |
|---|--------------------------------------|------|------|------|
| Substations                                     | % Permanent environmental monitoring | 97.1 | 92.5 | 91.7 |
| Lines (km)                                      | % Permanent environmental monitoring | 93.4 | 94.4 | 98.9 |

In works associated with the construction of lines or the modification of facilities, the main impacts to be avoided are the alteration of the habitat of certain species of fauna and flora, and also the impact on vegetation due to the opening up of safety corridors, necessary to prevent fires during the operation of the line.

The specific preventive, corrective and offsetting measures carried out in this phase during 2020 can be consulted in the Annex: 'Environmental Actions 2020', shown at the end of this document.

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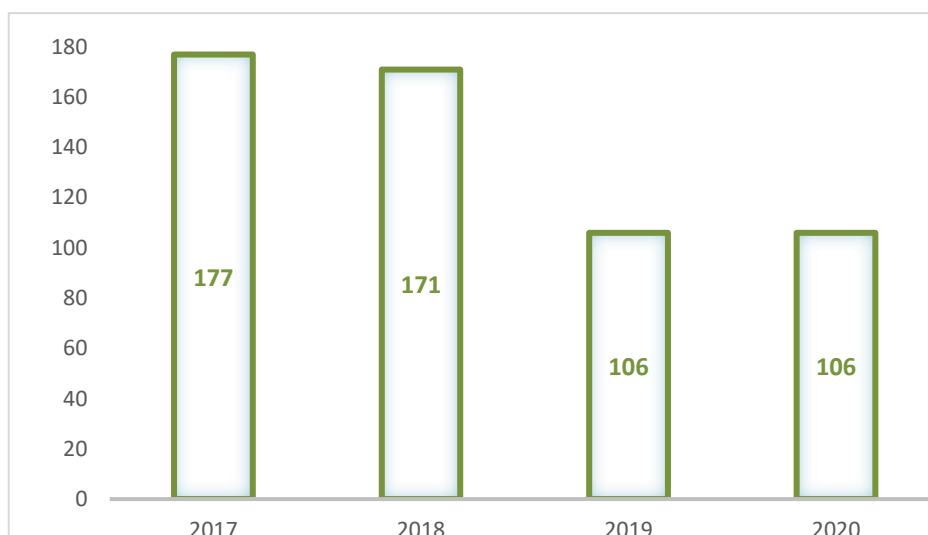
<sup>10</sup> Supervision carried out to a higher degree than that set as a minimum in Environmental Instruction IA015.



#### 4. Maintenance of facilities

Regarding the maintenance phase, in 2020, a total of 106 environmental inspections were carried out in substations. This total represents 15.2% of all the substations in operation (697) in 2020. In the last 6 years a total of 406 substations have been inspected.

**Number of environmental inspections in substations**



The results of these supervisions allow environmental improvement actions to be identified and considered in the planning of actions in both the renovation and improvement plans as well as in the maintenance programmes.

In addition, the environmental risk of the work to be carried out during the year is analysed and the environmental supervision of the subsequent works related to the maintenance of the facilities is carried out:

- Modification and adaptation work regarding power regulating equipment (power transformers, reactors, phase shifters, auxiliary transformer units with more than 1,000 litres of oil).
  - Transfer, emptying and filtering of oil
  - Replacement of power terminal blocks
  - Repair of faults or repairs involving the transfer or movement of oil
  - Transportation / transfer
  - Decommissioning
- Construction, adaptation and/or remodelling of oil tanks and collection pits.
- Remodelling or comprehensive remodelling of buildings in which earthworks/civil works are carried out.
- Characterisation and/or cleaning of soils (excluding incidents).
- Silvicultural operations on the strips of land around the perimeter of substations.
- Work in which asbestos waste may be generated.
- Work where SF<sub>6</sub> gas is handled by an external company in gas insulated substations.
- Work associated with the repair of damages caused by accidents that have environmental consequences (excluding incidents).

During 2020, a total of **61** environmental supervisions of maintenance work were carried out, consolidating the implementation of environmental supervision in activities that have a significant environmental impact.



## 6. Environmental aspects

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During all the activities carried out in the development and implementation phases regarding transmission grid infrastructure (fundamentally: the definition of the project, construction/modification and maintenance of facilities), Red Eléctrica identifies and evaluates the direct and indirect environmental aspects that can interact with the natural environment, producing some type of negative impact, not just under normal operating conditions but also under abnormal conditions and as a result of emergency situations.

For the identification, assessment and recording of environmental aspects, it is necessary to indicate that in the system differences exist between the various phases:

- Definition of projects (new facilities and modifications): the effects or impacts and by extension, the aspects associated to the same, for each one of the new infrastructure projects, are identified in the corresponding environmental impact study and the appropriate environmental impact statement or resolution, which also include the preventive and corrective measures which shall be adopted in the construction phase of each facility.
- Construction or modification of facilities: for each construction project for new lines, new substations or enlargements with environmental relevance, the associated environmental aspects of the same are identified and evaluated. The results of the evaluation are incorporated into the Environmental Monitoring Programme (EMP), and/or the environmental specifications of each project, a procedure that ensures they are properly monitored and that they are in compliance with the preventive and corrective measures defined in the design of the projects.

The environmental criteria established for the assessment of aspects, under both normal and abnormal operating conditions, are: magnitude and intensity.

- Maintenance of facilities: the environmental aspects detected during the maintenance activity are identified and evaluated periodically, under both normal and abnormal operating conditions and at different levels, depending on the status of the environmental aspect related to a higher degree of assessment (maintenance phase), or at lower degrees (regional work centre and/or logistics centre/building). The evaluation of environmental aspects is performed annually, after year end.

For the evaluation of maintenance aspects, the following general environmental criteria have been established:

- Under normal operating conditions: magnitude, nature/sensitivity and prevention.
- Under accidental conditions: probability of occurrence and potential impact.

### Environmental aspects considered in the definition of projects for new facilities

The environmental aspects for each of the projects for new facilities are identified in the corresponding environmental impact study and the appropriate environmental impact statement or resolution, which also sets out the preventive and corrective measures that shall be taken in the construction phase of each facility.



## Environmental aspects in the construction of facilities

The construction activities for new lines and substations that are susceptible to generating environmental aspects are:

| Activities that generate environmental aspects               |
|--|
| Storage and transfer of oils and fuels                       |
| Storage and management of waste                              |
| Work sites (substations)                                     |
| Land compacting  |
| Clearing, pruning and felling                                |
| Excavation and landfill works                                |
| Concreting and cleaning of containers used                   |
| Hanging/stringing of conductors and grounding cables (lines) |
| Equipment assembly (substations)                             |
| Use of machinery   |

Although the environmental aspects associated to each of the works are specifically evaluated, those that generally have a significant impact on the construction of new lines and substations are detailed in the following table:

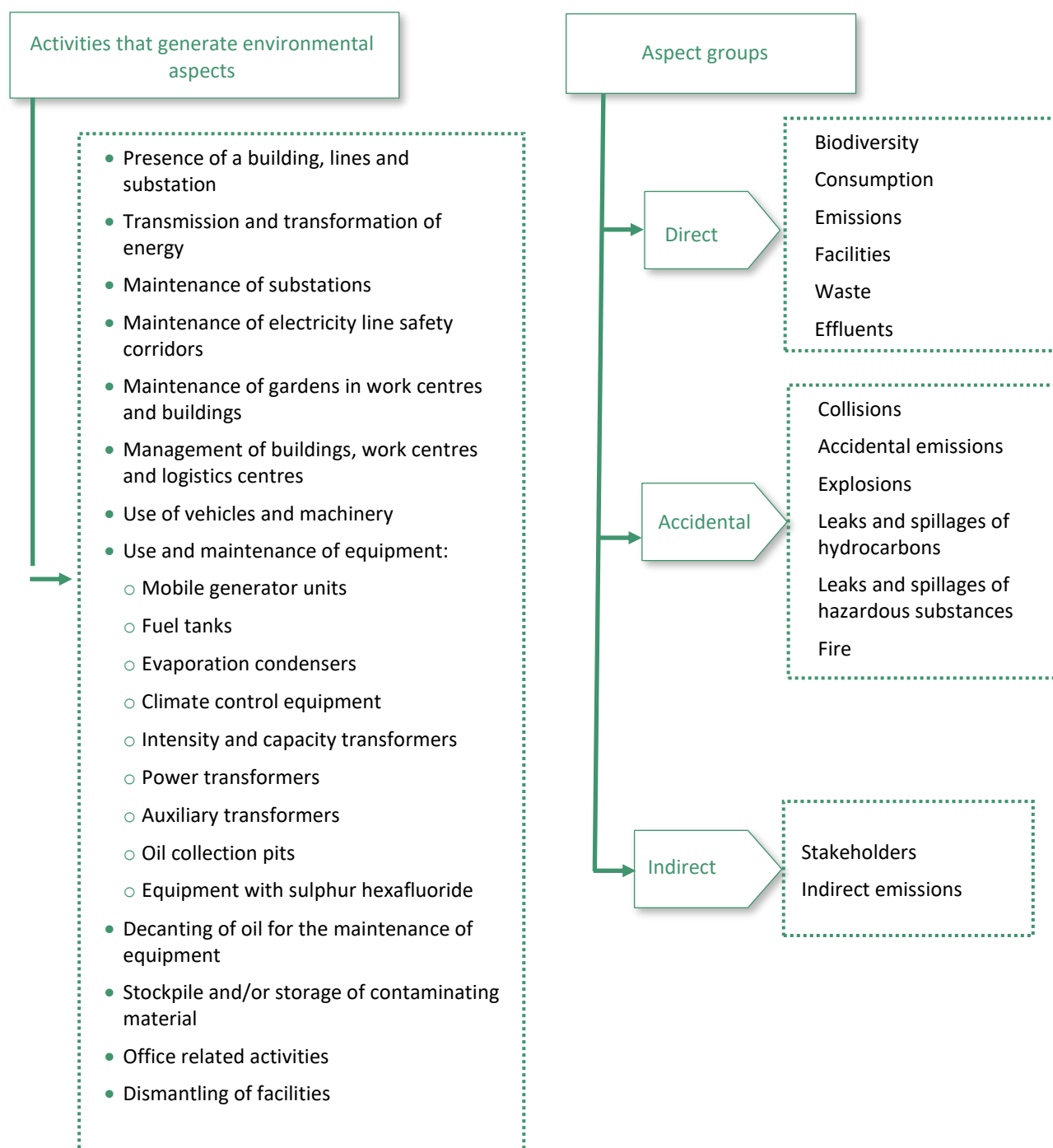
| Significant environmental aspects in the construction of lines and substations | Environmental aspect susceptible to impact | Impact   |
|--|--|--|
| Affecting fauna  | Biological                                 | Altering population behaviour  |
| Affecting flora  | Biological                                 | Elimination of flora/vegetation  |
| Affecting land/soil  | Physical                                   | Possible modification of physical characteristics of ground, erosion etc.          |
| Affecting historical and cultural heritage                                     | Socio-economic                             | Potential landscaping impact, affecting archaeological sites, crops, etc.          |
| Risk of fire   | Physical/Biological/Socio-economic         | Potential degradation  |
| Risk of oil and fuel spill during use of machinery                             | Physical                                   | Potential contamination of ground and water sources                                |
| Risk of oil and fuel spill during storage and transfer of oils and fuels       | Physical                                   | Potential contamination of ground and water sources                                |
| Risk of oil spill during assembly of equipment                                 | Physical                                   | Potential contamination of ground and water sources                                |
| Risk of affecting water during land movements                                  | Physical                                   | Potential contamination of ground and water sources                                |
| Risk of affecting birdlife   | Biological                                 | Potential collisions   |
| Non-hazardous waste  | Physical                                   | Potential impact due to inadequate storage   |
| Hazardous waste  | Physical                                   | Potential contamination of grounds and water sources due to storage and management |





## Environmental aspects in maintenance activities

The activities carried out in facilities in service (*substations, lines, work centres and corporate buildings*) that can generate an environmental aspect are the following:





The evaluation of aspects is conducted annually. Those aspects shown in the following table were identified as relevant in the 2020 assessment:

| Aspect   | Relevant evaluation  | Environmental aspect susceptible to impact | Impact                         | Observations <sup>11</sup>  |
|--|--|--|--------------------------------|---|
| <b>Biodiversity</b>                                    |  |  |                                |   |
| Clearing, pruning and felling                          | All Regional Areas   | Biological                                 | Potential impact on species    | 40% or more of the actions are carried out in protected areas, forested areas or areas of high fire risk.<br>The most restrictive criteria is used for the evaluation, due to the lack of detailed information.   |
| Removal of nests                                       | Central Regional Area  | Biological                                 | Potential impact on species    | In the Central Regional Area, nests were removed in areas where there were no nesting deterrents.   |
| <b>Emissions</b>                                       |  |  |                                |   |
| Greenhouse gas emissions (Diesel power generator sets) | Maintenance phase  | Physical and biological                    | Climate change                 | Diesel power generator sets in the regional offices averaged 28.13 hours/year per unit, although only 5 sets exceeded 100 hours (1.27%). In work centres the average was 10 hrs/year and none exceeded 100 hrs). The CO <sub>2</sub> eq emissions generated by diesel power generator sets in 2020 were 334 tonnes.   |
| <b>Consumption</b>                                     |  |  |                                |   |
| Water consumption                                      | North-Eastern Regional Area, Northern Area and North-Eastern Regional Office | Physical                                   | Reduction of natural resources | Consumption was more significant as it increased by 5% or more compared to last year's average value. Reduction measures are not implemented or those in place are considered sufficient. In the North-eastern area, a significant increase in water consumption was detected in the Rubí substation, due to the irrigation of green areas adjacent to the building. In the Northern regional area, consumption increased from 253.04 m <sup>3</sup> in 2019 to 268.6 m <sup>3</sup> in 2020. |

<sup>11</sup> Some aspects appear repeatedly as they are 'key' environmental aspects for the organisation over which the Company exercises significant management and control, such as clearing, felling and pruning works, and the monitoring and prevention of birds colliding with the electricity lines.

With regard to assessments conducted in previous years, it should be noted that for the assessment of 2020 aspects, the waste assessment criteria implemented in 2019 was used, mainly in the concept of prevention. Following the modification made to this concept, the maximum value is applied in the assessment of the concept of prevention if on at least one occasion the waste in question has had as its final destination as elimination. This decision is aligned with the zero-waste model (zero waste to landfill) that the Company has adopted in its commitment to the circular economy. This has meant the appearance of a greater number of types of hazardous wastes assessed as significant and allows efforts to be directed in alignment with the Company's policy of zero waste to landfill by 2030.

Both the impact that transmission grid facilities have on birdlife, and the contamination of soil and/or underground water, surface water or marine water due to leaks or spills of oils, fuels and hazardous substances, are identified and managed as relevant risks at a corporate level. With regard to clearing, felling and pruning works (formerly included in the risk '*Potential impact on plant species due to the transmission grid*'), these are also identified and integrated in the corporate risk of '*Fires due to lines and in substations*'.



| Non-hazardous waste    |                               |          |  |                       |
|------------------------|-------------------------------|----------|--|-----------------------|
| Soils and stones/rocks | Central Regional Area         | Physical | Potential soil and water contamination from its storage and management | Waste for elimination |
| Solid urban waste      | North-Eastern Regional Office | Physical | Potential soil and water contamination from its storage and management | Waste for elimination |

| Hazardous waste  |  |          |  |  |
|--|--|----------|--|--|
| Soil contaminated with hydrocarbons  | Central, North-Eastern, Eastern, Northern and Southern Regional Areas      | Physical | Potential soil and water contamination from its storage and management | The amount of hazardous waste generated by those facilities in each Regional area that, on average, exceeded 5,000 kg/year, together with those facilities that on average generated between 500-5,000 kg/year, were significant in 2020. The final destination of this waste is managed through controlled elimination. |
| Used PCB-free insulating oil   | North-Eastern Regional Area  | Physical | Potential soil and water contamination from its storage and management | Hazardous waste with an average of more than 5,000 kg/year per production centre in each regional area and those with an average production of between 500-5,000 kg/year whose final destination is disposal were found to be significant.   |
| Laboratory chemicals consisting of or containing hazardous substances                            | North-Eastern and North-Western Regional Areas                             | Physical | Potential soil and water contamination from its storage and management | Waste for elimination  |
| Paint residues with hazardous substances   | North-Eastern Regional Area  | Physical | Potential soil and water contamination from its storage and management | Waste for elimination  |
| Materials impregnated with hazardous substances (absorbent / filtering materials, rags, clothes) | Southern, Central, Eastern, North-Eastern and North-Western Regional Areas | Physical | Potential soil and water contamination from its storage and management | Waste for elimination  |



| Hazardous waste <i>...continued from previous page</i> |   |          |  |                       |
|--|---|----------|--|-----------------------|
| Oil/water mix  | Central, Eastern and North-Eastern Regional Areas | Physical | Potential soil and water contamination from its storage and management | Waste for elimination |
| Material with asbestos                                 | Eastern and North-Western Regional Areas          | Physical | Potential soil and water contamination from its storage and management | Waste for elimination |

| Accidental aspects   |   |            |   |  |
|--|---|------------|---|--|
| Birdlife collisions  | Canary Islands, Central, Eastern and North-Eastern Regional Areas | Biological | Potential impact on species               | Derived from collisions with unmarked electricity lines or with ineffective marking    |
| Fire in electricity line   | Eastern Regional Area   | Physical   | Potential impact on species               | Initial outbreak of a forest fire in the access path to the 400 kV Asomada-Carril line |
| Leak or spill in the underground stretch of the cable  | Southern Regional Area  | Physical   | Potential contamination of soil and water | Oil leak in the submarine section of the 400 kV Tarifa-Fardioua interconnection line.  |
| Leaks or spills of hazardous substances in decanting processes, storage or in the use of machinery | Eastern Regional Area   | Physical   | Potential soil and water contamination    |  |



## 7. Environmental Performance 2020

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The correct operation of the transmission grid facilities requires permanent ongoing maintenance, an appropriate renovation as well as the relevant repairs in the case of failure, and these activities must be compatible with the environment in which the facilities are located. It is therefore necessary to be aware of both the existing natural values as well as those elements of the activity that could impede the Company from being able to act in the most respectful way possible.

Similarly, in its role as transmission agent and electricity system operator, the Company participates actively in the energy transition working towards an emission-free model, contributing to reaching the European 20-20-20 targets (2020 Horizon) and the 40-32-32.5 targets (2030 Horizon), through the integration of renewable energies (developing the transmission grid necessary for their evacuation, and facilitating their integration into the system), and the activities to increase the energy efficiency of the electricity system.

In addition, Red Eléctrica has voluntarily undertaken to work on reducing its own emissions of greenhouse gases.

The way in which Red Eléctrica carried out its activities regarding the environment in 2020 is encompassed within the set of strategies that allow the environmental variable to be integrated throughout the entire life-cycle of the transmission grid facilities, and therefore of all the works performed by the Company. These strategies also encompass both raising the awareness of stakeholders and encouraging their participation.

Throughout this section, Red Eléctrica's environmental performance and behaviour during 2020 regarding the Company's overall activities is set out as per each of the following environmental aspects:

- Climate Change and Energy Efficiency
- Biodiversity – Natural Capital
- Saving of Resources: Water and Paper
- Socio-economic environment
- Circular Economy and Waste Management
- Ground/Soil
- Stakeholder Groups
- Innovation



## 7.1. Climate Change and Energy Efficiency

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Red Eléctrica, as the transmission agent and operator of the Spanish electricity system, is a key player in the change of the energy model and whose elements must be the electrification of the economy, the maximum integration of renewables in the energy mix and efficiency, while guaranteeing at all times the security of supply.

Aware of its important role and the need for companies to have a firm and clear stance on climate change, since 2011 the Company has showcased a voluntary commitment in the fight against climate change, which is materialised through the establishment of a set of targets and a Climate Change Action Plan (2015-2020-2030).

Even though it is not subject to regulations that apply to it in this regard, the Company has decided to adopt a firm commitment to reduce the emissions associated with the execution of its activities. The Company has committed to an overall emissions reduction target, approved by the Science Based Targets initiative (SBTi), and to various partial targets for reducing emissions or energy consumption.

The main areas of action to achieve the targets are:

- Reduction of SF<sub>6</sub> emissions.
- Reduction of electricity consumption (efficiency measures) and associated emissions (energy supply - 100% renewable).
- Sustainable mobility plan.
- Extending Red Eléctrica's commitments throughout its supply chain.
- Advancing in the inclusion of efficiency criteria and savings in the use of materials in the design of facilities.
- Offsetting of emissions, mainly due to the 'Red Eléctrica Forest' initiative.

The targets approved respond to a level of ambition needed to limit the increase in global warming to no more than 2°C.

The commitment set involves reducing Scope 1 and 2 emissions per MWh transported by 40% in 2030, compared to 2015, which in absolute terms is equivalent to a 30% reduction in total Scope 1 and 2 emissions for 2030 compared to 2015 values. In addition, a prior reduction target was set for 2020 of 10% of Scope 1 and 2 emissions compared to 2015.

**In 2020, 100% of the targets set have been met** and the Group has begun to work on defining a new commitment to reduce emissions by developing a highly ambitious target that is focused on achieving **climate neutrality** and is aligned with the United Nations **Business Ambition for 1.5° C** initiative, driven by the United Nations and promoted by the UN Global Compact and its local networks, which the Group joined in 2019. The new targets will be published in 2021.

In addition to working to mitigate climate change, it is necessary to tackle both the unavoidable physical changes in climate parameters and the social, economic and regulatory changes associated with the fight against climate change. Although risks and opportunities arising from climate change periodically identified and evaluated, and various measures are applied within the framework of this analysis, the Company, in its goal to advance in the implementation of the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) carried out an in-depth review in 2019 of the governance and developed a methodology for the identification and prioritisation of risks and opportunities associated with climate change, incorporating the consideration of different scenarios and improving the economic quantification of the same.



Since 2011, Red Eléctrica has annually participated in the Carbon Disclosure Project (CDP<sup>12</sup>) survey and discloses its responses to society. The Company has established as an objective, the progressive improvement of its score. In 2020, (corresponding to the 2019 fiscal year), Red Eléctrica was granted a rating of A and was included in the CDP Leadership index (A list).

The **Climate Change Action Plan** is based on four main lines and a cross-cutting line of innovation: contribution to a sustainable energy model; reduction of the carbon footprint; positioning and dissemination; and adaptation to climate change. The plan includes not only the actions related to its activity as transmission agent and operator of the electricity system, but also actions related to reducing its carbon footprint.

In relation to Red Eléctrica's business, there are various activities that are particularly relevant in the fight against climate change and the achievement of European climate targets:

- Develop infrastructure required to facilitate the electrification of the economy, connect new renewable power capacity, reduce technical constraints and to supply power to the railway network. Noteworthy is the development of cross-border and inter-island electricity interconnections that guarantee supply when faced with the variability of renewable generation.
- Achieve the maximum integration of renewable energy into the electricity system by optimising system operation and the operations of CECRE (Control Centre of Renewable Energies), the improvement of generation prediction tools, participation in regulatory proposals and the integration of energy storage systems, and participation in different promotional projects, making it possible to integrate the maximum amount of renewable energy while guaranteeing the security of the electricity system.
- Contribution to greater efficiency of the electricity system by improving knowledge regarding electricity demand and thru the development of demand-side management measures, as well as through the incorporation of new elements such as the electric vehicle and the promotion of innovative activities (smart grids and digitalisation).
- Promote measures and studies to reduce losses in the transmission grid and increase its efficiency.

In relation with its carbon footprint, Red Eléctrica works on quantifying its emissions (GHG Inventory) and has established different actions, mainly aimed at reducing these emissions, that are described throughout this section.

Red Eléctrica is also a member of the Spanish Green Growth Group, an association for the promotion of public-private collaboration to jointly advance the decarbonisation of the economy, working on aspects related to mitigation actions and adaptation to climate change and circular economy.

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<sup>12</sup> CDP (Carbon Disclosure Project) is an independent non-profit organisation that manages and keeps updated the largest global database of corporate information on climate change to offer institutional investors a unique analysis of how companies are responding to climate change around the world.





### 7.1.1. CO<sub>2</sub> Emission Inventory

Red Eléctrica drafts its emissions inventory based on the methodology of the GHG Protocol. Since 2013, the inventory has been submitted to independent review in accordance with ISAE 3410.

Red Eléctrica works constantly to improve the calculation of the emissions associated with its activities, developing methodologies for calculating the carbon footprint associated with the life cycle of the different facilities such as overhead lines, underground cables, substations and other facilities. The tool that has been designed allows the footprint of the aforementioned facilities to be calculated using the project data and subsequently adjusted with the data collated during its construction.

The inventory of greenhouse gas emissions of Red Eléctrica in the last three years can be seen on the following pages.

| Greenhouse gas emissions (tCO <sub>2</sub> equivalent) <sup>13</sup> | 2018             | 2019           | 2020           |
|--|------------------|----------------|----------------|
| SF <sub>6</sub> <sup>14</sup>  | 36,921           | 21,289         | 22,214         |
| Climate control equipment (HVAC systems)                             | 545              | 450            | 533            |
| Fleet vehicles   | 1,604            | 1,646          | 1,364          |
| Mobile generator units   | 202              | 229            | 334            |
| <b>Total direct emissions (SCOPE 1)</b>                              | <b>39,272</b>    | <b>23,614</b>  | <b>24,445</b>  |
| Emissions associated with electricity consumption <sup>15</sup>      | 801              | 587            | 308            |
| Emissions derived from losses in transmission <sup>16</sup>          | 1,009,953        | 780,865        | 592,078        |
| <b>Total indirect emissions (SCOPE 2)</b>                            | <b>1,010,754</b> | <b>781,452</b> | <b>592,386</b> |
| <b>Total (SCOPE 1+2)</b>   | <b>1,050,026</b> | <b>805,066</b> | <b>616,831</b> |

<sup>13</sup> The calculation of emissions is performed from an operational control perspective. The information on the inventory scope and method is available on the REE website <http://www.ree.es/en/sustainability/sustainable-energy/energy-and-climate-change/our-carbon-footprint>

<sup>14</sup> Taking GWP to 100 years: 22,800 (Source IPCC, Intergovernmental Panel on Climate Change: 4th assessment report).

The calculation of emissions is made under the operational control approach. Information on the scope and methodology of the inventory is available on the REE website.

<sup>15</sup> The emissions are calculated under the 'market based' approach, applying the emission factors associated with the market agents that supply the electricity.

<sup>16</sup> The emissions associated with transmission grid losses, in the same way as for the emissions associated with consumption of electricity, do not occur during the activities of the Company as they take place at the various electricity generation points. The emission factors corresponding to each system (Spanish peninsula, Balearic Islands or Canary Islands) are calculated and taken into account by Red Eléctrica based on the annual balance in the generation mix and the corresponding emission factors. There are several reasons for the decrease in emissions in 2020. The most relevant is the decrease in the average peninsular emission factor (0.165 t CO<sub>2</sub>/MWh in 2019 and 0.123 t CO<sub>2</sub>/MWh in 2020), which reflects the drastic reduction (55%) in the share of coal-fired production in the generation mix, the lower share of combined cycle (25% reduction) and the 6.6% increase in the share of renewable energy (mainly photovoltaic, which increased its contribution by 68% compared to 2019).



| Greenhouse gas emissions (tCO <sub>2</sub> equivalent)    | 2018    | 2019    | 2020    |
|---|---------|---------|---------|
| Indirect emissions (Scope 3)                              |         |         |         |
| Purchased goods and services <sup>17</sup>                | 242,648 | 246,917 | 186,282 |
| Capital goods   | 155,671 | 319,486 | 162,834 |
| Energy generation (not included in Scope 1 and 2)         | 431     | 462     | 486     |
| Waste   | 96      | 62      | 70      |
| Transportation and distribution (logistics) <sup>18</sup> | 1,110   | 2,090   | 1,177   |
| Business travel <sup>19</sup>                             | 1,394   | 1,441   | 269     |
| Employee commuting <sup>20</sup>                          | 3,985   | 4,545   | 952     |
| Leased assets   | 33      | 33      | 153     |
| Total emissions Scope 3 <sup>21</sup>                     | 405,278 | 575,036 | 352,223 |

<sup>17</sup> For the correct interpretation of the data, it is necessary to consider that the emissions associated with the acquisition of goods and services depend on the characteristics of the specific goods and services purchased each year (which entail different carbon intensities) and the financial amount earmarked for these acquisitions.

<sup>18</sup> Corresponds to emissions associated with internal logistics and other emissions regarding transport of materials.

<sup>19</sup> Includes trips made by train, plane, own vehicle, rental vehicle and taxi.

<sup>20</sup> The data reflects the situation resulting from COVID-19, with a drastic reduction in travel and a situation where the number of people teleworking has increased dramatically.

<sup>21</sup> REE + REINTEL.



### 7.1.2. SF<sub>6</sub> Emissions

The main direct emissions derived from Red Eléctrica's activities are those coming from sulphur hexafluoride (SF<sub>6</sub>).

This gas, in spite of its high potential for global warming, provides huge technical advantages. It is a non-toxic gas that allows a huge reduction in the distances to be maintained between the various elements of facilities making it possible to reduce the size of the installation and, therefore, better blend it into the landscape. The emissions of this gas are associated to small leaks in the equipment, leakages due to decanting/transferring the gas and those one-off accidents/equipment faults that may occur and which make it complicated to establish reduction measures and targets for this type of emissions.

For Red Eléctrica, this is a priority issue and it has various courses of action underway aimed at improving the control of the gas and reducing leaks. The most important courses of action are the following:

- Improvement of the procedures for recording the inventory of the gas, control measures and the recording leaks.
- Training of people involved in the handling of the gas. Red Eléctrica has two legally recognised training centres with a classroom for theory class and a workshop for experiments in which 483 employees have been trained since 2013 (444 of them already have been granted the official Certificate of Competence in SF<sub>6</sub> gas handling).
- Renewal/replacement of switchgear. The Company is working on replacing old equipment with equipment with lower leakage rates. It is estimated that the renovations carried out in the period 2015-2020 prevented the emission of a total of 3,165 tCO<sub>2</sub>eq.
- Improvement in leak detection and control. The efforts made by the Company to reduce the leak detection and intervention times, as well as in the development of more effective leak repair methodologies, make it possible for SF<sub>6</sub> emissions to be kept at low levels, not exceeding an average emission rate of 0.2%. The Company has developed, in collaboration with one of its suppliers, the innovation project 'Development of SF<sub>6</sub> leak repair methodology in GIS facilities', which enables the repair of breakdowns without disassembling the damaged sections and this significantly speeds up the work. At the same time, other innovation projects are being developed in this field, such as the 'Implementation of an SF<sub>6</sub> leaked gas capture system in indoor GIS substations' whose progress in 2020 was significant as a result of having identified different compounds with high affinity for SF<sub>6</sub> and whose behaviour and effectiveness will be field-tested by means of a pilot project that will be carried out in 2021 or such as the Graphene-based SF<sub>6</sub> sensors' project.
- Search for SF<sub>6</sub> gas alternatives: Since 2017, the Company has been working on various innovation projects that offer alternatives to SF<sub>6</sub> in GIS switchgear (GIS substations). Red Eléctrica has acquired two 66 kV cells with alternative insulating gas that are installed in mobile generation units in the Canary Islands. During 2021, it is foreseen that the works for the connection of one of the units to the transmission grid of the Canary Islands will commence, with the aim of gaining knowledge and experience in these new technologies. Additionally, work has begun on the study of alternatives to SF<sub>6</sub> through the use of AIS switchgear and its application within the transmission grid.

Additionally, Red Eléctrica collaborates 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 for the comprehensive management SF<sub>6</sub>, signed in May 2015, between the Ministry of Agriculture, Food and Environment (today known as MITERD) and the manufacturers and suppliers of Electrical equipment that use SF<sub>6</sub>, electricity transmission and distribution companies and waste management companies who handle this gas and the equipment that contains it, for a comprehensive management of the use of SF<sub>6</sub> in the electricity industry that is more respectful towards the environment.



It is important to emphasise that since 2015 the calculation of SF<sub>6</sub> emissions has been carried out based on the information collected during the refilling of equipment with gas. This fact meant a very significant change in the magnitude of the reported emissions and implied the need to define new reduction targets. In line with the general target approved by SBTi, a new specific reduction target was set for SF<sub>6</sub>:

#### REDUCTION TARGETS<sup>22</sup>: SF<sub>6</sub> emissions

Net reduction of SF<sub>6</sub> emissions compared to 2015: 20% in 2020 and 25% in 2030

Maximum cumulative emissions in the period 2016-2020: 140,000 tCO<sub>2</sub>eq.

#### PROGRESS MADE IN 2020

**29.8%** reduction in SF<sub>6</sub> gas emissions compared to 2015

Cumulative emissions in the 2016-2020 period: **135,647 tCO<sub>2</sub>eq.**

|   | 2018    | 2019    | 2020    |
|---|---------|---------|---------|
| SF <sub>6</sub> installed (kg) <sup>23</sup>                          | 462,119 | 479,821 | 491,165 |
| SF <sub>6</sub> emissions/SF <sub>6</sub> installed (%) <sup>24</sup> | 0.35    | 0.19    | 0.20    |
| Total emissions (kg)  | 1,619   | 934     | 974     |

### 7.1.3. Energy efficiency

One of the cornerstones of Red Eléctrica's climate change strategy is the commitment to energy efficiency at all levels within the activities of the Company. As a key player in the electricity sector, the Company places utmost importance on efforts geared towards efficiency and energy savings due to the enormous benefits they represent in economic, social and environmental terms. The Company has in place different projects aimed at reducing the consumption of electricity in its different facilities. The increase in efficiency in energy consumption is fundamental when it comes to reducing emissions.

<sup>22</sup> The targets are set taking 2015 as the base year.

<sup>23</sup> The increase in installed gas is mainly due to the commissioning of new facilities and the replacement of old equipment for SF<sub>6</sub> insulated equipment, although it is also associated with the updating of the inventory of Gas Insulated Substations (SF<sub>6</sub> insulated), which has enabled data regarding the gas contained in them to be ascertained.

<sup>24</sup> The rates reflected in the graph are calculated using real data collected in the field and include, in addition to leaks as a result of maintenance work, the estimated emissions corresponding to the end of the life cycle of the equipment. The maximum leakage rate for in-service equipment established in the Voluntary Agreement for the management of SF<sub>6</sub> signed in 2015 is based on the number of years the equipment has been in service. This annual rate is fixed at 0.5% for equipment commissioned as of 2008 (equipment installed prior to 2008 is allowed to have higher leakage rates). The low emission rates reflect the enormous effort of the Company in improving the management and control of SF<sub>6</sub> emissions. Specifically, the decline shown in recent years due to the breakdown repair work performed since 2018. In addition, during 2019 and 2020, there has been no accident that has led to a gas leak.



### 7.1.3.1. Electricity Consumption - Reduction of Electricity Consumption

Taking into account all <sup>25</sup> Red Eléctrica work centres, electricity consumption in the last three years has been as follows:

|                              | 2018 (kWh)           | 2019 (kWh)           | 2020 (kWh)           |
|------------------------------|----------------------|----------------------|----------------------|
| Total (kWh)                  | 14,583,566           | 14,051,381           | 12,508,991           |
| Total (Joules) <sup>26</sup> | $5.25 \cdot 10^{13}$ | $5.05 \cdot 10^{13}$ | $4.50 \cdot 10^{13}$ |

Red Eléctrica, in addition to having an essential role in the integration of renewables, is committed to the use of renewable energy to cover the energy consumption of its own facilities. **89.2% of the electricity consumed comes from renewable sources** (energy with a Guarantee of Origin (GoO) or green energy).

#### REDUCTION TARGETS: Electricity consumption

Reduction of emissions associated with electricity consumption: 85% in 2020 and 90% in 2030

Reduction of electricity consumption in work centres<sup>27</sup>: 10% in 2020 and 30% in 2030

#### PROGRESS MADE IN 2020

Reduction of **94%** of the emissions associated with energy consumption in the work centres 2020 vs 2015

Reduction of **22.6%** of the emissions associated with energy consumption in 2020 vs 2015

<sup>25</sup> Includes the consumption of the Head Office, the electricity control centres (centres that operate 24/7 and have a high energy consumption) and the work centres (Regional offices and maintenance centres). Consumption of electric vehicles is included as of 2016. In 2020, 89.2% of the total electricity consumed (work centres + electric vehicle) has come from renewable sources (11,098,678 kWh work centres + 60,778 kWh electric vehicles).

<sup>26</sup> 1kWh =  $3.6 \cdot 10^6$  Joules; Total consumption data in Joules following criteria defined by GRI G4.



### 7.1.3.1.1. Specific Energy Measures Implemented in 2020

The main courses of action regarding the reduction of electricity consumption were the following:

- Improvement of energy management of existing buildings and applying efficiency criteria in the construction of new buildings. Energy management system certified under ISO 50001 for buildings at the head offices and the Red Eléctrica Campus.
- Reduction of electricity consumption in substations by selecting more efficient equipment and components, establishing efficiency guidelines for their use and the rationalisation of the use of lighting.
- Reduction of electricity consumption associated to the use of IT equipment: Renewal of IT equipment and systems, and the implementation of policies for the efficient use of equipment.
- Raising awareness among employees and the collaborators who work in the facilities of the Company by means of awareness raising campaigns.

| Buildings   |  |
|---|--|
| Head Office and the Campus Red Eléctrica.   | Energy management system certified under the ISO 50001:2001 standard   |
| Buildings with reduced energy consumption.  | The buildings in which the control centre (CECORE) and the technology company, Elewit, are located, include a system that helps maximise the available geothermal energy and have construction measures that significantly reduce their electricity consumption.   |
| Efficiency measures in buildings.   | In 2020, the renovation of 2 work centres was carried out, integrating efficiency measures in lighting, HVAC systems, insulation and the installation of solar thermal energy for domestic hot water. Its estimated energy saving is <b>35,400 kWh</b> per year.   |
| IT Systems  |  |
| Renewal of IT equipment and systems in accordance with maximum efficiency criteria.                             | In 2020, a renewal of equipment (laptops, desktops and data storage systems) was carried out, representing an estimated reduction in annual electricity consumption of <b>3,416 kWh</b> per year.  |
| Consolidation of the use of collaborative communication platforms that reduce work-related travel or commuting. | This aspect has been especially relevant in 2020, due to the COVID-19 pandemic.  |
| Migration to and intensive use of virtual servers (as of 2015)  | These represent a 50% reduction in energy consumption compared to physical servers.  |
| Substations   |  |
| Rationalising the use of lighting   | Since 2017, work is underway to improve remote lighting control systems which has allowed the control of the exterior/ outdoor lighting: switching it off during night-time periods and that they switch on only when it is necessary. In 2020, these lighting control systems have been implemented in 22 new substations, which means an additional estimated saving in electricity consumption of <b>336,134 kWh per year</b> . There are currently 426 substations whose night-time lighting only works when it is necessary, representing an estimated annual saving of <b>10,050,655 kWh</b> . |



Regarding the use of renewable energy for self-consumption in work centres, headway is being made in the progressive incorporation of solar thermal energy installations for domestic hot water and three buildings have HVAC installations based on geothermal energy. It should be noted that, during 2020, a technical, regulatory and economic feasibility study has been carried out for the incorporation of photovoltaic energy in corporate head offices and other work centres. In 2021, the focus will be placed on the buildings that have been identified as suitable for the installation of this type of photovoltaic facilities.

| Reductions in energy consumption <sup>28</sup>  |              |                      |
|---|--------------|----------------------|
|   | kWh/annually | Joules/annually      |
| Efficiency measures in work centres: lighting, HVAC systems, insulation of work centres, installation of solar thermal energy for domestic hot water. | 35,400       | 1.3*10 <sup>11</sup> |
| Efficiency measures in electricity substations: switching off of night-time lighting.   | 336,135      | 1.2*10 <sup>12</sup> |
| Efficiency measures in computer IT equipment: renewal of desktops and laptops, data storage systems.  | 3,416        | 1.2*10 <sup>11</sup> |

| Reduction of greenhouse gas emissions   |                          |
|---|--------------------------|
| Net savings   | t CO <sub>2</sub> eq     |
| Contracting an electricity supply with a guarantee of origin. <sup>29</sup>   | 1,880                    |
| Improvements in delivery processes of equipment and materials (internal logistics) <sup>30</sup>  | 32.6                     |
| Annual savings <sup>31</sup>  | tCO <sub>2</sub> eq/year |
| Efficiency measures in work centres: lighting, HVAC systems, insulation of work centres, installation of solar thermal energy for domestic hot water. <sup>32</sup> | 1.3                      |
| Efficiency measures in electricity substations: switching off of night-time lighting. <sup>33</sup>   | 41.3                     |
| Efficiency measures in computer IT equipment: renewal of desktops and laptops, data storage systems. <sup>34</sup>  | 0.1                      |
| Reduction of SF <sub>6</sub> emissions due to the replacement of old equipment with equipment with lower leakage rates.   | 26.3                     |

<sup>28</sup> The estimated annual reductions derived from the measures implemented in 2020 have been included.

<sup>29</sup> Electricity with Guarantees of Origin: 0 t CO<sub>2</sub>/kWh.

<sup>30</sup> Calculated excluding the impact of the COVID-19 pandemic (the reduction in km driven for this reason has not been considered as savings).

<sup>31</sup> Reductions associated with the measures implemented in 2020.

<sup>32</sup> Energy efficiency measures do not translate into significant emissions savings as a high percentage of the energy consumed by the Company is of renewable origin.

<sup>33</sup> See note 30

<sup>34</sup> See note 30





### 7.1.3.2. Sustainable Mobility

The Red Eléctrica Group is working on the optimisation of work-related travel and in the reduction of the emissions associated with them. The Company has a Sustainable Mobility Plan in place in order to incorporate a new culture of mobility within the Company. Among the most important measures carried out in recent years, noteworthy are the following:

- **Efficient management of fleet vehicles.** The Company is committed to using the best technologies currently available (100% of the new vehicles incorporated into the fleet are either hybrid, plug-in hybrid or electric cars) and to optimize their use through the application of CARS (Agile, Responsible and Safe Driving System), which facilitates the use of efficient routes and promotes responsible driving. Since 2015 Red Eléctrica has maintained the 'Ecological Fleet Accreditation in its 'Master' category (the most demanding one) received from the Fleet Managers Association (AEGFA) and the Institute for Diversification and Energy Saving (IDAE).
- **Measures to optimise work-related travel.** The Company has incorporated sustainability criteria in the Company's work-related travel policy. Of note is the implementation of a corporate fleet of electric vehicles for commuting during the working day, prioritisation of the use of efficient taxis and improvements in communication tools to reduce the need for travel (video conferences and platforms for remote access). The latter have been decisive in facing the situation derived from the pandemic in 2020.
- **Rationalisation of the use of private vehicles in the daily commute to work centres.** The Company has a corporate bus service and shuttle services connecting the office with various locations and has installed various electric vehicle charging points on their premises for use by employees. Additionally, the transport pass is included among the options of the benefit in kind for employees and the use of car-sharing is promoted.

#### Climate Change Action Plan Target: SUSTAINABLE MOBILITY

Reduction of emissions associated with the use of Red Eléctrica vehicles: 30% in 2020 and 50% in 2030 vs. 2015.

Progress made in 2020: **35.7%**

Reduction of emissions associated with business travel using vehicles: 20% in 2020 and 40% in 2030 vs. 2015.

Progress made in 2020: **80%**

Note: the situation arising from COVID-19 has led to a moderate decrease in the use of motor vehicles owing to reduced activity, although in relation to meeting the target, it should be noted that a 22.5% reduction in emissions had already been achieved in 2019 (use of Red Eléctrica vehicles). In the case of business trips, the decrease in the number of trips has been very significant. However, it should be noted that the reduction target had already been met in 2019 (48% reduction in emissions from work-related travel made in motor vehicles).



Fuel consumption (litres) during 2020 associated with vehicles:

|  | 2017    | 2018    | 2019    |
|--|---------|---------|---------|
| Diesel (l)   | 462,169 | 443,251 | 353,817 |
| Gasoline (l)   | 201,470 | 250,643 | 237,934 |
| Biodiesel  | 0       | 0       | 0       |
| Autogas (LPG)  | 0       | 0       | 0       |
| Total vehicle fuel <sup>35</sup> (l)   | 663,639 | 693,894 | 591,751 |
| Consumption of mobile diesel generator units <sup>36</sup><br>(not associated to vehicles) (l) | 3,476   | 2,472   | 164,635 |

#### 7.1.4. Carbon Footprint in the Supply Chain

The emissions associated with the supply chain are those that have the greatest impact on the indirect emissions of the Company (Scope 3). In 2019, a Collaboration Program with suppliers was launched seeking to achieve the following main objectives:

- Involve suppliers in the commitment of the Red Eléctrica Group, providing appropriate guidelines in order to promote changes in their management and promoting collaboration.
- Integrate more direct information in the calculation of Scope 3 emissions, to improve its analysis and monitoring.
- Be willing to establish ambitious commitments for the reduction of Scope 3 emissions.

To date, 23 of the Company's most relevant suppliers, who together represent around 47% of the emissions in the supply chain, have joined the programme. Thanks to this collaboration, participants provide annual information on their emissions, thus making it possible to improve the Group's emissions inventory.

Furthermore, each of the suppliers has been qualified with a level of maturity in the area of climate change, which allows, in addition to making a general diagnosis of the supply chain, the deployment of different and specific development and collaboration programmes depending on the characteristics of each supplier. Work carried out in 2020 has focused on the calculation and verification of Scope 1 and 2 emissions, the calculation of Scope 3 emissions and the establishment of ambitious reduction targets, holding training workshops on these topics in which 14 suppliers have participated.

#### 7.1.5. Offsetting of Emissions

In addition to the measures aimed at reducing emissions, and with the goal of minimising the carbon footprint of Red Eléctrica as much as possible, specific actions have been implemented to offset emissions.

The 'Red Eléctrica Forest' project, detailed in the 'Biodiversity - Natural Capital' section of this report, is carried out in order to help offset part of the Group's emissions.

<sup>35</sup> Fuel consumed by Red Eléctrica vehicles (fleet vehicles, shared leasing and management vehicles)

<sup>36</sup> Data provided up until 2019 corresponded to the refuelling of diesel oil for the auxiliary generating units in the year indicated. In 2020, there has been a change in methodology: the data reflects the total fuel consumed in the year.



On the other hand, and for the eighth consecutive year, the company has acquired carbon credits to offset part of the emissions derived from the daily commutes of its employees to their respective work centres. In 2020, **2,700 VCUs** (Verified Carbon Units) **were purchased** in accordance with the VCS (Verified Carbon Standard) and CCB (Climate, Community & Biodiversity) Standard associated with the Madre de Dios Amazon REDD project, which is aimed at the reforestation and avoiding deforestation in Peru.

These credits have offset all the emissions generated in the daily commutes of the Company's employees (very reduced due to the particular situation of 2020) and the emissions associated with the use of fleet vehicles and shared leasing vehicles (included in Scope 1) of the entire Group, as well as those linked to the holding of the 2020 General Shareholders' Meeting via remote means. The remaining credits will be used to offset other Company events during 2021.

### 7.1.6. Transmission Grid Losses

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The emissions associated with energy losses in the transmission grid are accounted for within the emissions of Scope 2, as indicated by the GHG Protocol. These emissions are calculated taking into account the energy lost in the grid (transmission grid losses) and the emission factor of the energy mix (calculated by Red Eléctrica according to the amount of energy generated by the different technologies). None of these variables are under the direct control of Red Eléctrica, although it should be noted that increased efforts to integrate more renewable energy into the energy mix results in a lower emission factor and therefore a greater reduction in emissions associated with losses.

The transmission of electricity inevitably leads to energy losses in the grid. This means that, to satisfy a given final consumption, a slightly higher level of generation is required.

Several factors generate losses: The Joule effect, the corona effect and the own consumption of the electricity substations necessary for their correct operation. Of these, the most relevant, without a doubt, is the Joule effect<sup>37</sup>, associated with the flow of current through the conductors.

Red Eléctrica works to improve the aspects that depend on its management and that can influence the reduction of these losses. Among them, the following actions are noteworthy:

- Development and meshing of the transmission grid.
- Increase in the number of conductors per circuit.
- Use of technologies and systems with the best performance.
- Maintenance of the facilities in the best conditions to ensure their proper functioning.

The first two measures seek to create parallel routes in order to allow a given intensity to flow, which in turn results in lower resistance and, therefore, reduced losses. However, all these improvements have a minor impact on the evolution of energy losses, with those other aspects, not controlled by Red Eléctrica, having the greatest influence.

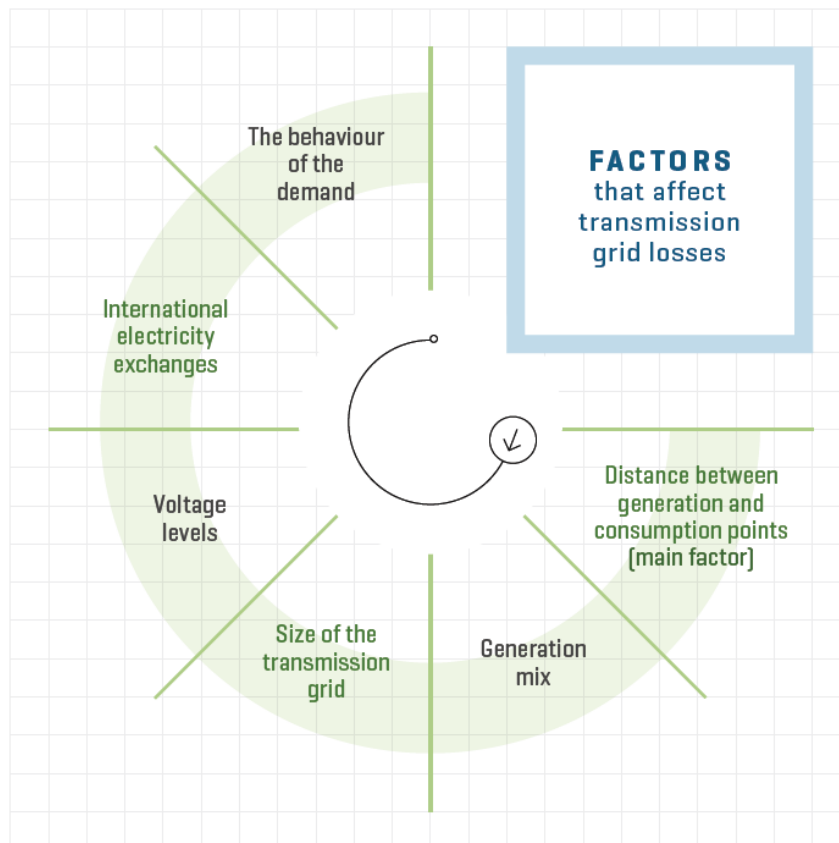
The increase in energy losses mainly depends on the following: distances between generation and consumption points (losses increase notably when there are significant distances), the amount of energy demanded in the year, the electricity generation mix, international energy exchanges and the shape of the demand curve. In the case of the Spanish electricity system, the increase in losses is usually related to the share of renewables in the energy mix (as this type of generation is not usually close to the consumption points).

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<sup>37</sup> Joule effect: the effect whereby, when an electrical current flows through a conductor, part of the kinetic energy of electrons is transformed into heat which thereby raises the temperature of the conductor. Joule effect losses are proportional to the intensity flowing through the conductor and the resistance of the same, the greater the length of the line the greater this resistance is. In view of this, it can be understood that the losses are mainly related to the distance between points of generation and consumption, which is determined by the result of the wholesale electricity market.



The electricity generation structure depends on the rules of the electricity market, regulated by an independent body. The function of Red Eléctrica as operator of the electricity system is carried out in accordance with specific and mandatory operating procedures. According to these procedures, it is not possible to operate the electricity system based on loss reduction criteria, so the Company has little capacity to act in relation to said reduction.





## 7.2. Biodiversity – Natural Capital

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The protection and conservation of biodiversity have always been essential elements in Red Eléctrica's environmental management. Red Eléctrica updated in 2020 its commitment for the management of biodiversity and has a multi-year Biodiversity Action Plan (2017-2021) which sets out the main actions to be carried out in biodiversity terms during this period.

In addition, work has already begun on the development of a **2030 Biodiversity Roadmap** in order to define a strategy and the design of the measures that will enable the Group to improve its relationship with natural capital and to meet the goal set for this horizon in relation to generating a positive impact on biodiversity in the areas of the territory in which the Group operates.

The results of the 2017-2021 Biodiversity Action Plan are included in the annex: 'Environmental Actions 2020' of this environmental statement.

Red Eléctrica maintains alliances in matters of biodiversity conservation with the competent areas of the public administration and other organisations in the different autonomous communities. The following alliances with organisations of reference are also noteworthy:

- Signing of the Biodiversity Pact. Red Eléctrica is part of the Spanish Initiative for Business and Biodiversity (IEEB) promoted by the Ministry of Ecological Transition since 2013.
- Participation in the working group between Red Eléctrica and the Sub-Directorate General for Environmental Assessment of MITERD.
- Signing of the relationship framework agreement (2018-2021) with the **Centre for Mediterranean Cooperation of the IUCN** (International Union for Conservation of Nature).
- Signing of a framework agreement with **SEO/BirdLife** (Spanish Ornithological Society) for the conservation and protection of biodiversity (2018-2021).
- Signing of the Agreement for the formalization of the **Natural capital in the Spanish energy sector working group**.

Detailed information on all the projects spearheaded or in which Red Eléctrica participates can be found on the Red Eléctrica website: <https://www.ree.es/en/sustainability/map-of-projects>

### 7.2.1. Natural Capital

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Within the framework of its 2030 Sustainability Objectives, the Red Eléctrica Group is committed to generating a net positive impact on the natural capital in the environment surrounding its facilities and as a first step towards advancing this purpose, **in 2020 the Company has reaffirmed and reformulated its commitment to biodiversity**. Under a global approach to natural capital, it is committed to **generating a positive impact on biodiversity in the areas of the territory in which the Group operates**. In order to move towards the fulfilment of this objective, Red Eléctrica is working on the incorporation of the concept of natural capital in its management.

In accordance with the guidelines of the Natural Capital Protocol and given the relationship of interdependence of the Group's activity with society, Red Eléctrica understands natural capital as the inventory of assets or natural resources of an ecosystem, whether biotic or abiotic (biodiversity, air, water, soil, minerals) which, combined or by themselves, provide society with benefits: ecosystem services.



During 2018, the most relevant components of biodiversity in relation to the Company's activities (birdlife, forests and habitats) were identified and work was carried out to adapt the internal procedures for the preparation of environmental impact studies to include the relevant aspects included in the draft amendment to Law 21/2013 on Environmental Assessment.

In 2019, work was carried out on the design of a methodology for the responsible analysis and valuation of natural capital based on ecosystem services, on those most relevant for the conservation of biodiversity, on the electricity transmission grid and was tested on the 400 kV Almaraz-San Serván line. Three natural assets (habitat, landscape and soil) and 21 related ecosystem services were identified as relevant.

During 2020, the methodology for the environmental assessment of projects has been updated, in which, among other improvements, the concept of net-zero or positive impact has been considered, linked to the actions to be carried out to offset possible impacts. In addition, in order to learn about the internal management and relationship with biodiversity of all the Group's companies, workshops were held in which a total of 32 departments and 45 interlocutors actively participated, in addition to carrying out an intense analysis of the Company's activity in this area. With regard to the external diagnosis, work has been carried out to identify trends in biodiversity and best practices in the electricity and telecommunications sector in relation to biodiversity.

In 2021, further progress will be made on the successive phases that will allow the full roadmap to be drawn up.

Additionally, the execution of the project 'Assessment of ecosystem services derived from the management of vegetation in the electricity transmission grid by means of grazing' is noteworthy and it is carried out in collaboration with the University of Alcalá de Henares. In this study, an ecosystem services assessment methodology has been designed to complement the one developed in 2019, to analyse the balance of gains and losses in terms of natural capital associated with the maintenance of the vegetation through the use of livestock, growing in the safety corridors of electricity lines. After its application in a true case-study, it has been concluded that this practice enhances provisioning, regulating and cultural ecosystem services, which favours biodiversity and social well-being.

In addition, as part of the Spanish energy sector's Working Group on natural capital, work has been carried out to establish a Sector Guide for the integration of natural capital in the energy sector. In addition to Red Eléctrica, the group includes Acciona, Cepsa, EDP, Enagás, Endesa, Iberdrola, Naturgy and Repsol, and is co-ordinated by Azentua and Ecoacsa.

### 7.2.2. Electricity Grids and Biodiversity

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Red Eléctrica's facilities are distributed nationwide, as the aim of the electricity transmission grid is precisely to connect the points of energy generation with those of consumption.

Biodiversity management is carried out taking into account the **hierarchy of impact mitigation**. The potential effects on biodiversity are associated with the presence of the facilities in the territory and with the construction and maintenance of the same.

Avoiding areas rich in biodiversity is one of the priority criteria taken into account both in the grid planning phase as well as in the definition of each project. However, bearing in mind that 25% of the surface area of Spain has some form of environmental protection, it is inevitable that in some cases infrastructure will cross or be located in protected areas or areas with species of interest.

On these occasions, Red Eléctrica implements all the preventive and corrective measures required to **minimise** the possible impacts on habitats and species (impacts associated with construction work and the modification of facilities, impacts on birdlife as a result of collisions and fire risks). These measures also include the **restoration** of affected areas, when possible.





Lastly, the Company carries out different environmental improvement actions aimed at promoting biodiversity in the vicinity of the facilities. In addition, Red Eléctrica encourages and collaborates with the public administration, non-governmental organisations, research bodies and other interested parties in the development of biodiversity conservation projects.

These measures and projects are aimed at **offsetting** the impacts that may possibly have been produced during the execution of the activities.

Currently, Red Eléctrica's facilities occupy only 0.08% of the Spanish Natura 2000 Network. Of all existing infrastructure, only 15.5% of total lines and 5.74% of substations are located in protected areas (Natura 2000 Network).

### 7.2.3. Protection of Birdlife

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The main impact on fauna by Red Eléctrica's facilities is the risk of birds colliding with grounding cables that protect the lines from electrical discharges during storms. The main measure to reduce that risk is **marking the grounding cables** with devices that increase their visibility.

In 2020, 254 km of line were marked with bird-saving devices. The percentage of kilometres marked with respect to the total kilometres of overhead lines stood at **14.8%** (4,344 km of line marked).

Thanks to the project '*Birds and power lines: Mapping of bird flight paths*', which ended in 2016, the Company has a multiyear line marking plan in place for 2016-2023 in which priority is given to actions on sections of line with the greatest potential impact on birdlife. The execution of this plan will mean a reduction of 25% in the potential risk of birds colliding with overhead electricity lines.

The line sections that have been identified as having a critical priority level of 5, total 764.6<sup>38</sup> km in length, of which 508.4 km have already been marked, which represents **66.5%** of the target set. 256 km are yet pending to be marked.

The analysis of the monitoring of accidents with REE electricity lines was carried out, with data collected between 2014-2019 under a common methodology for monitoring accidents in the field. More than 13,000 pieces of data were analysed, a sufficiently large dataset to obtain results on comparisons between different types of line marking devices, bird species susceptible to collision accidents, environmental and territorial situations more prone to the occurrence of these accidents, etc.

In 2020, the article 'Efficacy of different types of bird flight diverter in reducing bird mortality due to collision with transmission power lines' was published in the Global Ecology and Conservation journal. In the article's baseline study compared to the control area, the blade-type bird flight diverter was responsible for reducing bird mortality by 70% with an assurance level of between 50-90%, followed by the orange spiral bird flight diverter and the yellow bird flight diverter.

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<sup>38</sup> The target value varies slightly each year, depending on variations in REE infrastructure (new lines and modifications to existing ones) and data related to accidents registered.



#### 7.2.4. Protection of Habitats and Species

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Regarding works associated with the construction of lines or the modification of facilities, the main impacts to be avoided are the alteration of the habitat of certain species of fauna and flora, and also the impact on vegetation due to the opening up of safety corridors, necessary to prevent fires in the operation of the line. Among the preventive and corrective measures applied, noteworthy are the following:

- Detailed field studies on specific issues, such as impact reports on Natura 2000 Network and surveys to identify the presence of protected flora and fauna.
- Introduction of modifications in the design of facilities to mitigate their impact on flora: compacting or increasing the height of towers, relocation of towers, modification of access roads etc.
- Construction of decanting pools and filters to prevent contamination of waterways.
- Signage and protection of habitats and species of high ecological value to avoid them being harmed when carrying out works.
- Use of construction techniques that minimise earthworks and the occupation of land (reducing the opening up of access roads, size of work sites and storage areas for materials): hoisting structures with a boom crane, hanging of line by hand, or carrying out works using a helicopter or drone.
- Transfer to other areas and replanting of species affected by the work.
- Biological stoppages in 100% of the works during breeding or nesting periods to reduce impacts on the fauna that may be affected.
- Recovery of affected areas: restoration of slopes, sowing of seed and the planting of flora.
- Accompanying measures and the carrying out of specific projects to improve biodiversity in affected areas.

The specific measures that are noteworthy regarding the protection of habitats and species during 2020 are included in the Annex: 'Environmental Actions 2020' of this environmental statement.

#### 7.2.5. Contribution to Biodiversity Conservation

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Red Eléctrica actively contributes to the conservation of Spain's biodiversity, leading or participating in various projects and carrying out dissemination and training activities in environmental matters. Although working in different areas, within the biodiversity action plan, the objective of the project is the definition and execution of wildlife conservation projects, mainly related to focal bird species (prone to collision). Most of the projects are aimed at the conservation of endangered bird species, although other species of fauna and flora are also included.

Also relevant are the actions aimed at restoring degraded habitats, among which the 'Red Eléctrica Forest' project is noteworthy.





### 7.2.5.1. Noteworthy Projects regarding the Protection of Habitats and Vegetation

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- *Hábitat* Project (2015-2021)<sup>39</sup>

The aim of the *Hábitat* project (2015-2020) is to know the Priority Habitats of Community Interest and other flora and vegetation formations of interest (included in other protection schemes due to their endemic nature, scarcity, or rarity) that exist within the vicinity of Red Eléctrica facilities, as well as its state of conservation. The objective is to have information on the interaction between electricity transmission infrastructure and these habitats, and use it to make decisions regarding maintenance, so that the conservation of these habitats and flora and vegetation formations is ensured through the adequate management of its maintenance.

The first phase of the Project consisted of the mapping and characterisation of the flora and vegetation formations of interest present within the vicinity of the facilities (50 metres on each side of the route of the line in 100% of the transmission grid). As a result of this work, carried out in collaboration with the autonomous communities and experts on the subject, a digital mapping was developed with all the information, which was later validated in the field.

Twenty-five types of priority Habitats of Community Interest (HCI) were detected underneath the transmission grid infrastructure or in its immediate surroundings (50 m on each side of the routes of the line and 500 m around substations). A total of 2,823.80 km of lines are located in HCI areas (9.60% of the overall length of line included in the grid). Of these, 1,005.70 km are located in Natura 2000 Network areas (3.4% of the overall length of line included in the grid). In relation to qualitative aspects, a total of 1,121.80 km of lines are located in HCI areas with a high or very high conservation value (3.82% of the overall length of line included in the grid), while 1,702 km are located in HCI areas with medium or low conservation values (5.79% of the total length of line included in the grid).

In addition, scientific-technical reports have been drawn up with documentation, an assessment and a proposed action plan for each case and by autonomous community.

In 2020, work was carried out on the standardisation of the information obtained from the different autonomous communities, integrating it into a single national layer compatible with the corporate geographic information system (GeoRED). In addition, a system of indicators was developed to assess the impact, reflecting the habitat's state/pressure it is under/ how it responds to the impact and the subsequent monitoring of the influence that activities have on the habitats.

Lastly, guidelines were formulated for each type of HCI for their protection and preservation, as well as for the improvement of their state of conservation, consistent with the maintenance needs of the facilities.

### 7.2.5.2. Conservation Projects in relation to Focal and Threatened Species

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The detailed information of all the projects spearheaded by Red Eléctrica or in which it participates in relation to threatened species can be found in the following sections of the website:

<https://www.ree.es/en/sustainability/the-natural-environment/avifauna>

- **Monachus project:** reintroduction of the Black vulture (*Aegypius monachus*) in the province of Burgos
- In the Iberian Mountain range (Sierra de la Demanda), 57 vultures equipped with transmitters have been released in the Iberian Mountain range since 2017, of which 60% remain in the territory, with a mortality rate of 14%. In 2020, 13 vultures that were still being acclimatised in the Huerta de Arriba facilities were released. The current colony has 12 pairs of which 2 chicks were born, but none of them fledged.

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<sup>39</sup> Aligned with the State Green Infrastructure Strategy and Ecological Connectivity and Restoration (EEIV) of the Ministry of Ecological Transition and the Demographic Challenge (MITECO).



On the other hand, linked to the black vulture in the Pyrenees (Boumort), since 2010, 77 vultures have been released, 58 chicks have hatched and 39 have fledged, and 18 pairs have been formed. In 2020, 14 pairs were formed, and 5 chicks have fledged and were tagged.

- Effects of global and local change on populations of Egyptian Vultures on the Iberian Peninsula (*Neophron percnopterus*).

In 2020, 24 territories were monitored, of which 18 were occupied, with 2 new territories actually being occupied; demographic parameters were maintained (productivity, breeding success and fledging rates) and a total of 19 chicks were ringed. 8 new individuals were fitted with radio transmitters, the multidisciplinary working group continued to be active, and news was published on the internet and social networks.

- Environmental education and Aquila a-Life project for the Bonelli's eagle (*Hieraetus fasciatus*) in Majorca

In 2020, the monitoring of 40 eagles continued, 7 chicks were born and 6 of them were tagged and fitted with radio transmitters; the programme to install platforms to prevent drowning continued; the annual celebration of Eagle Day and dissemination in the media and meetings and talks were held with various groups relevant to eagle conservation: hunters, ornithologists, agricultural cooperatives, hiking groups, the Balearic Islands Federation of climbers, etc.

- Nesting platforms for Osprey (*Pandion haliaetus*) in Andalusia.

Since 2011, a total of 30 chicks have fledged the nests fitted on the platforms installed on 3 electricity towers in the province of Cadiz. In 2020, 19 chicks fledged in Andalusia, of which 26% were born on REE towers (5 chicks) and of the 10 breeding pairs in Andalusia, 3 of the pairs built nests on Red Eléctrica towers (30%)

This project showcases the relevance of the electricity transmission grid as a biodiversity corridor, aligned with the State Green Infrastructure Strategy and Ecological Connectivity and Restoration (EEIV) of the Ministry of Ecological Transition and the Demographic Challenge.

- Other actions for the conservation of birdlife undertaken during 2020:
  - Monitoring, conservation and recovery of the Iberian Imperial eagle (*Aquila adalberti*) population in the Doñana natural area. In 2019, individual monitoring continued of all the birds that form part of the population. In addition, action was taken regarding 35 Imperial eagle nesting platforms (artificial and natural) by using a cherry picker, which has also made it possible to ring the chicks. Supplementary feeding through the provision of a total of 300 rabbits. Of the 9 territorial pairs detected at the beginning of the breeding season, 7 produced a clutch of eggs, with a total of 10 fledgling chicks.
  - Project for the reintroduction of the osprey in the Pego-Oliva Natural Park (Valencia). Carried out in collaboration with the Regional Government of Valencia, linked to the framework collaboration agreement on biodiversity (2020). Acquisition of satellite transmitters and three video surveillance cameras to monitor the chicks in the hacking site installed in Pego.
  - Technical programme for the execution of satellite radio monitoring work of Golden eagles (*Aquila chrysaetos*) in Navarra. In 2020, a new eagle was captured and fitted with a radio transmitter. Monitoring of the 2 breeding pairs of eagles (fitted with a radio transmitters), both of which have nested and reared 2 chicks each. The frequent use of the electricity lines as usual look-out points or roosts for the eagles has been verified.
  - Foraging area and movements of the Canarian Houbara (*Chlamydotis undulata fuerteventurae*) carried out in collaboration with the Museum of Natural Sciences (belonging to CSIC). 48 birds were tagged in Lanzarote and 5 in Fuerteventura (captured in late 2019). Movement patterns detected are between 10 km (males) and 25 km (females), distinguishing between sedentary individuals (mostly males) and migratory individuals (mostly females).



In 2019, the radio-tracked birds were monitored and tagged in Fuerteventura. An article was published in the *Ardeola* magazine and also in the British Ornithologists' Union Blog. A poster was made and exhibited at the 12th Spanish and the 7th Iberian Ornithology Congress.

- Nesting platform on an electricity tower for the Egyptian vulture in Extremadura. In 2020, an Egyptian Vulture gave birth to a chick in a nest installed on a high voltage tower (the first registered in Europe). The chick was fitted with a radio transmitter and additionally, a camera was installed in the nest to continuously monitor its evolution.
- Reintroduction of the Bearded vulture (*Gypaetus barbatus*) in the Tinença de Benifassa Natural Park. In 2019, the purchase was made of a TV monitor, surveillance cameras and camera traps.
- The study 'Patterns of Use of Transmission Lines by Egyptian vultures (*Neophron percnopterus*) tracked via GPS devices', on the island of Fuerteventura, in Canaries. In collaboration with the Doñana Biological Station (belonging to CSIC) (2019-May 2021). A database of the locations of tracked Egyptian vultures has been compiled, which will enable the movements of the vultures to be mapped in relation to their use of the electricity transmission lines in the Canary Islands.
- Installation in the Tafalla substation (Navarra) of a base station for collecting data on the movements of the Lesser kestrel (*Falco naumanni*). In collaboration with GREFA.
- Analysis of the impact of White stork (*Ciconia ciconia*) nesting on electricity transmission towers on the biodiversity of the environment in the province of Huelva, in Andalusia. In collaboration with the Doñana Biological Station (belonging to CSIC) (2019-Oct. 2020) In 2020, all activities were postponed to 2021 due to the pandemic.
- Reintroduction of the Lesser kestrel (*Falco naumanni*) in the Community of Valencia by means of a free-range breeding method. Since the start of the project, a total of 944 chicks have been reintroduced from captive breeding (Fauna Recovery Centre of 'La Granja' (El Saler), thanks to the cages provided by REE. The consolidation of colonies has been confirmed in three Special Protection Areas (SPAs): Meca-Mugrón-San Benito SPA (Ayora), Els Alforins SPA (Fontanars dels Alforins-Villena) and Moratillas-Almela SPA (Villena), and work continues in new areas with suitable available habitats (basically a good expanse of cereal crops) and where there is authorisation and support from landowners, local bodies and associations.
- Monitoring actions for the conservation and protection of the Montagu's Harrier (*Circus pygargus*), Marsh Harrier (*Circus aeruginosus*) and Hen Harrier (*Circus cyaneus*) species in Extremadura. In 2020, the following has been carried out: population control, breeding pairs and nests with the help of local volunteers, individual protection of nests and continuous contact with farmers and users of agricultural machinery as a measure to increase the protection of nests containing eggs; Monitoring of nests; Dissemination: environmental education in social networks and digital design of the story "The life of 'Cartucho' the Harrier".
- Study of the impact of submarine cables on marine fauna. In 2020, a study was carried out on the impact of submarine cables on cetaceans and sea turtles within the area and vicinity of the subsea interconnections. The study consisted of assessing the interaction of such fauna with the Red Eléctrica's activity and analysing the potential environmental impacts on cetaceans and sea turtles and designing preventive/corrective measures to minimize the impacts on this fauna.



### 7.2.5.3. The 'Red Eléctrica Forest'

Red Eléctrica Forest is an ongoing project, started in 2009, which aims to offset part of the Company's emissions through the planting trees and the recovery of degraded natural spaces on publicly owned land, thus contributing to the conservation of biodiversity. Additionally, this initiative supports the development of local economies by contracting work to companies or groups in the area, raising awareness regarding the importance of forests and to involving the local population and employees of the Company in this initiative.

Since the inception of the Red Eléctrica Forest in 2009, the Company has contributed to the recovery of 16 forests in Spain. In 2020, a total of 22,785 trees were planted (pines, holm oaks, oaks, strawberry trees and yews) in Red Eléctrica's Salamanca Forest, which has allowed the recovery of 21 ha in the municipality of Agallas (Salamanca). The Company has also signed a collaboration agreement with the Regional Government of Navarra for the reforestation of several public utility forests.

#### Red Eléctrica Forest in figures 2009-2020

Trees and shrubs planted: 704,878 units

Surface area recovered: 864 ha

Emissions offset: 201,626 t of CO<sub>2</sub> eq.

Investment: 2,190,582 €

#### ○ The 'Red Eléctrica Marine Forest'

*Posidonia oceanica* is a marine plant endemic to the Mediterranean that forms a habitat of priority interest and is an essential ecosystem for numerous organisms to complete their life cycle. Similarly, *Posidonia* seagrass contributes to the control of water quality and the protection of the coastline, as well as being one of the main CO<sub>2</sub> sinks in the sea. *Posidonia* seagrass meadows can be affected for various reasons, including the works associated with the laying of submarine electricity cables. For this reason, Red Eléctrica decided to promote a project aimed at restoring *Posidonia oceanica* seagrass meadows.

The Marine Forest is a worldwide pioneering innovation project. Between 2012 and 2016, the Company developed an R&D+i project in collaboration with the Mediterranean Institute of Advanced Studies (CSIC-IMEDEA) on the use of seeds or fragments of *Posidonia oceanica* in the restoration of degraded areas of its natural habitat.

The project employs an innovative technique that consists of using plant sections from natural fragmentation for subsequent replanting in the selected area. Regular monitoring is carried out to determine the survival rate, the degree of growth of each plant, CO<sub>2</sub> uptake, as well as the associated epifauna.

In 2020, 100% of the action area (2 hectares) was transplanted with *Posedonia oceanica* rhizome fragments. Periodic monitoring of the recovered area so far shows that the survival rate of the fragments is over 90%. The epifauna community associated with the plantation has been assessed periodically and no differences have been found in the community compared to the surroundings of the restored area.

To further raise awareness of the conservation of marine environments, Red Eléctrica participates in the promotion of various educational programmes:

- 'Bringing *Posidonia* into the classroom' in collaboration with the teaching community of the Balearic Islands and IMEDEA (Mediterranean Institute for Advanced Studies) to carry out informative sessions and field visits for students in the region.
- Collaboration with the Marine Interpretation Centre 'Aula de la Mar' in Majorca in a programme of workshops for schoolchildren. In the 2020 academic year, 38 workshops were conducted for a total of 950 students.
- Preparation of materials for the exhibition on *Posidonia oceanica* and the 'Red Eléctrica Marine Forest' project scheduled to be held by the Company in 2021.



Material has also been developed for the thematic exhibition on Posidonia and the Red Eléctrica marine forest. In 2021, the exhibition will be presented in virtual format and if the epidemiological situation permits, then it will be given in a face-to-face format at the Aula de la Mar facilities in Majorca.

<https://www.ree.es/en/sustainability/noteworthy-projects/environmental-projects/posidonia-oceanica>

In addition, the ecological study on the invasive Asian algae (*Rugulopteryx okamurae*), on the coast of Tarifa, in Andalusia continued in 2020 in collaboration with the Research Foundation of the University of Seville.

#### 7.2.5.4. Innovation Projects in the Management, Protection and Conservation of biodiversity

The cost of innovation in biodiversity is €385,602, **2.28%** of REE's total investment in innovation. The following projects were carried out during 2020:

| Innovation Project regarding biodiversity management, protection and conservation |   |
|---|---|
| Vegeta  | <p>The aim of the project is to create a working methodology that provides the optimisation of the vegetation treatment cycles (detection of needs, execution, monitoring of work and updating of information) in order to achieve efficient levels of its management in line with our corporate responsibility.</p> <p>This methodology aims to increase efficiency in the contracting of works, improve the application of environmental criteria in the execution of works as well as improve relations with the rest of the agents (public bodies, owners).</p> <p>The Vegeta algorithm collects the input variables (state of the vegetation and its distance from the electricity facility), the technical and environmental criteria established and subsequently analyses all the information to create optimal action plans.</p> <p>During 2020, the Vegeta algorithm was implemented in each and every one of the autonomous communities and the algorithm was also incorporated within the MANINT platform. The Vegeta application has also been developed in Moviman (mobility software solution) for internal staff and in an 'app' format for external staff. In addition, courses were given to internal and external personnel for the use of the new tool and the correct execution of supervision and inspection work.</p>  |
| PRODINT   | <p>A system developed by Red Eléctrica for the early detection of forest fires, using the towers of the transmission lines and by means of sensors based on Internet of Things (IoT) technology, which capture the radiation emitted by the fire and automatically sends warnings to the system operator. This makes it possible to reduce the arrival time of firefighting agents, with a consequent reduction in costs and environmental and personal damage.</p> <p>Evaluation and analysis of the applicability to Red Eléctrica of the SIGFOX wireless telecommunications network, specifically designed to connect Internet of Things (IoT) sensors. Thanks to sensors, the equipment has the ability to detect the existence of a fire with a diameter of 1 metre at a distance of 190 metres; as the fire gets bigger, the detection distance increases. The alarm is sent to a workstation terminal that geo-references the fire's location and sends an individual alert via e-mail. In addition, thanks to the measurement of humidity and temperature, early detection of fire risk is possible. A laboratory and field-tested prototype is currently available for manufacturing and large-scale deployment (100 units) as a forest fire detection system in the vicinity of the electricity lines of the transmission grid.</p> |



|                              |  |
|------------------------------|--|
| LIFE BooGI-BOP <sup>40</sup> | <p>This initiative seeks to incorporate green spaces in urban and industrial environments into the network of ecological corridors. Although the <i>Biotransporte</i> project was halted in 2019 by the Innovation Committee and the Sustainability Committee, alternatives linked to this concept have been sought. In the <i>Biotransporte</i> project, a priori only the electricity lines were considered as biological corridors or islands of biodiversity, without stopping to consider the substations as spaces with great potential as biodiversity hotspots.</p> <p>The Life BooGI-BOP project gives the opportunity to showcase the potential that substations offer in terms of biodiversity.</p> <p>What is BooGI-BOP? It is a Life project with EU funding, implemented in the period 2018-2021 and its scope encompasses urban and/or semi-urban areas. The project, supported by seven European partners, promotes the design and management of business and industrial environments taking into account biodiversity and nature. The national partners are ECOACSA and the <i>Universidad Politécnica de Montes</i>.</p> <p>Biodiversity-Oriented Design of Business Premises (BOP) is a practical approach that contributes to the protection of biodiversity - especially in densely populated regions. BOP provides solutions for shaping permanent or temporary habitats for local fauna and flora and contributes to the creation of biological corridors or green infrastructure. BOP enhances site functionality in a variety of ways and offers good opportunities to raise awareness and actively involve employees in improving biodiversity, enhancing the working environment and increasing the awareness of workers regarding the Company's values in this field.</p> <p>In 2019, an initial assessment of the available space in the San Sebastián de los Reyes substation was carried out and an adaptation proposal was made, which could not be implemented in 2020 due to the COVID-19 pandemic. In 2020, initial assessments of the space at the work centres of the Head Office in La Moraleja and the CAMPUS in Tres Cantos were carried out and adaptation proposals were submitted, which will be assessed by the Department of Resources and People Services.</p> |
| Biotransporte Project        | <p>The <i>Biotransporte</i> Project (Impact of the transmission grid on biodiversity) was a pilot experience carried out jointly with the Doñana Biological Station (EBD-CSIC), the regional government of Andalusia and private owners (2008-2018). This project analysed the viability of using power towers as biodiversity islands (or stepping-stones). The results obtained were very satisfactory: increase in the abundance and biodiversity of birdlife as well as in the number of micro mammals and invertebrates (7 out of 8 pollinators). In a subsequent internal analysis, this type of action was considered as an initiative that favoured the connection of around 60% of the spaces in the 2020 Natura Network, with many species of different groups benefiting directly, as well as many others indirectly by increasing the biodiversity of these areas.</p> <p>The article 'Transporting Biodiversity Using Transmission Power Lines as Stepping-Stones?' (Diversity 2020, 12, 439; doi:10.3390/d12110439) related with the results obtained through this case-study was published in 2020. <a href="http://www.mdpi.com/journal/diversity">www.mdpi.com/journal/diversity</a>.</p>   |
| Naturaleza en RED Project    | <p>This project is carried out in collaboration with the Autonomous University of Barcelona, with the aim of conducting a study of biodiversity associated with electricity lines and their role as a reservoir of biodiversity in open areas. This is done with a positive vision of a reality present in our territory, as a pilot test to lay the foundations for establishing monitoring protocols for this type of habitat and its biodiversity.</p> <p>Three study areas with various ecological conditions are compared in order to interpret the values under different criteria: underneath the line with old forest management vs. degraded forest // underneath the line with a natural opening vs. a natural open area // underneath the line with forest management vs. mature, homogeneous and closed canopy forest.</p> <p>In 2020, a bibliographic analysis and monitoring of floral density, pollinator abundance and abundance and diversity of diurnal butterflies was carried out.</p> <p>With the results obtained so far from the monitoring of floral density, abundance of pollinators, abundance and diversity of diurnal butterflies and indirect sampling of macrofauna, it can be understood that electricity lines act as a reservoir of biodiversity in open spaces where the adjacent habitat is of a closed-canopy type area and as a refuge for fauna where the adjacent habitat is impacted by anthropic actions.</p>  |

<sup>40</sup> Aligned with the State Green Infrastructure Strategy and Ecological Connectivity and Restoration (EEIV) of the Ministry of Ecological Transition and the Demographic Challenge (MITECO).





### 7.2.5.1. Most relevant impacts on vegetation

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During the construction of lines, modification of facilities or their operation, the main impacts to be avoided are the alteration of the habitat of certain species of fauna and flora and the impact on vegetation resulting from the opening of safety corridors. Although avoiding areas rich in biodiversity is a priority criterion and all the necessary preventive and corrective measures are implemented to minimise the possible effects on habitats, it is sometimes impossible to avoid the impact.

The most important impacts on vegetation in 2020 were the following:

- 400 kV Baza-Caparacena line: 350 m<sup>2</sup> affected area with inventoried presence of *Clypeola eriocarpa*, a 'vulnerable' small plant species in the Andalusian Catalogue of Threatened Species.
- 220 kV Incoming and outgoing feeder lines in Puente-Bibey: felling of small oak trees in an area of 40 m<sup>2</sup>.
- 220 kV Beniferri-La Eliana line (underground): felling of 5 orange trees and an olive tree in the Turia Natural Park.
- 220 kV Caletillas-El Rosario line: occasional clearing of Paris daisy *Argyranthemum frutescens*, a species native to the Canary Islands.
- 400 kV Senmenat-Vic-Bescanó line: pruning and felling of vegetation on 1.8 ha of forest land (holm oak, chestnut, oak, Douglas fir, holly and undergrowth) in the Plan for Areas of Natural Interest of Catalonia of Les Guilleries-Savassona (SAC - Special Area of Conservation - and SPA Special Protection Area - in the Red Natura 2000 Network). The damage occurred during work associated with the repair of damage caused by a storm.
- 400 kV Asomada-Carril line. Affecting 15 m<sup>2</sup> in a Red Natura 2000 protected area, Site of Community Interest (SCI) Sierra de Almenara, due to a fire generated after the passage of a maintenance vehicle.

Additionally, 2 fires have been registered in 2020, affecting 135 m<sup>2</sup> of grassland and scrubland that do not contain any species of environmental interest.

### 7.2.5.2. Most relevant impacts on the marine environment

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- 400 kV Tarifa-Fardioua submarine cable: spillage of 7,037 litres of dielectric oil due to failure of the outer sheath. This was located in Moroccan waters in the Strait of Gibraltar at a depth of 200 metres. The area is not catalogued with any type of environmental protection, although UNESCO considers the Strait of Gibraltar as a Mediterranean Intercontinental Biosphere Reserve.
- New 132 kV Majorca-Menorca 2 submarine cable: during construction, the *Posidonia oceanica* seagrass meadow was affected because the established technical contracted width for the line was exceeded (0.5 m). The technical width was exceeded in one section leading an increase in the area affected. Recovery measures are being carried out on an area of 2,386 m<sup>2</sup>, in Red Natura 2000, SCI Canal de Menorca.



## 7.2.6. Fire Prevention

In order to minimise the risk of fire associated with the presence of transmission lines, complying with strict rules regarding safety distances between flora and facilities is critical. Red Eléctrica ensures this compliance through the proper design of safety corridors and by carrying out actions of predictive and preventive maintenance, such as the annual inspection of all facilities and the periodic conducting of forestry work.

The Company applies best practices in the design and maintenance of safety corridors, respecting shrubs and small size/slow growing tree species, minimising the impact on protected species and without using chemical treatment methods.

Red Eléctrica executes numerous projects and works aimed at optimising the management and treatment of flora and minimising the risk of fire associated with its activities, having created a specific interdisciplinary working group to work on this matter.

During 2020, a review of internal regulations and work criteria was carried out (mainly its adaptation to the yearly calendar to reduce/avoid actions during periods of higher risk) and various communication materials were generated to increase the information and engagement of the people working in the Company.

In addition, noteworthy is the importance of the active and continuous collaboration of Red Eléctrica with the public administrations involved in forestry management. This cooperation is formalised through the signing of **collaboration agreements for the prevention and fight against forest fires**. There are currently 12 agreements in force, with a combined budget of 9.6 <sup>41</sup>million euros every four years, with an additional two agreements in the process of renewal. The Company aims to establish this type of agreement with all 21 of the competent public administrations in Spain.

These collaboration agreements have resulted in the number of fires related to Red Eléctrica's facilities remaining extremely low.

Within the framework of these agreements, various relevant actions were carried out during 2020:

| Territorial scope  | Noteworthy projects in 2020 linked to collaboration agreements   |
|--------------------|--|
| Nationwide         | The training programme for the State Security Forces and Corps continued in 2020. Five forest fire prevention training days have been organised in two autonomous communities and which had the participation of 170 attendees. Due to the pandemic, there has been a reduction in this type of action.  |
| Aragón             | No relevant projects in 2020.  |
| Andalusia          | No relevant projects in 2020.  |
| Asturias           | No relevant projects in 2020.  |
| Castilla-La Mancha | No relevant projects in 2020.  |
| Castilla y León    | <p><b>Citizen awareness campaign ‘Yo me enchufo a la prevención’</b></p> <p>In 2020, the Company continued with the public awareness campaign ‘<i>I am plugged into the prevention of forest fires</i>’ continued with the aim of making citizens aware of the need for their involvement in prevention. Promoted by the Centre for Fire Defence of Castilla y León (CDF).</p> <p>As part of the ‘<i>I am plugged into the prevention of forest fires</i>’ campaign, this year’s efforts were dedicated to producing informative audiovisual material for the general public, as well as educational material for firefighting crews (videos) and the publication of the ‘Manual de organización de incendios forestales en Castilla y León’ (Forest firefighting organisation manual for Castilla y León) as supplementary documentation for the reinforcement of training activities of the Castilla y León Fire Control Centre.</p> |

<sup>41</sup> The contribution earmarked by REE per Agreement and Year stands at 20,000 euros.





|                       |  |
|-----------------------|--|
| Extremadura           | Study and design of preventive actions, which will aim to project discontinuities that contribute to minimising the origin and spread of forest fires in particularly vulnerable areas in Extremadura.   |
| Community of Valencia | <p>Within the framework of the fire prevention agreement with the Regional Government of Valencia, an agreement was signed in 2020 with the Technical Engineering University of Valencia (Universidad Politécnica de Valencia) to establish a four-year collaboration aimed at implementing the project for modelling and mapping of live fuel moisture content in the Region of Valencia.</p> <p>During 2020, Phase 1 of the project was carried out, consisting of the analysis of field data and zoning of the province of Valencia, the extraction of indexes for the models and the definition of the models for estimating the live fuel moisture content in the summer season in the province of Valencia.</p>  |
| Balearic Islands      | No relevant projects in 2020.  |
| Canary Islands        | No relevant projects in 2020.  |
| Navarra               | No relevant projects in 2020.  |
| Basque Country        | <p><b>Training geared towards fire safety, extinction techniques, investigation and the development of professional skills regarding forest fires.</b></p> <p>Training for 170 experts, forestry agents, forepersons and operators from the Department of Sustainability and Natural Environment of the Provincial Council of Vizcaya participated. The assistants acquired skills regarding human factors and safety, evaluation and forecasting of fire behaviour, initial attack strategies and practical examples of decision making.</p> <p><b>Preventive clearing in the highlands of Vizcaya</b></p> <p>Scrub clearance in areas at risk of forest fires; areas with high density and an average height of scrub of 0.8m, in particular common gorse (<i>Ulex europaeus</i>) and to a lesser extent dried out heath (<i>Erica</i>).</p> <p><b>Fire prevention and extinguishing equipment.</b></p> <p>Acquisition of fire prevention and extinguishing equipment for the emergency services of Gipuzkoa and the Provincial Council of Alava.</p> <p><b>Meteorological information system for fire-related emergencies.</b></p> <p>Provision of a meteorological information service, simulations and alerts for the Alava Provincial Fire Department. The service provides a complete solution for the management of alerts and the integration of meteorological information. This service supports intervention teams and civil protection groups (fire brigades) in the prevention and management of fire-related emergencies. Quality meteorological information is essential for a precise and swift response.</p> |



- Offsetting measures for tree felling works as a result of construction works for new facilities

Red Eléctrica has set itself the challenge of offsetting the loss of native forests affected by the construction of new facilities by carrying out an assessment of the areas of native forest affected by the construction of new transmission grid facilities.

In 2019, a collaboration agreement was signed for the conservation of biodiversity through the reforestation and restoration of 53 hectares of habitat degraded by forest fires in the municipal area of Las Torrecillas-Puntal de Navarrete and the Llanos de Gaetano recreational area in the municipal area of Altura (Castellón), in order to offset the aforementioned loss of native woodland. The site was selected by the Regional Government of Valencia for the development of the project.

In 2020, Red Eléctrica invested 170,000 euros in the reforestation with native vegetation of 53 hectares affected by a forest fire in 2012. The planting of trees will help to restore the landscape and habitat for wildlife, and will help protect the soil against erosion, the loss organic matter and nutrients. Up to the end of 2020, 33% of the felling of native trees in 2018 has been offset thanks to the planting of trees, a project that will continue in 2021.

In addition, during 2020, negotiations began for the signing of a collaboration agreement with the Provincial Council of Vizcaya to carry out a reforestation and restoration project in its highland areas. The project will be executed in 2021 and had an estimated budget of 200,000 euros.



### 7.3. Saving of Resources: Water and Paper

#### Water consumption

|  | 2018   | 2019   | 2020   |
|--|--------|--------|--------|
| Head Office (m <sup>3</sup> )                        | 10,479 | 10,196 | 3,217  |
| Head Office (m <sup>3</sup> /employee) <sup>42</sup> | 11.51  | 10.54  | 3.94   |
| Total work centres <sup>43</sup> (m <sup>3</sup> )   | 22,586 | 20,347 | 12,802 |

| Withdrawal by source (%)                 | 2018  | 2019  | 2020  |
|--|-------|-------|-------|
| Rainwater collection tanks <sup>44</sup> | 0     | 0     | 0     |
| Cisterns                                 | 2.92  | 2.90  | 3.20  |
| Wells                                    | 24.55 | 17.60 | 5.20  |
| Municipal water mains                    | 72.55 | 79.50 | 92.60 |

#### Paper consumption (office paper)

|                           | 2018   | 2019   | 2020  |
|---------------------------|--------|--------|-------|
| kg                        | 20,597 | 12,195 | 5,056 |
| kg/employee <sup>45</sup> | 10.10  | 5.70   | 2.60  |

The table below shows the evolution of paper consumption in publications in the period 2018-2020.

|   | 2018   | 2019   | 2020                 |
|---|--------|--------|----------------------|
| kg                                      | 6,321  | 7,348  | 6,039                |
| % FSC <sup>46</sup>                     | 100.00 | 100.00 | 0.00                 |
| % FSC 100% Recycled                     | 65.19  | 46.00  | 0.00                 |
| % FSC 60% Recycled                      | 0      | 5.00   | 0.00                 |
| % FSC Mixed                             | 34.81  | 49.00  | 100.00 <sup>47</sup> |
| % Ecological paper used in publications | 0      | 0      | 0                    |

<sup>42</sup> Only the Head Office buildings in La Moraleja and the staff that consume water in it are considered (employees, interns and collaborators: a total of 816 people).

<sup>43</sup> The data provided has a coverage of 82.9%, in terms of personnel (taking into account all personnel that work in the different work centres in Spain: Group employees, interns and collaborators, as well as personnel contracted from temporary employment agencies). The data is not available for some centres, mainly those that are not owned by the Company (rented).

<sup>44</sup> In some centres there are rainwater collection tanks for sanitary use, fire prevention and irrigation. Collection tanks do not have mechanisms to account for stored water, so the percentage of rainwater use cannot be calculated.

<sup>45</sup> Includes Red Eléctrica employees, interns and collaborators, as well as personnel contracted from temporary employment agencies: 1,958 people.

<sup>46</sup> Ecological paper certified to Forest Stewardship Council standards.

<sup>47</sup> FSC Mixed paper was used for all publications.



## 7.4. Socio-Economic Environment

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### 7.4.1. Protection of Archaeological and Ethnological Heritage

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The protection of archaeological and ethnological heritage is an important factor in the design and construction of Red Eléctrica facilities.

Before carrying out any earthworks, the Company carries out an **archaeological survey** of the land/terrain, the intensity and scope of which depend on the probability that there is material of interest in the area. According to the results, the need for the continuous presence of an archaeologist during the works is determined and, if necessary, the preventive measures to be applied during the works are defined. These measures mainly consist of avoiding or protecting certain elements of archaeological and ethnological heritage, although on some occasions cataloguing, excavation or even restoration work is carried out.

In 2020, archaeological supervision was necessary in the construction of **25** new lines, or for the adaptation of existing lines (64% of the adaptations were carried out with the continuous presence of an archaeologist during the earthworks phase, in the entirety of or in part of the route). Archaeological supervision was necessary in the construction of **8** substations or for enlargement works of existing substations (100% were carried out with the continuous presence of an archaeologist during the earthworks).

Specifically, in 2020 the drilling of boreholes was required prior to the opening of the trench for work on the 220 kV Beniferri-La Eliana underground line, in order to avoid affecting the Mestalla and Tragador de Fora irrigation channel, as it contains protected heritage elements.

No relevant remains or materials of archaeological or ethnographic value were detected or found during the execution of works related to the electricity facilities.

In addition, Red Eléctrica actively collaborates with the local and public administrations in the conservation of heritage by developing cultural projects in the areas surrounding its facilities. An example of this is, in collaboration with the Historical Heritage Service of the Tenerife Island Council, the recovery of an archaeological site between the La Luz and Tajo ravines, and has created access to an ethnographic set of washing sites and the Virgen de Tajo fountain in El Porís, in the municipality of Arico (Tenerife).

The rock area of channels and ditches is located on a hill between the La Luz and Tajo ravines and covers an area of 1,597 m<sup>2</sup> and has a length of 100 metres, oriented from east to west, which has been fenced off. Among the archaeological sites, in addition to the bedrock mortars and channel site, there are two areas of remains on the surface, a burial site, a structure and a dwelling cave. The ethnographic assets consist of a livestock farming complex, a gallery with a washing area, a set of excavated caves and a small cave shelter.

The materials recovered in the archaeological works cover a chronological timeline that begins at an undetermined time from the Guanche period to the present day. A total of 1,190 remains were recovered, most of them corresponding to ceramic fragments, two of these fragments came from the same beaded necklace, followed by the lithic industry, with a greater proportion of obsidian, and mastological fauna.

During 2020, the development of the second phase of the *ArqueoRED* project continued (*a project on which work began six years ago with the aim of providing digital mapping of catalogued cultural heritage information in the vicinity of the Company's infrastructure throughout the national territory*), with the contrast and correction of data in the field, of all those catalogued cultural heritage elements obtained in the first phase of the project. All the available documentary information has been compiled, corrected and contrasted in the field for six autonomous communities. The revision of all of them is expected to be completed in 2021.



## 7.4.2. Electric and Magnetic Fields (EMFs)

Thanks to the criteria applied by Red Eléctrica in the design of its facilities, the levels of electric and magnetic fields (EMFs) stay below those recommended by the Council of the European Union (The Official Journal of the European Communities 1999/519/EC: establishes exposure limit values for the general public in sites where they may remain for a period of time at 5 kV/m for electric fields and 100µT for magnetic fields). The main criteria applied are the following:

- Construction of double circuits and transposition of phases in lines.
- Increasing the height of towers, thus increasing the safety distances.
- Establishing the minimum distance of electricity lines from population nuclei and isolated houses

To verify compliance with the recommendation of the Council of the European Union, Red Eléctrica has a tool that uses specific line parameters to calculate accurately the maximum level of the Electric and Magnetic that said facilities could generate.

Electromagnetic field measurements were conducted using predictive software for the following infrastructure at the request of the local administration and other stakeholders:

- *Increase in power transmission capacity of the 400 kV Tabernas-Litoral line.*
- *Increase in power transmission capacity of the 220 kV Pobla-Foradada line.*

On the other hand, and also at the request of stakeholders, in-situ measurements of the levels of electric and magnetic fields have been carried out in:

- *Span 024-025 of the 400kV Silleda-Puentes García Rodríguez-400 kV Mesón-Boimente line.*

The results of both the predictive calculations and the measurements all the values being in all cases below those recommended by the European Union.

During 2020, there were no incidents registered due to non-compliance with the regulations in this matter.

Nonetheless, aware that electromagnetic fields are an aspect that generates significant interest in the territories where electricity facilities are located, the Company addresses this issue with particular relevance as the main lines of action:

- Participation in national and international forums and working groups (ENTSO-E, CIGRE and EPRI during 2020) and collaboration with the administration (MITERD) and prestigious entities such as the 'Salvador Velayos' Institute of Applied Magnetism.
- Information is conveyed to stakeholders, by means of:
  - The corporate website on Electric and magnetic fields can be consulted at <https://www.ree.es/en/sustainability/the-natural-environment/electric-and-magnetic-fields>.
  - The publication of new developments in scientific research in this regard. In 2020, the publication on the possible health effects of electromagnetic fields was updated.
  - Responding to enquiries received through the Dígame Service.



### 7.4.3. Noise Pollution

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On occasions, electricity substations can be a source of annoyance for neighbours, due to the noise generated by some of its elements. Red Eléctrica works on the implementation of the most effective measures for mitigating noise pollution.

In 2019, a noise analysis study was carried out on the 134 substations that have power transformers on-site, based on direct measurements and the use of predictive software, fed with data from the ACURED innovation project (2016-2018). In 2020, adjustments were made to some power transformers to reduce their noise emission levels, and measurements have been taken at 26 substations among those identified as most likely to generate nuisance in their environment.

As a result, 3 facilities have been prioritised for measures to be undertaken in the coming years. In 2021, noise measurement work will continue, and an acoustic screen will be installed at the Arkale substation. In addition, during 2021 and 2022, measurements will continue to be taken at the remaining 40 substations likely to generate nuisance (facilities that after modelling have not complied with the perimeter values of an acoustic emitter and may not comply with the acoustic quality targets in its surroundings according with results of the 2019 predictive modelling/modelling project).

On the other hand, no noise measurements were taken in 2020 as there were no complaints made by individuals nor requested by local administrations. Only one complaint was received from a private individual for noise nuisance from the 400 kV Pierola-Vic line, but the line is 1,200 m from the house, so it is not possible that the noise could be due to the facility at such a distance.

In 2020, there were no incidents derived from non-compliance with regulations on noise pollution.



## 7.5. Circular Economy

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As part of the path towards a sustainable energy model, the Company is committed to the integration of the circular economy in the development of its activities. In this regard, since 2018, Red Eléctrica has been a member of the Circular Economy Pact led by the Ministry of Ecological Transition and the Demographic Challenge, whose objective is to involve the main economic and social agents in Spain in the transition towards a new economic model in which products, materials and resources are kept in the economy for as long as possible and in which the generation of waste is reduced to a minimum. As a signatory of the Pact, the Company has committed itself to promoting this transition through the application of a set of guiding rules aimed at implementing changes in the organisation that contribute to promoting responsible forms of consumption.

The Company's commitment in this scope was materialised in 2019 with the preparation of a Roadmap that will enable Red Eléctrica to become a leading company in circular economy by 2030, this being one of the 11 Sustainability Goals that the Company has set itself for this horizon.

This Circular Economy Roadmap sets out the goals to be achieved and the various courses of action to be implemented to progress towards the fulfilment of said goals. The actions are focused on the enhancement of different dimensions: materials, zero waste, soil, water, energy and a final cross-cutting dimension in which the aspects that affect all the variables as a whole are included<sup>48</sup>.

During 2020, a monetisation process was carried out to quantify, under a single, objective criterion, the impacts derived from the implementation of each of the measures it contains and of all the actions as a whole. In the assessment, both the impacts on the Company's profit and loss account (financial perspective) and the impacts on the environment and society (sustainability perspective) have been considered. This work facilitates the prioritisation of the measures by 'identifying those with the greatest benefit', as well as their monitoring and influence.

Noteworthy is the development of the DIN2020 project, which establishes the criteria for the homologation of equipment, materials and construction solutions applicable to the development of the 2021-2026 Plan. The engineering and construction solutions integrated into this project are characterized by the promotion of efficiency, mainly associated with the saving of materials. The application of the new criteria to the development of the planning as a whole will lead to a reduction of more than 4.5 million tonnes of excavated earth and more than half a million tonnes of concrete.

The most relevant dimensions are highlighted below:

- **MATERIALS**

**Objectives of the MATERIALS Roadmap:**

- Creation of a circular supply network
- Identification of the environmental impacts of equipment and materials from their point of origin (equipment and materials passport)
- Integration of circularity criteria in procurement tenders for equipment
- 20% of tenders for equipment with clauses involving suppliers in maintenance and end-of life management of the equipment
- 0% single-use plastics
- 100% eco-friendly packaging, recycled, recyclable or reusable packaging in the supply of equipment and materials
- Sustainable transformers (use of vegetable esters instead of mineral oils)
- Innovation and technological development (eco-friendly designed equipment and materials)

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<sup>48</sup> It is worth mentioning that everything related to energy is encompassed in the framework of the Climate Change Action Plan.



- ZERO WASTE

**Objectives of the ZERO-WASTE Roadmap:**

- Zero waste to landfill
- 100% SF<sub>6</sub> waste reduction
- 100% reduction of waste from contaminated land (treatment of 100% of the soil affected by accidents)
- Reduction of waste generation associated with the new DIN 2020 standard.

- SOILS

**Objectives of the SOILS Roadmap:**

- Action plan for the prevention of hydrocarbon leaks and mitigation of their impacts
- Decontamination of 100% of the soils affected by hydrocarbons in accidents.
- 100% reduction in the use of phytosanitary products in substations.

- WATER

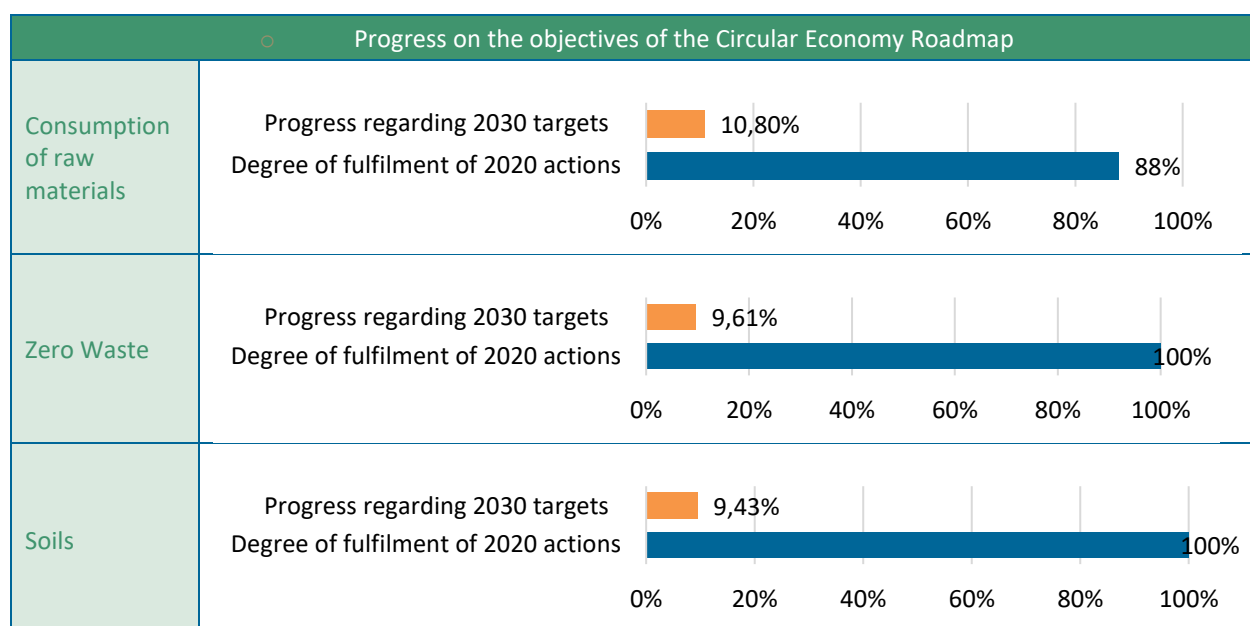
**Objectives of the WATER Roadmap:**

- Reduction of water consumption in all work centres to 6.5 m<sup>3</sup>/employee/year.

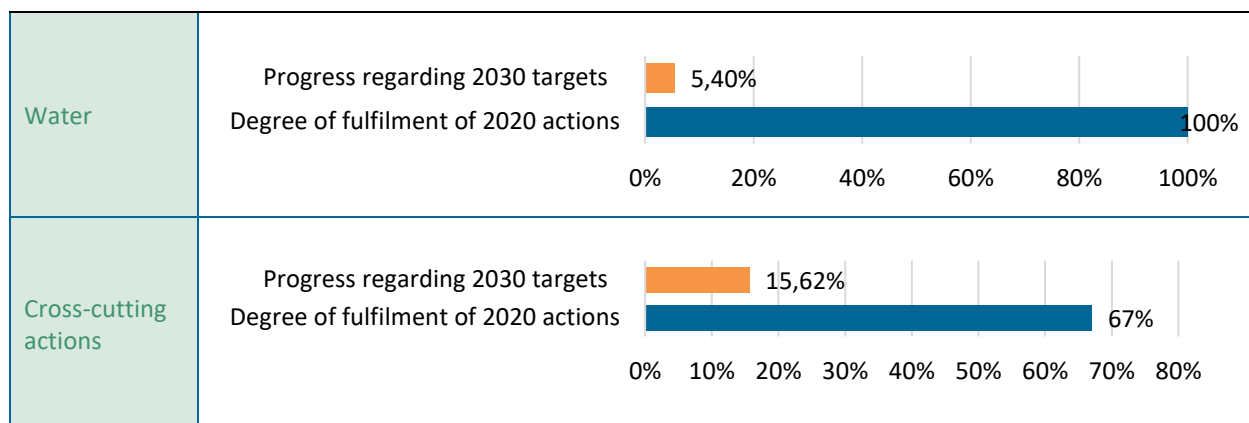
- CROSS-CUTTING ACTIONS

**Objectives of the CROSS-CUTTING ACTIONS Roadmap:**

- Integration of circularity criteria in all activities, incorporation in 100% of the internal regulations.
- Management of 100% of projects through the use of digital tools.







### 7.5.1. Zero Waste to Landfill Sites

The zero-waste models are an initiative encompassed within the EU targets for 2020 to make our economy evermore circular. The objective is that waste that cannot be reduced, reused, recycled or monetarily quantified, must be transformed into raw materials that can be used for new products in an economically and environmentally profitable way. To find alternatives and technological solutions that prevent waste from ending up in landfill sites, an in-depth knowledge of its nature and the traceability of how it was generated is required.

The nature of the waste generating activities in Red Eléctrica makes it extremely difficult to predict the evolution of the quantities produced as they are closely linked to the number and type of construction and maintenance actions carried out each year. For example, the activity of renewing and adapting facilities generates a large amount of waste, but this cannot be limited, as this activity is linked to reducing environmental risks or increasing the safety of the system or facilities. However, the Company is working on finding innovative solutions that make it possible to reduce the quantity and hazardousness of the waste derived from its activities and on searching for the most sustainable alternatives in terms of their life cycle.

In 2018, the Company began to design a zero waste to landfill model for its facilities. In 2020, a model applicable to all industrial sites and buildings was developed. In 2021, an awareness campaign will be carried out to start the implementation of this model.

### 7.5.2. Waste Management in 2020

Regarding the generation of waste, most of these do not follow a fixed pattern of behaviour, which is largely dependent on the number of construction and maintenance activities carried out throughout the year. Therefore, the interpretation of the data obtained and the comparison with previous years presents difficulties.

In general terms, the amount of total waste generated by Red Eléctrica in 2020 showed a notable decrease of 477 tonnes compared to 2019, of which 322 tonnes correspond to hazardous waste. The fall is due to a decrease in maintenance actions, as well as in renovation and improvement projects, due to the situation generated by COVID-19, which is why, in general, all types of waste generated in these types of activities (oil-filled equipment, oil, water-oil mixture and inert materials) have decreased. Additionally, the reduction in hydrocarbon-contaminated soils is related to the decrease in the number of accidents that could potentially have this type of impact on soils.



With regard to the final destination of waste, it is also worth highlighting the notable decrease in 2020 in the percentage of hazardous waste sent for elimination compared to 2019; from 46.17% to 5.89%, this reduction is largely due to the decrease in accidents and therefore in hydrocarbon-contaminated soils.

The percentage of elimination of non-hazardous waste increased slightly due to the decrease in the generation of non-hazardous waste such as wood or metals, which are usually sent for recycling.

Detailed below is the data regarding waste and its evolution over the last three years:

| Non-hazardous waste <sup>49</sup> | 2018    | 2019  | 2020  |
|-----------------------------------|---------|-------|-------|
| <b>Total (t)</b>                  | 1,521.1 | 718.6 | 564.1 |

| Hazardous waste  | 2018    | 2019  | 2020  |
|------------------|---------|-------|-------|
| <b>Total (t)</b> | 3,036.8 | 547.1 | 224.8 |

| Total waste<br>Non-hazardous + hazardous | 2018    | 2019    | 2020  |
|--|---------|---------|-------|
| <b>Total (t)</b>                         | 4,557.9 | 1,265.7 | 788.9 |

- Total amounts (tonnes) managed in 2020 by type of management

#### *Waste management method (%)*<sup>50</sup>

|  | Non-hazardous (%) | Hazardous (%) |
|--|-------------------|---------------|
| Reuse                                      | 0.00              | 0.00          |
| Recycling, Composting, Anaerobic Digestion | 70.26             | 92.86         |
| Regeneration                               | 0.00              | 1.25          |
| Energy recovery (Waste-to-Energy)          | 0.04              | 0.0           |
| Elimination (by any method)                | 29.71             | 5.89          |

The Annex of this report provides more specific data on waste management and its final destination over the last three years.

### 7.5.3. Reduction in consumption of raw materials

Similarly, the Red Eléctrica Group continues to work on all the initiatives included in the 2030 Circular Economy Roadmap of the Red Eléctrica Group which establishes and prioritises, aligning itself with the agents in the value chain, measures to reduce the consumption of raw materials in manufacturing, by substituting them for recycled, renewable or biodegradable materials and the reuse of these at the end of their useful life.

<sup>49</sup> Vegetable waste is not included as it cannot be quantified: most of it is incorporated into the land, or delivered back to the land-owners, as this is the most appropriate form of management.

<sup>50</sup> The management of the waste corresponds to that contained in the legal documentation of the same.



This has led to a reduction in expenditure (107,000 euros) and the generation income (270,000 euros) for the Company, as a result of the implementation of the procurement levers, resulting in a reduction in valued (new) and non-valued (recovered) stock. Another aspect to highlight is the identification of circularity criteria to be included in the specifications and the analysis of tenders and technical specifications in which it makes sense to incorporate these criteria.

During 2020, work was carried out in order to have a snapshot of the carbon footprint impact of the materials supplied to Red Eléctrica. Thanks to this approach, it is possible to articulate initiatives for the reuse of materials, taking into account not only financial efficiencies, but also environmental criteria for decision making.

On the other hand, equipment and materials that reach the end of their useful life in the Company are treated as a priority with a focus on sustainable recovery, with the aim of them being reused. This type of initiative, as opposed to waste management scenarios, is a substantial improvement.

#### 7.5.4. Sustainable Management of Soil/Earth affected by Oil and Fuel Spills

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The final objective of the project is to have new specific treatment(s) for the soil affected by those polluting substances most commonly found in Red Eléctrica's facilities, which will initially allow the soil to be treated in situ on or, if this is not possible, 'on site' (excavated and treated on the site itself) and which will replace the techniques used to date with a greater degree of sustainability from an environmental and economic point of view. In this way, the Company is provided with viable alternatives to excavation and dumping the soil into landfills in order to be able to address and mitigate more quickly and effectively the environmental damage to soil and groundwater that can be caused by leaks and spills of dielectric oils. The priority technique to be used will be bioremediation, a green technology that not only detoxifies the soil, but also helps to restore its ecological properties. The idea is to establish a microcosm system (microorganisms) with a specific ability to work on and arrest the problems caused by oil spills. The project also aims to identify the bacterial cultures with the highest specific degrading capacity for the oils used by Red Eléctrica in its equipment, with a view to their possible future use in real conditions.

The first phase of the project was conducted and different studies and tests were carried out on two of the main types of oil used in the Company's facilities. The results allowed the following conclusions to be drawn:

- Microbial biodegradation (based on the limited periods tested) can be considered as a potentially viable technique for the treatment of soil and groundwater contaminated by the oils tested. In any case, it is necessary to carry out new test and trials of longer duration that confirm the results obtained in this study in order to confirm its true practical effectiveness and obtain more specific and enriched biodegradable cultures.
- The tests with biodegradable surfactants have produced good results and their ability to significantly emulsify both oils (20-30%) has been demonstrated, although in tests combined with inoculate microbial remediation technology, toxicity was detected.
- Tests with oxidants produced results where there was a moderate but significant degradation of one of the oils.

During 2020, the 0 'Test design' and 1 'Initial analysis and soil contamination' Milestones were reached, and Milestone 2 'Development of an oil-degrading consortium' was partially reached.

The results obtained to date suggest the following:

- Under the case study conditions (liquid mineral medium with 0.5 g/litre of oil) the oil-degrading consortium (NTF-F1) for oil present in transformers and reactors eliminates 40.2% of the oil in just 20 days.
  - This percentage is higher than that obtained in the first phase of the project, in which a biodegradation of 26.9% was achieved, mainly affecting the heavier fraction.



- In this case, the heavy fraction is also the most degraded, but there is also a substantial reduction in the lighter fraction. This increased adaptation and specialisation of the microbial populations is the result of successive reseeding process carried out over almost two years after the end of the first phase of the project.

In view of the results obtained, it can initially be expected that with longer incubations of the microcosms in soils, the degradation rates will be higher. These studies will be carried out during 2021

- The NTS-F1 oil-degrading consortium was not studied in the first phase. This consortium has shown a similar degradation capacity to NTF-F1.
- The addition of the SoilAct® surfactant to the NTS-F1 oil-degrading consortium did not increase biodegradation at the times tested. Further tests with soil microcosms will provide definitive results on this aspect.
- The 10XNF consortium showed limited degradation capacity. It is possible that in the case of Nitro Taurus® oil, the degradation of the lighter fraction is favoured by the presence of the heavy fraction (cometabolism). Considering the high concentration of degrading micro-organisms, a longer incubation could allow a higher degradation rate to be achieved.

## 7.6. Prevention of Contamination of Soil and/or Groundwater

Red Eléctrica includes among its environmental risks the risk of contamination of soil or groundwater from leaks or spills of oils, fuels and hazardous substances.

Red Eléctrica has established numerous preventive and corrective measures aimed at preventing the contamination of soil or groundwater due to leaks or spills of oils, fuels and hazardous substances.

On the one hand, equipment is properly maintained and strict working procedures are in place to reduce the number of incidents. On the other hand, adequate containment systems are installed, as in the case for power transformers containing large quantities of oil, and protocols are also in place to swiftly respond to possible incidents so that the severity of consequences can be reduced should accidents occur.

In 2020, an emergency intervention service has been implemented regarding land-based environment that allows a prompt and effective response to accidental spillages and the urgent recovery of possible environmental damage at the site of the incident, thus minimising possible risks and damage to the environment.

Furthermore, rigorous procedures have been established for the characterisation of the subsoil in new substation locations, to eliminate risks related to incidents that occurred prior to the start of Red Eléctrica's activity.

In addition to these measures and to minimise the risks related to leaks and spills of hazardous substances, the organisation has voluntarily carried out the project for the assessment of environmental risks and identification of environmental liabilities in electricity substations (2015-2017), which gave rise to an action plan, prioritised by their urgency, to reduce, control or completely eliminate the risks identified. Since 2017, when the Company began to implement this plan, soil and groundwater characterisation actions have been carried out at 23 sites (six of them in 2019).

The activity of Red Eléctrica within the context of Royal Decree 9/2005 of 14 January is set out in Annex I as 'Potentially soil contaminating activity', encompassed within the NCEA (National Classification of Economic Activities) CNAE-2009: 35.12 and 35.13 with the following scope of activity: ***'Electricity substations and power transformers or reactors'***.

In 2020, the following substations had specific soil characterisations carried out:

| Characterisation of substations in 2020 |                               |                        |
|---|-------------------------------|------------------------|
| La Plana Substation                     | Puerto del Rosario Substation | La Jonquera Substation |

None of the pollutant values registered in these substations posed an unacceptable risk to health.



- Submission of preliminary soil reports (PSR/SR) and request for information/actions based on said reports

Since 2005, in accordance with the provisions set out in the legislation, preliminary soil reports (PSRs) in the case of new substations and mandatory periodic updates (situation reports or SRs) have been presented with the frequency established by the various autonomous communities that cover different cases for which they are necessary. During 2020, five PSRs/SRs were presented (*Minglanilla, Rocamora, Benejama, Son Moix, Boimente*).

- Actions related to soil/groundwater as a result of accidents in previous years

- Environmental recovery after the Cala'n Bosch environmental accident

In January 2016, an incident in the Menorca-Majorca connection on the stretch of land in Menorca produced a leak through a pore in the lead shield of the cable sheath. Red Eléctrica followed the procedure for the voluntary environmental recovery of soil and groundwater. The extent of the impact (according to the latest estimated official data) is between 1,200-1,600 m<sup>2</sup> of soil, while the area of groundwater affected is estimated at about 2,200-2,600 m<sup>2</sup>. The fault is located in an urban area near the sea where residential and tourist activities usually take place.

The Recovery Plan for Cala'n Bosch was presented to the General Directorate for Environmental Education, Environmental Quality and Waste of the Balearic Islands. Several follow-up meetings were held with the local administration after its presentation, and at the beginning of 2021, a reply was received requesting the presentation of a Recovery Plan that includes the decontamination techniques to be used and the definitive pollutant reduction targets. The new Plan will be submitted to the public administration in the first half of 2021.

During 2020, the application of emergency and recovery measures continued in the short and medium term for the extraction of the spilled oil. In addition, various pilot treatment trials (bioremediation, surfactant injection, etc.) for soil remediation were carried out with a view to being selected for inclusion in the Recovery Plan.

Since it began operation in 2016, the remedial system put in place (treatment plant and the use of skimmers) had extracted until December 2020 a total of 37,128 litres of free phase oil. The pumping of groundwater and free phase, in addition to the extraction process for the separation and storage of free phase oil, entails the treatment of the water for its subsequent discharge (ensuring a discharge with no more than 600 µg/l (0.6 ppm)). A total of 20,301 m<sup>3</sup> of groundwater has been treated to date. As at the date this report was drafted, it can be seen that there is no longer free phase oil at the site, although oil in a residual phase and a dissolved phase still remain.

Periodic characterisations and monitoring of groundwater have continued to be carried out in order to control the possible displacement of the groundwater plume. According to the sampling studies performed, the plume values remain stable without displacement or significant variation in the levels of free phase oil though they are showing a general downward trend.

This Plan counts on a project management team that is specialised in this field and that provides the necessary technical support for carrying out the pre-tests. Once the Recovery Plan is approved, the team will continue to provide support as necessary in order to carry out the implementation of the Plan.



- Other noteworthy actions in this field

- Environmental risk assessment and identification of environmental liabilities in electricity substations:

The project enabled greater knowledge to be obtained with respect to the internal risk on soil and ground-water (surface, subsoil and marine) of the portfolio of substations. Also, based on the risk obtained, a hierarchy ('ranking') was established according to the estimated severity of the environmental liabilities that gave way to the drafting of a 'risk map' of the facilities with all the information related to each site. In parallel, the external risk posed to the installation by the activities carried out by third parties in areas adjacent to the substations was also assessed.

Based on the results of the model, a set of electricity substations, those with the highest risk, was selected, and a plan of specific actions was drafted for each site.

During 2020, the different actions (of varying priority) were completed at 23 sites (specifically, in 2020, measures of the plan were carried out at the Morvedre, Escatrón, Herrera, Itxaso Mudarra and Palos converter stations). The work planned for the Narcea substation was not possible in the end, as the land does not belong to REE, and the owner's permission was not given.

Of the 23 substations studied since 2018, 35% have not been affected in any way, 57% have a slight impact and only 8% have a medium impact (Grijota and Mudarra). None of the sites had an unacceptable risk as a result of the quantitative risk analysis performed. In any event, the necessary measures have been taken to remedy the situation in those substations that have a medium level of impact.

In 2021, once the set measures initially planned have been carried out, the environmental risk values obtained at the substations will be updated, incorporating all those actions, measures and results obtained into the model, updating the actual state of the facilities after the renovations. Furthermore, the new substations commissioned after 2016 and not included in the initial assessment will be added.

- Working Group – Risks of Oil-Filled (OF) cables

A risk assessment study was carried out in order to prioritise the cable sections with the greatest risk from an environmental perspective and, on the other hand, a technical and economic feasibility study regarding future actions and management solutions linked to the cables.

The objective of the project was to evaluate the level of environmental risk associated with the various oil-filled cable circuits in operation (130 km distributed throughout different areas of Spain whether it be a land, marine and waterway section), prioritising these sections of line according to the level of environmental risk and defining an action plan for the final management of these facilities. Based on the results obtained, a prioritisation of the cable sections into classes was generated, obtaining cost estimates of environmental liabilities. In addition, risk maps have been prepared that represent the classification of each facility in terms of its potential level of environmental risk. Based on the results of the classification of the potential environmental liabilities, a specific Action Plan was prepared for each oil filled (OF) circuit that establishes the order of priority of the actions associated with the deactivation and/or replacement of the cables, and the options available.

A Working Group has been conducting work since 2019 to establish actions and possible solutions with regard to the OF cables that are property of the Company, with the ultimate goal of reducing the risk associated with them.



## 7.7. Stakeholders

The main objective of the Red Eléctrica is to establish a lasting relationship, based on trust, with its stakeholders. This includes all those stakeholder groups impacted by the Company's services or activities, and those groups whose opinions and decisions influence the Company's financial results or may have an impact on its reputation.

For the third consecutive year, Red Eléctrica has reached the highest score (100 points out of 100) for its excellent performance and its commitment to its stakeholders in the evaluation that determines which companies form part of the Dow Jones Sustainability Index.

Red Eléctrica's stakeholder management model incorporates the requirements set out in the rules and standards of reference in the field such as the AA1000, IQNet SR10, ISO26000 or the Global Reporting Initiative. This model ensures that relevant economic, social and **environmental** aspects, associated with Red Eléctrica's activities and services, that may have an impact on its stakeholders are adequately managed, thereby avoiding the risk of not promptly identifying issues that may affect the Company's relationship with its stakeholders. This model encompasses the following phases:

- The stakeholder **identification and segmentation** phase which is carried out by analysing the inter-relationships of the processes and activities of the Company with its socioeconomic environment.
- The **prioritisation** phase performed by analysing the influence that each stakeholder group has on the achievement of the Company's strategic objectives and the impact that the Company's activities have on each stakeholder group being considered.
- The **relationship framework** helps categorise the type of relationship with each stakeholder group and defines the most appropriate relationship channels.







In 2020, the Company started a project aimed at conducting a broad review of the stakeholder management model, which will provide an updated and prioritised inventory for each company of the Red Eléctrica Group, which will serve as a starting point for defining new frameworks for relationships with stakeholders, specific to each company and updated to the reality of the Group.

Additionally, among the actions carried out in 2020 within the framework of the stakeholder management model, two main projects can be highlighted:

- Systematisation model for stakeholder management in transmission grid investment projects.

In 2020, the functionality for managing stakeholders related to transmission grid projects was developed as part of the ÁgOra global project management tool initiative. This tool enables the identification, registration, categorisation and association of actions related to transmission projects, although the aspect related to geodesign is yet to be included. All the above is carried out in order to anticipate the needs and define solutions that can help to improve the integration and social acceptance of transmission grid developments within the territory. The implementation of three pilot projects is also planned: the Spanish Peninsula-Balearic Islands link, the Trans-Manchego axis and the Morella-La Plana axis.

- Stakeholder identification and action plan within the transmission grid planning process.

Red Eléctrica remains committed to increasing transparency and providing information to all stakeholders involved in the grid planning process and to society in general. For this reason, the Company has created a Working Group to improve the management of stakeholders involved in the process of drawing up the new transmission grid planning, promoting two-way communication and the dissemination of information to third parties. In 2020, a meeting of this working group was held to present new detailed foresight studies up to the 2030 horizon regarding the operation and management of the mainland and island electricity systems as well as the needs of both systems considering future decarbonisation scenarios.

### 7.7.1. Management of enquiries, claims and grievances

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The *Dígame* service has guaranteed, since 2008, the professional management of all external stakeholder enquiries (claims, grievances and requests for information), by making various communication channels available (phone, e-mail and online web form). This service is staffed by personnel from the Juan XXIII Roncalli Foundation, an organisation that facilitates the professional integration of people with some type of disability.

We monitor and attend to all enquiries and grievances/claims of an environmental nature which are sent to us by interested parties. All enquiries filed are classified by their nature (includes complaints, queries, suggestions, requests for information and recognition) or grievances.

In 2020, a total of **47** enquiries regarding environmental issues were received, **14** of them were classified as grievances.

The areas of concern which have led our stakeholders to contact Red Eléctrica in the last three years are broken down in the table shown on the following page. Noteworthy were the enquiries received by the different organisational units as a result of felling and pruning works of flora and the grievances thereto.





|                                   | Evolution of enquiries <sup>51</sup> |      |           | Evolution of grievances <sup>52</sup> |      |           |
|-----------------------------------|--------------------------------------|------|-----------|---------------------------------------|------|-----------|
|                                   | 2018                                 | 2019 | 2020      | 2018                                  | 2019 | 2020      |
| Birdlife                          | 3                                    | 4    | 4         | 0                                     | 0    | 0         |
| Electromagnetic fields            | 15                                   | 17   | 6         | 0                                     | 0    | 0         |
| Consumption/Energy efficiency     | 0                                    | 0    | 0         | 0                                     | 0    | 0         |
| Environmental costs               | 0                                    | 0    | 0         | 0                                     | 0    | 0         |
| Emissions/Climate change          | 0                                    | 0    | 0         | 0                                     | 0    | 0         |
| Impact on the landscape           | 2                                    | 2    | 0         | 0                                     | 0    | 0         |
| Facilities/Infrastructure         | 1                                    | 0    | 3         | 0                                     | 0    | 0         |
| General environmental information | 0                                    | 3    | 1         | 0                                     | 0    | 0         |
| Waste                             | 2                                    | 3    | 0         | 1                                     | 1    | 0         |
| Noise                             | 8                                    | 9    | 8         | 0                                     | 2    | 2         |
| Environmental management system   | 0                                    | 3    | 0         | 0                                     | 0    | 0         |
| Flora/Vegetation                  | 19                                   | 37   | 25        | 8                                     | 22   | 12        |
| Total                             | 50                                   | 78   | <b>47</b> | 9                                     | 25   | <b>14</b> |

### 7.7.2. Supply Chain

Red Eléctrica considers its suppliers as an essential link in the execution of their activities and, therefore, its commitment to the environment extends to each and every one of them.

In 2020, a reviewed and updated Supplier Code of Conduct of the Red Eléctrica Group came into force. The new version seeks to transfer to the supply chain new sustainability criteria (environment, ethics, occupational health and safety, well-being and diversity), to adapt it to best practices in relation to due diligence with third parties and ensure its alignment with the update of the Company's Code of Conduct and Ethics.

Red Eléctrica requires all those suppliers whose activity has a greater environmental impact (providers of services that can generate direct impacts on the environment, and equipment suppliers whose manufacturing process is resource-intensive) to have an environmental management system that has been documented or certified by a third party; 100% of the suppliers are certified. In addition to the total number of suppliers registered with REPRO (REPRO is the energy sector pre-qualification system used in South America and South-eastern Europe), 69.1% have a management system certified by a third party (ISO 14001 or EMAS).

With the aim of improving the environmental performance of the supply chain, Red Eléctrica has identified and prioritised the risks and impacts of an environmental nature of the supply chain, which has allowed the Company to establish controls to minimise them. These were identified within the scope of the project to identify the environmental impacts associated with each of the services contracted, and in the definition of the specific requirements that are requested from suppliers based on the type and relevance of said impacts (potential and actual).

<sup>51</sup> The result includes all the requests received (enquiry + claim).

<sup>52</sup> The cases that may involve sanctions are detailed in another section of this Environmental Statement. Includes only grievances classified as applicable according to procedure IQ002.



There is therefore a matrix of impacts that covers most of the suppliers' activity and, therefore, the main risks associated. This matrix allows the Company to assess the probability of occurrence and the magnitude for each of the 20 types of impacts identified (nine of them of an environmental nature).

All the sustainability requirements have been identified and a matrix of impacts was drafted for the supply of **equipment and/or materials**, and another matrix for the provision of **services and construction works**.

Additionally, work was completed regarding the drafting of the impact matrix for suppliers that provide equipment and/or materials in countries that entail risk, mainly from a social-labour perspective, and the identification of corresponding mitigating requirements.

Specifically, within the environmental scope, progress continues to be made in the incorporation of minimum supplier requirements according to the impact of the activity/material provided taking into consideration the following aspects:

- Impact on biodiversity.
- Impact on soil and water.
- Climate change and air quality.
- Generation of non-hazardous and hazardous waste.
- Legal/regulatory non-compliance.
- Energy consumption
- Water consumption

The environmental requirements, in terms of training and specifications linked to the execution of the works, are part of the contractual documentation for those services in which they have been deemed necessary. In the case of the activities with the greatest potential impact, such as construction, refurbishment of facilities and some maintenance activities, part of the payment of the contracted work is conditional on the result of the relevant environmental certification process, which implies an extremely thorough monitoring of the established environmental requirements.

In 2020, a new supplier assessment model regarding sustainability was defined to replace the previous CSR Scoring System. This new model is organised around three key sustainability pillars, summarised in the acronym ESG (Environmental, Social and Governance). The new scoring system, which is expected to be fully implemented by 2021, consists of a 58-question survey, some of which will require the mandatory submission of supporting documentation or evidence if the answer to any of these questions is 'yes', which will allow suppliers to be assessed in terms of sustainability.

On the other hand, emissions associated with the supply chain are those that have the greatest impact on the indirect emissions of the Company (Scope 3). In 2019, a Collaboration Program with suppliers was launched seeking to achieve the following main objectives:

- Involve suppliers in the commitment of the Red Eléctrica Group, providing appropriate guidelines in order to promote changes in their management and promoting collaboration.
- Integrate more direct information in the calculation of Scope 3 emissions, to improve its analysis and monitoring.
- Be willing to establish ambitious commitments for the reduction of Scope 3 emissions.

To date, 23 of the Company's most relevant suppliers, who together represent around 47% of the emissions in the supply chain, have joined the programme. Thanks to this collaboration, participants provide annual information on their emissions, thus making it possible to improve the Group's emissions inventory.

Furthermore, each of the suppliers has been qualified with a level of maturity in the area of climate change, which allows, in addition to making a general diagnosis of the supply chain, the deployment of different and specific development and collaboration programmes depending on the characteristics of each supplier. Work carried out in 2020 has focused on the calculation and verification of Scope 1 and 2 emissions, the calculation of Scope 3 emissions and the establishment of ambitious reduction targets, holding training workshops on these topics in which 14 suppliers have participated.



### 7.7.3. Internal Training and Awareness

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Red Eléctrica considers environmental training as a strategic line to form a team which is increasingly more aware of environmental protection. The training given is beyond merely a professional level; its aim is also to contribute to improving environmental habits in both the daily work and family life of each employee.

The percentage of staff of Red Eléctrica who received specialised environmental training during 2020 was 7.9% (compared to 9% in 2020), corresponding to 139 people and a total of 315 hours of training (compared to 388 in 2019).

Training represents 0.23% of the total training provided in 2020.



## 7.7.4. Stakeholder Relations

### Participation in Working Groups

| Working Groups (WG)   | Organiser  |
|---|--|
| WG C3.12 Methodologies for Greenhouse gas inventory and reporting for electricity transmission and distribution companies       | CIGRE (International Council on Large Electric Systems)                |
| WG C3.14 Impact of environmental liability on transmission and distribution activities  |  |
| WG C3.16: Interaction between electricity infrastructure and wildlife   |  |
| WG C3.17 Interaction between wildlife and emerging renewable energy sources and associated Insulated Cables                     |  |
| WG C3.19 Responsible management of the Electric and Magnetic Fields   |  |
| WG C3.20 Sustainable Development Goals in the Power Sector  |  |
| WG C3.22 Vegetation management in substations   |  |
| WG C3.23 Eco-design methods for TSO/DSO under environmental transition  |  |
| National CIGRE committee (Environment committee member)   |  |
| Environment Community. Member and belongs to WGs  | AEC (Spanish Association for Quality)                                  |
| WG Assets Implementation and Management (AIM), RDIC WG-1 (various SF <sub>6</sub> topics)                                       | ENTSO-E  |
| Working Group: SF <sub>6</sub> : Common position, emissions and alternatives gases in HV equipment                              | ESAM   |
| Paper on GHG emission reduction   | CEOS Group   |
| SF <sub>6</sub> Voluntary Agreement Monitoring Group  | UNESA, AFBEL and MAGRAMA   |
| Biodiversity Management Observatory Consultation Committee<br>Energy Efficiency Observatory<br>Sustainable Mobility Observatory | CES (Excellence in Sustainability Club)                                |
| Working group on electricity lines  | Spanish Business and Biodiversity Initiative (Biodiversity Foundation) |
| Spanish Green Growth Group. Various working groups  | Spanish Green Growth Group   |
| Climate Change Cluster<br>Circular Economy Action Group   | Forética   |
| Working Group 'Spanish Enterprise and Biodiversity Initiative'  | Biodiversity Pact  |
| Environment and Sustainability Working Group  | Spanish Maritime Cluster   |
| Working Group of the Spanish Energy Sector  | Natural Capital Factory  |



## Congresses, forums and informative sessions

| Congresses, forums and informative sessions  | Organiser                         |
|--|-----------------------------------|
| CIGRE e-session 2020   | CIGRE                             |
| Circular Economy Conference  | Excellence in Sustainability Club |
| Legislation on Environmental Assessment in the autonomous communities: Extremadura   | AEEIA                             |
| Legislation on Environmental Assessment in the autonomous communities: Andalusia   | AEEIA                             |
| Elewit Innovation Sessions   | REE                               |
| Holding of the conference days on "Electricity lines and birdlife safety (transmission grid network) with members of the Island Council of La Palma, island of La Palma.         | REE                               |
| Holding of the conference days on "Electricity lines and birdlife safety (transmission grid network) with members of the Island Council of Gran Canaria, island of Gran Canaria. | REE                               |
| Environmental education and support for the 'Aquila a Life' project.   | REE                               |
| Corporate volunteering: 'Plant a new world from home', 'Stay at home', 'Help by making nesting boxes'.   | REE                               |



### 7.7.5. Communication and Dissemination of Environmental Information

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The main channels of communication Red Eléctrica has for stakeholders regarding information pertinent to the environmental performance of the organisation are the following:

- Corporate reports. Red Eléctrica makes a significant effort to publish and disseminate publications as a key tool for communication with its various stakeholders. Among these reports, the Sustainability Report stands out as the main channel to transmit to the stakeholders the Company's commitments to sustainability and the activities carried out in this area. The Sustainability Report is verified externally in relation to the ISAE3000 standard in order to ensure the reliability of the information, as well as its adaptation to international reporting standards.
- The EMAS Environmental Statement through which information is provided regarding the environmental impact and behaviour of the organisation in addition to data regarding the continuous improvement in the field of environmental performance within the organisation and this is verified externally in relation to the European EMAS Regulation.

#### External communication

The corporate website is a communication tool that is developed under criteria of transparency and continuous improvement. Noteworthy in this field, are the following web-spaces that can be found in the 'Natural Environment' subsection of the 'Sustainability' section of Red Eléctrica's corporate website ([www.ree.es/en](http://www.ree.es/en)):

- The Map of projects section includes, among other things, a new section entitled 'Noteworthy Projects' that includes the projects 'The Red Eléctrica Forest' and 'Birds and power lines: Mapping of bird flight paths': <http://www.ree.es/en/sustainability/noteworthy-projects>
- The section and subsections related to energy transition and climate change: <https://www.ree.es/en/sustainability/decarbonisation-of-the-economy/energy-transition-and-climate-change>
- The section dedicated to electromagnetic fields: <https://www.ree.es/en/sustainability/the-natural-environment/electric-and-magnetic-fields>

In 2020, the total number of users who visited the environment section of the corporate website was 27,681 (up 89% compared to 2019 (14,660) with a total of 35,249 pages viewed (+60% compared to 2019). ([www.ree.es/en](http://www.ree.es/en)).

On the other hand, a total of 7 press releases with environmental content and 48 articles were written through the 'red 2030' blog. Nine special web pages related to biodiversity and climate change were drafted and published, and 66 tweets and 11 news items were published on Facebook, all of them of an environmental nature.



## Internal communication

The Company has a corporate intranet '*miRED*', for which data is available regarding the impact of '*miRED*' on internal environmental communication:

- Visits to *miRED*:

|                                     | 2018                       | 2019                       | 2020                                    |
|-------------------------------------|----------------------------|----------------------------|---|
| Environmental Section               | Average of 21 visits/month | Average of 10 visits/month | Average of 4 <sup>53</sup> visits/month |
| 'Red Eléctrica eficiente' Community | 67 followers               | 67 followers               | 67 followers                            |
| 'Sustainable Mobility' Community    | 84 followers               | 85 followers               | 86 followers                            |

- News of an environmental nature (includes environmental management, biodiversity, climate change, energy efficiency, sustainable mobility, etc.) published in *miRED*:
  - 28 news items published in the 'Carousel'.
  - In addition, the *miRED* wall is open for all Company employees to publish news that is of interest.

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<sup>53</sup> From mid-March until September 2020, employees have been encouraged to access *miRED* only for essential purposes, and the consumption of this type of content has not been promoted in order to avoid collapsing IT services during the pandemic.



## 7.8. Innovation

During 2020, expenditure on innovation of an environmental nature increased to 1,531,876 euros. This amount represents **9.06%** of the total expenditure on innovation (16.91 million euros). With the collaboration of all the areas involved, the following innovation projects stand out from the point of view of sustainability and the environment (some have already been mentioned in other sections of this EMAS Report):

|   |   |
|---|---|
| Development of a modular, sustainable and flexible transformer  | Progress in obtaining a transformer design in which the use of natural esters is economically viable, identifying the key aspects for the development and manufacture of an economical transformer prototype that uses these esters.  |
| Green Battery   | Design and validation of an energy storage system powered by renewable generation sources (wind and photovoltaic), which enables the auxiliary services of a substation to be powered (electronic equipment, air conditioning, lighting) a need that is currently covered by mobile generator units.  |
| Sustainable treatment methods for soil and groundwater affected by leaks or spills of dielectric oils or hydrocarbons | The final objective of the project is to provide new specific treatment(s) for the soils affected by the most commonly used pollutants at REE facilities, allowing them to be cleaned up in situ or, if this is not possible, 'on site' (excavated and treated on the site itself) and replacing the techniques used to date with a higher degree of sustainability from an environmental and economic point of view.   |
| Vegeta  | This project, based on algorithms for the efficient management of vegetation in the vicinity of electricity infrastructure, seeks to balance forestry conservation with the safety of the facilities, thus optimising the resources earmarked for this project. In 2020, the algorithm was implemented throughout the national territory and was incorporated into the corporate maintenance management tools. This algorithm includes information on environmental regulations specific to each of the autonomous communities. Similarly, in 2020 this algorithm was already applied to felling works on a specific line.  |
| PRODINT   | A system developed by Red Eléctrica for the early detection of forest fires, using the transmission line towers and by means of sensors based on the Internet of Things (IoT) technology, which captures the radiation emitted by the fire and automatically sends warnings to the system operator. This makes it possible to reduce the arrival time of firefighting crews, with a consequent reduction in costs and damage to the environment and personal property.  |
| SF <sub>6</sub> sensors through the use of graphene   | SF <sub>6</sub> sensors and component detectors through the use of graphene and/or carbon nanotubes.  |
| SF <sub>6</sub> gas recovery system in indoor GIS   | The final objective of the project is the development of a material which has the property of retaining and confining SF <sub>6</sub> that may be released in indoor GIS substations. The motivation arises from the need to reduce the emission of fluorinated gases into the atmosphere due to their harmful effects on the environment. Significant progress was made in 2020, as several compounds with high affinity for SF <sub>6</sub> have been identified and their behaviour and efficacy began to be field-tested through a pilot project and will be implemented in 2021.   |
| Alternative SF <sub>6</sub> gas for GIS switchgear  | The Company is working on the various innovation projects that offer alternatives to SF <sub>6</sub> in GIS switchgear (GIS substations). Two 66 kV cells that use alternative insulating gas were purchased and are installed in mobile generating units in the Canary Islands. During 2021, it is foreseen that the works for the connection of one of the units to the transmission grid of the Canary Islands will commence, with the aim of gaining knowledge and experience in these new technologies. Additionally, work has begun on the study of alternatives to SF <sub>6</sub> through the use of AIS switchgear and its application in the insular transmission grid systems. |
| Sustainable water   | Pursues the collection of atmospheric water by airflow cooling condensation techniques to provide water supply in substations.  |





## 8. Environmental Risks

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Red Eléctrica has a comprehensive risk management system in place in order to facilitate compliance with the Group's strategies and objectives, ensuring that the risks that could affect them are identified, analysed, assessed, managed and controlled systematically, with uniform criteria and within the level of acceptable risk approved by the Board of Directors.

The management system is implemented in accordance with the ISO 31000 standard on risk management principles and guidelines and is of a comprehensive and ongoing nature, with its management being consolidated per business unit, subsidiary and all support areas at corporate level.

Additionally, the Company has a Comprehensive Risk Management Policy and general Procedure for comprehensive risk management, based on the Comprehensive Risk Management Framework COSO (Committee of Sponsoring Organisations of the Treadway Commission) ERM-Enterprise Risk Management-Integrated Framework.

In 2020, an external evaluation process of the Red Eléctrica Group's Comprehensive Risk Management System was carried out by a reputable audit company in order to assess the alignment of the current model with best practices according to ISO 31000:2018 and COSO ERM 2017 Standards. As a result of this assessment, it was concluded that the implementation of the system is in accordance with the reference standards.

The General Comprehensive Risk Management and Control Procedure regulates the process of identification, analysis, assessment and management control of the relevant risks faced by Red Eléctrica. This process is developed in order to ensure that the different levels of responsibility of the Company are aware of and assess the risks that threaten the strategies and objectives, and that the management of such risks is carried out within the limits of the acceptable risk levels established.

Operational risks are among the different types of risks for Red Eléctrica. Included among them are risks of an **environmental nature**. These risks are mainly related to the natural environment in which the activities are carried out.

The risk management system establishes a methodology for determining the level of risk so that all risks are classified individually into three categories: high-risk, medium-risk and low-risk. The level of a risk is established by combining two variables, the probability of occurrence and the impact said risk would have on the Company and on the four key elements of the business, should it materialise: electricity supply, achievement of essential strategies, reputation and economic loss.

The tables shown on the following page outline the main risks and actions identified from an environmental point of view.



| Code    | Risks arising from climate change  | Main actions for the management of risks  |
|---------|--|---|
| 1ESTR09 | Climate change: Legal requirements related to Fluorinated Gases (F-Gases). | <ul style="list-style-type: none"> <li>• Commitment and action plan for the fight against climate change.</li> <li>• Voluntary agreement for comprehensive management of SF<sub>6</sub> gas in the electricity industry, between the Ministry of Agriculture, Food and Environment, equipment manufacturers (AFBEL), UNESA, REE and waste managers.</li> <li>• Development of system operation tools (CECRE).</li> <li>• Construction of new transmission lines for the evacuation renewable energy.</li> <li>• Strengthening of international interconnections.</li> <li>• Development of demand-side management initiatives (interruptibility service, measures to achieve a more efficient consumption profile, initiatives for the implementation of the electric vehicle).</li> <li>• Development of research and innovation projects: new technologies and technical solutions for efficient system management, new tools for emergency situations, smart demand management, energy storage.</li> </ul> |

| Code   | Risk of impacts on the natural environment  | Main actions for the management of risks  |
|--------|---|---|
| 1OPE06 | Risk of fires due to lines and in substations   | <ul style="list-style-type: none"> <li>• Application of strict environmental criteria in all phases of planning, development and maintenance of facilities.</li> <li>• Environmental supervision of construction works.</li> <li>• Biodiversity strategy and actions.</li> <li>• Development of research projects and fire prevention plans.</li> <li>• Projects for birdlife conservation.</li> <li>• Training courses in environmental matters for field personnel.</li> <li>• Environmental awareness of suppliers.</li> <li>• Implementation of the Environmental Work Certification.</li> <li>• Establishment of collaboration agreements on environmental protection with the various autonomous communities.</li> <li>• Fire protection plans.</li> <li>• Contingency plans.</li> <li>• Environmental Management System certified in accordance with ISO 14001.</li> </ul> |
| 1OPE07 | Impact on birdlife due to transmission grid facilities  |   |
| 1OPE16 | Contamination of soils and/or ground, surface or marine waters due to leaks or spills of oils, fuels and hazardous substances |   |
|        | Impact on archaeological and ethnological heritage.   |   |
|        | Delays or stoppages during works due to non-compliance or inadequate environmental management.                                |   |



In 2020, the assessment of risks related to the environment and climate change was updated, with no significant changes in their assessment and classification compared to 2019.

During 2020, an operational risk with an impact on the environment materialised.

The monitoring measures applied to the Spain-Morocco interconnection made it possible for a leak to be detected in cable 4 of the submarine link on 30 July. The leak was located in one of the sealing plugs used in the repair of a leak that occurred in 2018. In reply to this incident regarding an accidental spill, the Interior Maritime Plan for the link was implemented, which guarantees an immediate response, corrective actions by the personnel involved, the correct use of anti-pollution equipment and material, and the adequate coordination with the organisations working in the management of the incident and the Public Administrations involved. On 3 September, the sealing work was completed, and the Interior Maritime Plan was deactivated in Phase 0 (alert).

### Emerging risks: risks associated with climate change

On the other hand, regarding the risks associated with climate change, in 2019 a total of 45 potential risks were identified and assessed taking into account the criteria of exposure, sensitivity and capacity to adapt. Moreover, economic variables and other business indicators are taken into account in this risk assessment process. Additionally, as set out in the recommendations of the Task Force for Climate-Related Financial Disclosures (TCFD), various scenarios, differentiated for physical and transition risks, have been considered.

#### Scenarios and horizons considered for the assessment of climate risks

- **Physical risks:**

The projections developed by the State Meteorological Agency (AEMET) have been considered for the most important scenarios of the AR5 of the IPCC (RCP 4.5 and RCP 8.5).<sup>54</sup>

*Horizon: 2030-2050-2070*

- **Transition risks:**

The trend scenario and the objective scenario included in the proposal for an Integrated National Energy and Climate Plan, submitted to the European Commission, are considered.

*Horizon: 2020-2030*

The Company has defined and prioritised the most relevant risks for its business and has proceeded to monetise those for which a potential financial impact has been identified (*not all priority risks for the Red Eléctrica Group, given the condition of its regulated activity, necessarily imply a financial impact for the organisation*).

The relevant risks derived from climate change with an impact over a time horizon of one year have been incorporated into the Corporate Risk Map, so the same governance model applies to all the risks included within it. This is the case of risk 1A013R03 Climate change: *Legal requirements regarding fluorinated gases*. The process of identifying and evaluating risks associated with climate change is carried out annually.

<sup>54</sup> IPCC Fifth Assessment Report (2014) drawn up by scientists from various countries. RCP 4.5 is a target scenario and RCP 8.5 is a trend scenario contemplating greater changes in climate parameters.



|                  | Relevant risks associated with climate change   | Potential impact on the business  | Mitigating actions  |
|------------------|---|---|---|
| Physical risks   | <ul style="list-style-type: none"> <li>Impact on outdoor facilities (electricity lines) due to extreme events (wind). *</li> <li>Fires beneath the lines and in the vicinity of electricity substations. *</li> <li>Corrosion of infrastructure<sup>55</sup></li> </ul>   | <p>Damage to infrastructure.</p> <p>Impact on the electricity supply.</p> <p>Reputational impacts (associated with power outages).</p> <p>Impacts on third parties or the environment (in the case of fire).</p>  | <ul style="list-style-type: none"> <li>- MANINT project, to optimise the management of transmission grid assets.</li> <li>- Projects for the improvement and strengthening of transmission grid facilities.</li> <li>- Tree-felling and pruning back (forestry) plans. <i>Vegeta</i> project.</li> <li>- Innovation. PRODINT Project.</li> <li>- Contingency plans.</li> <li>- Insurance policies.</li> </ul>   |
| Transition risks | <ul style="list-style-type: none"> <li>Claims/grievances due to limitations to renewable production and incidents that may impact the security of supply in the Canary Islands. *</li> <li>Difficulties associated with the monitoring and control of a system that has a higher penetration of renewable energy with high volatility in its production. *</li> <li>Loss of staple generation sources associated with the closure of coal-fired, combined cycle and nuclear power stations.<sup>56</sup></li> </ul> | <p>Increased difficulty in system operation (volatility of production, lack of monitoring...).</p> <p>Increased risk of incidents in system operation that may affect the supply.</p> <p>Increased production constraints and restrictions.</p> <p>Increase in the number of claims/grievances.</p>   | <ul style="list-style-type: none"> <li>- Development of system operation tools and the safe integration of renewables (Control Centre of Renewable Energies, CECRE). Adaptation to more demanding monitoring and control requirements.</li> <li>- Development of prediction models regarding renewable generation.</li> <li>- Construction of new transmission lines to evacuate renewable energy.</li> <li>- Strengthening of international interconnections.</li> <li>- Promotion of demand-side management initiatives and smart grids, including the Control Centre for the Electric Vehicle (CECOVEL).</li> <li>- Development of large-scale energy storage projects (Chira-Soria pumped-storage hydroelectric power station) and energy storage batteries in non-peninsular territories and in networks at an end user level (innovation projects).</li> <li>- Insurance policies.</li> </ul> |
|                  | <ul style="list-style-type: none"> <li>Difficulties in commissioning the infrastructure needed for the energy transition (mainly linked to the social opposition to this type of infrastructure and the long periods of time needed to process the permits required for its development). *</li> <li>This same risk is identified and analysed specifically in the case of international interconnections. *</li> </ul>   | <p>Economic impact due to delays in incorporating the assets into the remuneration model, or total loss of remuneration due to not being able to commission them.</p> <p>Increase in the number of claims/grievances.</p> <p>Effect on the Company's reputation (in the case of delays in the development of infrastructure required for the National Energy and Climate Plan).</p> | <ul style="list-style-type: none"> <li>- INTEGRA project, to facilitate the adequate planning for the supply of services and material needs.</li> <li>- Stakeholder management model related to transmission grid investment projects.</li> <li>- Communication plan regarding the transmission grid planning process.</li> <li>- Development of public participation processes.</li> </ul>   |

<sup>55</sup> Incorporated as a result of the assessment review carried out in 2020. It will be monetised during 2021.

<sup>56</sup> No financial risk for the organisation



|  |  |  |   |
|--|--|--|---|
|  | <ul style="list-style-type: none"> <li>• Risks associated with the regulatory framework established for the construction and management of energy storage facilities in non-peninsular systems.</li> <li>• Remuneration framework associated with adapting the grid infrastructure to the needs arising from climate change.<sup>57</sup></li> </ul> | <p>Economic loss associated with an unfavourable regulatory framework.</p> <p>Costs associated with adapting infrastructure to the physical conditions resulting from climate change.</p>  | <ul style="list-style-type: none"> <li>- Dialogue with the regulator.</li> <li>- Monitoring and participation in regulatory development processes.</li> </ul>   |
|  | <ul style="list-style-type: none"> <li>• Increased legal requirements associated with the use of fluorinated gases (SF<sub>6</sub>). *</li> </ul>  | <p>Increased costs associated with taxes related to the use of SF<sub>6</sub>.</p> <p>Operational costs associated with increased requirements related to leakage monitoring and control.</p> <p>Technical difficulties and costs associated with potential restrictions on the use of SF<sub>6</sub>.</p> | <ul style="list-style-type: none"> <li>- Voluntary agreement for the comprehensive management of SF<sub>6</sub> in the electricity industry, between the Ministry of Ecological Transition, equipment manufacturers (AFBEL), UNESA, REE and waste management companies.</li> <li>- Development of leakage repair methodology.</li> <li>- Renewal of equipment.</li> <li>- Training and accreditation of personnel.</li> <li>- R&amp;D in the search for alternatives to SF<sub>6</sub> gas.</li> <li>- Participation in working groups.</li> <li>- Monitoring and participation in regulatory development processes.</li> </ul> |

Note: risks identified with \* have been monetised. The annual financial impact for each of the risks is less than 2% of the Group's results. (The calculation of the impact takes into account the result of the mitigation measures implemented. For example, in the case of physical risks, the financial impact is significantly reduced thanks to insurance policies).

<sup>57</sup> No financial risk for the organisation



## Risks arising from legal requirements and other requirements

Red Eléctrica has in place a Compliance System that is aligned with the best practices in this field, in order for the Organisation to adequately comply with the established obligations and commitments undertaken.

The compliance function aims to promote a global and anticipatory vision of compliance risks, and ensure an efficient control of such risks, guaranteeing the coordination and standardisation of their management at a corporate level, improving internal control within the organisation.

One of the regulatory areas in which the compliance system is being developed is the Natural Environment. One of the key objectives is based on promoting a global and anticipatory vision of compliance risks, ensuring an efficient control of said risks, guaranteeing the coordination and standardisation of its management at a corporate level, as well as improving internal control in the organisation.

Although the Company has an environmental management system based on the 14001 standard that has been in place since 1999, it also has a process implemented for the identification and assessment of legal requirements and other requirements that allows the Company to comply with them and, more importantly, anticipate and be prepared when faced with the modification or appearance of new requirements. Nonetheless, a preliminary map of environmental compliance risk was defined and developed.

In addition to identifying and assessing risks, a specific methodology was defined in order to identify and assess the key controls that mitigate such risks.

To date, 14 risks have preliminarily been identified and assessed. Each of which has different evaluation parameters when assessing the risk.

| Risks assessed  |  |
|---|--|
| 1. Not adopting or not complying with the necessary preventive measures to avoid damage to the natural environment.   | 7. Non-compliance with the Environmental Impact Statement.                                   |
| 2. Not adopting or not complying with the necessary corrective measures to repair any damage caused to natural resources or the environment.  | 8. Generation of fires.  |
| 3. Discharge of wastewater and contaminating liquid waste products without proper/due authorisation.  | 9. Conducting felling and pruning works without prior administrative authorisation.          |
| 4. Existence of high-voltage overhead electricity lines that do not comply with the minimum safety distances or warning signage defined and established by the Public Administration. | 10. Conducting work without authorisation in periods declared as high-fire risk.             |
| 5. The Company losing its presence in the sustainability indexes.   | 11. Inadequate management of hazardous and non-hazardous waste (operational and documental). |
| 6. Not carrying out the administrative permitting process for a project and/or works subject to an Environmental Impact Assessment.   | 12. Loss of ISO certification.   |
|   | 13. Loss of EMAS certification.  |
|   | 14. Inadequate actions by suppliers having relevant impacts on the natural environment.      |



## 9. Objectives. Annual Environmental Plan

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In order to ensure the continuous improvement of its environmental performance and processes, the Red Eléctrica Group annually defines an environmental plan which sets out the objectives derived from the different strategies of the Company and defines specific work actions aimed at minimising the environmental impacts generated by the Company's activity; said actions are linked to the commitments undertaken regarding the requirements established in the environmental policy of the Red Eléctrica Group.

The purpose of the environmental plan is to develop an annual action plan that includes all those tasks of a voluntary nature that have an environmental component associated and that are expected to be carried out throughout the year.

The Environmental Plan includes the voluntary actions planned for the current year arising from the Environmental Management of Facilities, as well as those actions derived from the Multi-year Action Plans currently in force, as a result of the commitments undertaken by the Group in the field of Biodiversity and its Commitment to the fight against Climate Change.

All the defined objectives, and therefore the actions/projects identified, are aligned with the Strategic Plan and its 2030 Sustainability Commitment, as well as with the other various strategies and programmes that the Company currently has in force, thus highlighting the growing environmental dimension of the Company and contributing to making progress in the defined courses of action that will help guarantee the success and the achievement of common goals.

The areas of action included in the 2020 Environmental Plan are grouped into three defined and interrelated vectors that correspond to the Company's most relevant areas of environmental activity:

- Environmental management of facilities: this encompasses the activities of integrating facilities into the environment (area considered as a material aspect), the prevention of contamination, as well as the generic cross-cutting activities related with environmental management.
- Biodiversity.
- Climate Change.

Both Biodiversity and Climate Change are also considered by the Company as material aspects and therefore require specific management, mainly to respond to the requirements of different stakeholder groups.

The main challenges for the Company regarding each of the vectors have been identified and the specific targets to be achieved have been defined. These targets are taken as a reference and help establish priorities and define the different tasks or projects to be included in the corresponding environmental plans.

Therefore, the Environmental Plan includes the actions derived from the approved Biodiversity and Climate Change action plans and the courses of action that have been defined to achieve the goals identified in relation to the Environmental Management vector.

The overall fulfilment of the 2020 Environmental Plan stood at 75.5% at year end.

Regarding the degree of fulfilment, depending on the relevance of the tasks (classified as very relevant/high relevance/moderate relevance according to an internal methodology based on a series of parameters), it can be concluded that 86% of the very relevant tasks and 78% of those of high relevance have been fulfilled.

Only 5% of the tasks have been cancelled/dismissed. The rest of the tasks could not start during 2020 (4%) or they have not reached the degree of achievement necessary to be considered as fulfilled (13%).

It is important to highlight that all these actions, as well as the rest of the actions not fulfilled in the 2020 Annual Plan, without counting those that have been cancelled or dismissed, have been carried over and included in the Environmental Plan for 2021.



Some of the most relevant tasks carried out by Red Eléctrica in each of the vectors are highlighted below:

| Vector   | Task  | Results obtained  |
|--|---|---|
| A.<br>Environmental<br>management of<br>facilities | Diagnosis of the substations in terms of noise emission levels derived from the applicable legislation. Phase 2: Assessment of sound pressure levels in 20 substations with power transformers and comparison of results with the theoretical method of acoustic footprint calculation.   | <p>Measurements were taken at 26 substations, the main conclusions being as follows:</p> <ul style="list-style-type: none"> <li>• Of the 26 substations analysed, 17 (65%) comply with the applicable regulations.</li> <li>• Of the 9 substations that do not comply (35%), 8 of them only fail to comply during night-time hours. Only in 3 of them is it considered that there may be an impact on the population.</li> </ul> <p>For those substations that may affect the population, as well as the other 6 in which the established limits are exceeded, the measures to be adopted to guarantee compliance with the applicable noise regulations will be analysed. The objective is to establish a set of measures for specific analysis of the causes of noise from this equipment and possible solution methods from a design, project implementation and equipment maintenance perspective.</p> |
|  | Project to improve the effectiveness of clean-up actions in areas impacted by accidental oil (and gasoil) spills in substations.  | Over 90% of upgrades were implemented.  |
|  | Diagnosis of leakage points in substations with power transformers. Phase 3: Implementation of the action plan derived from the analysis of the state of the oil containment systems located in 120 substations with power transformers.  | The analysis of oil containment systems under normal operating conditions makes it necessary to reconsider the strategy agreed in 2019. On the other hand, in order to respond to emergency situations and minimise the possible environmental damage caused by a spill, the 'Emergency Intervention Service' has been defined globally for all facilities. In the implementation of this service, an action protocol has been identified with maximum response times and physical presence at the facilities with the Company's own personnel and means of containment. This service guarantees the minimisation of environmental damage in accidental situations, which was the ultimate objective.   |
|  | Firefighting strategy: Definition of new strategy and adaptation of regulations by means of a single technical specification for all work. Analyse available and viable technology, conduct pilot tests and incorporate them into Red Eléctrica's operational procedures. Training for members of the Firefighting working group and design of the training plan for Red Eléctrica's internal and external personnel. | The new strategy has been approved, the initial training has been carried out by the working group members, and the regulations (Technical Specification 239, Technical Instruction 490) have also been approved following full consensus by the 13 organisational units.   |
|  | Implementation of the new waste segregation model in the regional transmission facilities and buildings (Zero Waste).   | A document has been drawn up setting out the segregation model for obtaining zero waste to landfill in transmission facilities and buildings, and labels for waste containers in buildings have been designed and an internal communication campaign for the correct implementation of the model has been put in place.   |





|                   |   |   |
|-------------------|---|---|
| B. Biodiversity   | Implementation of the multi-year line marking plan 2017-2023 (marking works carried out in 2020): 50 km of critical spans of line   | 66.5% of critical priority areas are already marked.  |
|                   | Vegeta developments: Milestones 2020  | Progressive developments in Vegeta algorithm  |
|                   | Habitat Project: Standardisation and integration of the information available at national level and the design of a Geographic Information System (GIS) associated to a geospatial database (2020): 100% of the territory included in the GIS | Twenty-five types of priority habitats of community interest (HCI) were detected underneath the transmission grid infrastructure or in its immediate surroundings (50 m on each side of the routes of the line and 500 m around substations). A total of 2,823.80 km of lines are located in HCI areas (9.60% of the overall length of line included in the grid). Of these, 1,005.70 km are located in Natura 2000 Network areas (3.4% of the overall length of line included in the grid).<br>In relation to qualitative aspects, a total of 1,121.80 km of lines are located in HCI areas with a high or very high conservation value (3.82% of the overall length of line included in the grid), while 1,702 km are located in HCI areas with medium or low conservation values (5.79% of the overall length of line included in the grid). |
|                   | Implementation of the Red Eléctrica Marine Forest: Completion of the planting of 2 Ha (2020)  | 100% of the action area (2 hectares) has been transplanted with <i>Posedonia oceanica</i> rhizome fragments. Two and a half years after the first transplanting works, the survival rate of the fragments is over 90%. There is no reduction in the number of total plant sections per fragment compared to the initial situation. The epifauna community associated with the plantation has been assessed periodically and no differences have been found in the community compared to the environment of the restored area.   |
|                   | The Red Eléctrica Forest 2020: planting of native species on public land to offset CO <sub>2</sub> emissions  | Soil preparation works and planting of 21.12 ha were carried out.   |
| C. Climate Change | <i>Task Force on Climate-Related Financial Disclosure</i> (TCFD) for the reporting of financial risks arising from climate change. Half-yearly/annual report on climate change risks and opportunities.                                       | The corresponding reports have been produced, including a review of the economic assessment of the selected risks and opportunities, and a preliminary recommendation for the management of those risks for the system identified by REE that do not directly impact the financial results of the Red Eléctrica Group.  |
|                   | Interventions in the Murterar, Fausita, Zal and El Palo substations to seal SF <sub>6</sub> leaks by means of an innovative technique.  | The emission of a high volume of greenhouse gases into the atmosphere has been avoided (direct emissions).  |

With regard to the monitoring of the degree of annual fulfilment of each of the targets (2017-2020) associated with each of the environmental vectors, a fulfilment level of 66% has been confirmed to date.

It should be borne in mind that many of the targets considered as not fulfilled to date, have their fulfilment level set for 2021<sup>58</sup> and they are on track to being fulfilled or have shown improvement with respect to previous years.

In any event, the final and overall analysis of fulfilment of the challenges and targets will be made in 2021 after the end of the horizon set for their fulfilment (2017-2021).

<sup>58</sup> Extended by one year in 2020 giving continuity until the completion of the new roadmap regarding Natural Capital and the new Climate Change Action Plan that will respectively cover vectors B and C of the Annual Plan.



## 10. Accidents with Environmental Impacts

At Red Eléctrica we are well aware of the consequences that an accident may have on the environment, and for this reason, we apply preventive measures to reduce the likelihood of them happening, or in the event they might occur; minimise the impact on the environment. The evolution of incidents with environmental impact in the last three years is reflected in the following table:

| Incidents reported   | 2018     |          | 2019     |          | 2020     |                 |
|--|----------|----------|----------|----------|----------|-----------------|
|  | Accident | Incident | Accident | Incident | Accident | Incident        |
| Construction work activities   | 0        | 35       | 1        | 28       | 2        | 19              |
| Fires due to fault in lines  | 0        | 0        | 0        | 0        | 0        | 0               |
| Fires due to fault in substations  | 0        | 0        | 0        | 0        | 0        | 0               |
| Leaks and spills of oil due to error in the filling of transformers  | 0        | 0        | 0        | 0        | 0        | 2               |
| Leaks and spills of oil and hydrocarbons due to minor breakdowns during the use of machinery in construction works | 0        | 35       | 0        | 28       | 1        | 15              |
| Leaks and spills of hazardous substance due to explosion of equipment  | 0        | 0        | 0        | 0        | 0        | 0               |
| Leaks and spills of hazardous substance  | 0        | 0        | 0        | 0        | 0        | 2 <sup>59</sup> |
| SF <sub>6</sub> leaks  | 0        | 0        | 0        | 0        | 0        | 0               |
| Effects on flora   | 0        | 0        | 1        | 0        | 1        | 0               |
| Maintenance activities <sup>60</sup>   | 8        | 31       | 9        | 22       | 13       | 18              |
| Fires due to fault in lines  | 1        | 0        | 2        | 0        | 2        | 0               |
| Fires due to fault in substations  | 0        | 0        | 0        | 0        | 0        | 0               |
| Towers brought down due to severe weather conditions   | 0        | 0        | 0        | 0        | 1        | 0               |
| Leaks and spills of oil and hydrocarbons during the use and maintenance of substation equipment                    | 2        | 31       | 4        | 20       | 7        | 17              |
| Oil leaks in lines   | 1        | 0        | 2        | 0        | 1        | 0               |
| Floods   | 0        | 0        | 0        | 0        | 0        | 0               |
| SF <sub>6</sub> leaks due to explosion of equipment or other accidents   | 4        | 0        | 1        | 0        | 2        | 0               |
| Leaks and spills of hazardous substances   | 0        | 0        | 0        | 2        | 0        | 0               |
| Effects on flora   | 0        | 0        | 0        | 0        | 0        | 1 <sup>61</sup> |

<sup>59</sup> Stain caused by a releasing agent in the 400 kV Cariñena substation, chemical liquid spillage from chemical mobile toilets in the 400 kV Cañaveral substation.

<sup>60</sup> Bird collisions with electricity lines in service and under construction are dealt with in a separate table.

<sup>61</sup> Impact on Hermann's tortoise (*Testudo hermanni*).



A new category has been identified in order to improve the prevention of accidents and the management of environmental risks associated with accidental events. This category has been called *'Near Accident'* which is defined in the internal regulations as: *"that event that has the potential to cause an accident or incident of an environmental nature without it actually materialising. It does not generate damage, but it has the potential to generate it"*.

During 2020, no near accidents were registered.

- **Construction**

In the construction phase, there were two accidents with environmental consequences during 2020 and 19 incidents, representing 51.3% of the total environmental incidents (construction + maintenance) during 2020.

The most serious accident occurred during the construction of the new Majorca-Menorca interconnection. During the cable protection works on the part of the cable that crosses the *Posidonia oceanica* seagrass meadows, the technical width previously established in the contract was exceeded. It affected 2,386 m<sup>2</sup> of *Posidonia* seagrass meadow which should not have been impacted. The area is located in Natura 2000 Network, specifically in the Canal de Menorca Site of Community Importance (SCI). An action plan has been drafted which will consist of mapping the affected area, removal of stones and gravel and finally the restoration of *Posidonia* using the innovation project used for the Red Eléctrica Marine Forest.

The second accident, which also had significant environmental consequences, occurred in the 132/66 kV Puerto del Rosario substation. A spillage happened when diesel oil leaked from the generator supply hoses coming from an external tank. The generator unit and the affected soil were removed, the impacted area was cleaned up and managed as hazardous waste.

Nearly all the incidents correspond to leaks and spills of oils and hydrocarbons, the main causes being the rupture of flexible hoses or small leaks and drips from the machinery used in the construction of electricity lines and substations.

- **Maintenance**

In the maintenance phase there were 13 accidents and 19 incidents (representing 48.7% of the total).

The accidents were the following: two due to SF<sub>6</sub> leaks (15.3%), seven leaks and spills of oils and hydrocarbons in substations (53.8%), one oil leak in a line (7.8%) and 2 fires due to line failure or incidents associated with the line (15.3%) and one regarding towers being brought down due to strong storms (7.8%).

Two of the accidents were rated as major (15.4%), six as significant (46.1%), four as low relevance (30.8%) and one as minor (7.7%).

The accidents evaluated as **major** were the following:

- 400 kV Tarifa-Fardioua submarine cable (ESMA1-cable 4): Spill of 7,037 litres of oil due to the breakage of the outer sheath of the 400 kV Tarifa-Fardioua underwater cable (cable 4) which was pending repair after a previous break located some 4.5 kilometres off the Moroccan coast and at a depth of some 200 metres, in Moroccan territorial waters. The fault has been sealed. The strong currents in the area have made it impossible to detect oil on the surface and to cor-don off the affected area. The area in which the spillage occurred is not catalogued with any type of environmental protection, although UNESCO considers the area of the Strait of Gibraltar as a Mediterranean Intercontinental Biosphere Reserve.
- Due to the damage caused by the storm 'Gloria' (rain and strong winds) which brought down 5 towers (towers 119, 120, 121, 122 and 123) of the 400 kV Setmenat-Vic-Bescanó line, which required the adaptation of the existing accesses and the felling/pruning of vegetation in the area. New worksites had to be built for the placement of machinery to enable the removal of cables and towers, their replacement with new towers and the hanging of new conductors.



All these tasks led to the pruning and felling of vegetation in the *Les Guillerries-Savassona* natural area, which is included within the framework of Catalonia's Areas of Natural Interest Plan. This natural area is catalogued as a Special Area of Conservation (SAC) and a Special Protection Area (SPA) within the Red Natura 2000 Network: ES5120012. A total of 18,000 m<sup>2</sup> (1.8 Ha) of forested land was affected: oak groves, holm oak groves, chestnut groves (holm oak, chestnut, oak, Douglas fir and undergrowth) and protected vegetation (holly).

Of the six accidents assessed as **significant**, three were caused by the explosion of voltage/intensity transformers or circuit breakers and two were caused by leakage from a reactor:

- Spill of 120 litres of oil due to the breakage of a circuit breaker affecting a surface area of 25 m<sup>2</sup>. The clean-up work has been completed. (Guadame substation)
- Spill of 40 litres of oil due to the explosion of a current transformer on the ground, affecting some 20 m<sup>2</sup>. Work is being carried out to clean up the area. (Guardo substation)
- Spill of 100 litres of oil from the explosion of two voltage transformers superficially affecting a surface area of 80 m<sup>2</sup>. Clean-up work is in the planning phase. (Morata substation)
- Spill of 917 litres of oil from a reactor. The oil was contained in the collection tank and did not affect the substation floor. (Guadame substation)
- Spill of 400 litres of oil from a reactor. Of the oil spilt, 75 litres reached the ground, with the rest remaining on the reactor itself and its base structure. It affected 8 m<sup>2</sup> of floor space. The area has been cleaned up. (Guadame substation)
- Initial outbreak of fire on the access route to tower 149 of the 400 kV Asomada-Carril line. The fire was caused by the movement of an off-road vehicle. It affected 15 m<sup>2</sup> of ground.

The four accidents classified as low relevance were caused by the leakage of oil from a voltage transformer at the Romica substation, the explosion of an SF<sub>6</sub> circuit breaker at the Cartelle substation, the spillage of 900 litres of diesel oil due to an error during the refuelling of emergency generator sets, affecting an area of 10 m<sup>2</sup> of unpaved ground around the equipment at the Moraleja Head Office and the initial outbreak of fire caused by a conductor failure due to an overload on the 66 kV Icod-Guía de Isora line, affecting two almond trees, bushes and undergrowth in a total area of 120 m<sup>2</sup>. The area is not catalogued with any type of environmental protection.

In the case of incidents related to maintenance, the situation is very similar to that of construction. Of the 18 incidents, 17 correspond to oil and hydrocarbon leaks and spills during the use and maintenance of substation equipment. The remaining one is related to the impact on the Mediterranean tortoise (*Testudo hermanni*) during clearance works regarding the 66 kV Es Bessons-Llucmajor line.



## Birdlife accidents

With regard to accidents related to birdlife in 2020, 22 deaths of bird species catalogued as vulnerable and/or endangered according to the regional catalogue, national catalogue and/or IUCN Red List were detected.

Of the 22 bird collisions catalogued, 19 were detected during intensive monitoring of electricity lines (3-year monitoring) and 3 during routine monitoring included in the work plan for maintenance of facilities and as a result of specific monitoring studies.

| Threatened species affected  | No. of birds affected |
|--|-----------------------|
| Iberian grey shrike ( <i>Lanius meridionalis</i> ) <sup>62</sup>   | 5                     |
| Egyptian Vulture ( <i>Neophron percnopterus</i> ) <sup>63 64</sup> | 1                     |
| Red kite ( <i>Milvus milvus</i> ) <sup>65</sup>                    | 1                     |
| Scopoli's shearwater ( <i>Calonectris diomedea</i> ) <sup>66</sup> | 13                    |
| Bearded vulture ( <i>Gypaetus barbatus</i> ) <sup>67</sup>         | 1                     |
| European Turtle Dove ( <i>Streptopelia turtur</i> ) <sup>68</sup>  | 1                     |
| Total  | 22                    |

<sup>62</sup> Vulnerable species according to the International Union for Conservation of Nature (IUCN) Red List.

<sup>63</sup> Species in danger of extinction according to the national catalogue of endangered species.

<sup>64</sup> Species in danger of extinction according to the IUCN Red List.

<sup>65</sup> Species in danger of extinction according to the national catalogue of endangered species.

<sup>66</sup> Vulnerable species according to the national catalogue of endangered species.

<sup>67</sup> Endangered species according to the IUCN Red List

<sup>68</sup> Vulnerable species according to the IUCN Red List



## 11. Legal Compliance Assessment

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In the case of legal, regulatory and other mandatory requirements, the Company assumes as a commitment, as part of the Environmental Policy the Red Eléctrica Group, to comply with the environmental legislation, regulations and other mandatory requirements applicable to the activities it carries out.

In order to identify and assess the applicable legal requirements, Red Eléctrica has in place a process that systematically covers all the phases of the activity; planning/project, construction and maintenance, and considers not only the requirements originating from European, national, regional and local regulations, but also those obligations derived from the Environmental Impact Statement and other administrative authorisations, as well as the voluntary commitments that the organisation subscribes to (pacts, agreements, etc.)

For the identification and evaluation of the legal environmental requirements that apply to the different phases involved in the development and implementation of transmission grid infrastructure, in their respective scopes of applicability: European, national, regional and local, the following process is put in place:

- Definition of Projects: those facilities that have an 'Environmental Impact Study' incorporate the applicable environmental legislation during the design phase of the project and in any case, all applicable requirements are registered through an IT application.
- Construction or modification of facilities: during the construction phase, the applicable environmental requirements (internal and external) are set out in the environmental specifications of each project and/or in the construction Environmental Monitoring Programme (EMP), if applicable. In order to assure and reinforce the process, it is established that prior to the start of the execution of a construction project, an initial assessment will be carried out regarding the legal environmental compliance with all the applicable legal requisites (including those at the municipal level), in order to detect possible shortcomings prior to the execution. Subsequently, an assessment is performed one year after the start of the project, during each environmental supervision visit, and once it is finished. In addition, in those works where supervision needs to be both intensive and permanent in nature, monthly reports are drafted to monitor the work, which include the evaluation of the legal requirements that apply to the construction activity of the facility being supervised, ensuring legal compliance and the application of corrective and preventive measures in the course of the activity.
- Maintenance of infrastructure/facilities: during the maintenance of infrastructure/facilities, apart from the applicable regulations, environmental requirements derived from the Environmental Monitoring Programme for the operation phase (in facilities with Environmental Impact Statement - EIS) and in the transfer document for maintenance. All facilities have a transfer document, which includes all the requirements, and internal and external environmental commitments (among them, the ones defined in the EIS for the operation phase). In addition, the infrastructure/buildings shall meet the requirements set out in the authorisations for felling and pruning, removing nests, wells, septic tanks, waste generation and fuel tanks.

Once the results of the legal compliance reports are available, solutions are analysed and established for those cases where deviations occur with respect to what was foreseen. Depending on the case, tasks and actions are established or corrective actions are adopted that allow the activities to be adapted to that set out in the legal and regulatory requirements.

In addition, activities are carried out regarding the identification, registration, updating, compliance assessment and reporting of requirements related to any agreements, contracts and voluntary engagements of an environmental nature.

**The activities carried out by Red Eléctrica comply with the applicable environmental requirements of a European, national, regional and local nature, as well as the voluntary requirements undertaken.**

Those possible practices considered inadequate by the Public Administration and that result in administrative proceedings (claims/cases) that are granted leave to be heard, are settled in all cases with administrative sanctions of a low monetary value.

The table on the following page details the type of infringement committed and the total cost of the same (as a result of the administrative proceedings settled with a sanction) in the period **2014-2020**.



|   | 2014                  |            | 2015                  |            | 2016                  |            | 2017                  |            | 2018                  |            | 2019                  |            | 2020                  |            |
|---|-----------------------|------------|-----------------------|------------|-----------------------|------------|-----------------------|------------|-----------------------|------------|-----------------------|------------|-----------------------|------------|
| Type of infringement <sup>69</sup>                                    | No. of claims / cases | Amount (€) | No. of claims / cases | Amount (€) | No. of claims / cases | Amount (€) | No. of claims / cases | Amount (€) | No. of claims / cases | Amount (€) | No. of claims / cases | Amount (€) | No. of claims / cases | Amount (€) |
| Fire risk <sup>70</sup>   | 1                     | 100        | 2                     | 811        | 2                     | 751        |                       |            |                       |            | 1                     | 270.46     |                       |            |
| Unauthorised felling and pruning                                      | 2                     | 2,175      | 2                     | 200        | 2                     | 7,060      |                       |            | 2                     | 1,451      | 2 <sup>71</sup>       | 1,667.04   | 1 <sup>72</sup>       | 10,800     |
| Felling, pruning and clearing without preventive measures             |                       |            |                       |            |                       |            |                       |            |                       |            |                       |            |                       |            |
| Fire due to line discharge  |                       |            |                       |            |                       |            |                       |            |                       |            |                       |            |                       |            |
| Waterway obstruction/works in areas without authorisation             | 2                     | 3,600      |                       |            |                       |            |                       |            |                       |            |                       |            |                       |            |
| Activities that could contaminate soils                               |                       |            |                       |            |                       |            |                       |            |                       |            |                       |            |                       |            |
| Accumulation of biomass waste   |                       |            |                       |            |                       |            |                       |            |                       |            |                       |            |                       |            |
| Fauna in captivity w/o authorisation                                  |                       |            |                       |            |                       |            |                       |            |                       |            |                       |            |                       |            |
| Works in protected areas without authorisation                        |                       |            |                       |            |                       |            |                       |            |                       |            | 1                     | 4,800      |                       |            |
| Unauthorised works  |                       |            |                       |            |                       |            |                       |            |                       |            |                       |            |                       |            |
| Opening up of a forest trail without authorisation                    | 1                     | 1,001      | 1                     | 2,000      |                       |            |                       |            |                       |            |                       |            |                       |            |
| Use of a helicopter in a critical birdlife area without authorisation |                       |            | 1                     | 1,000      |                       |            |                       |            |                       |            |                       |            |                       |            |
| Electricity line crossing livestock trail without authorisation       |                       |            | 1                     | 30,051     | 1                     | 30,051     |                       |            |                       |            |                       |            |                       |            |
| Incorrect waste management  |                       |            | 1                     | 2,500      |                       |            |                       |            |                       |            |                       |            |                       |            |
| Total No. of claims/cases/€   | 6                     | 6,876      | 8                     | 36,562     | 5                     | 37,862     | 0                     | 0          | 2                     | 1,451      | 4                     | 6,737.50   | 1                     | 10,800     |

<sup>69</sup> This data is reviewed annually to include resolved cases that were initiated in previous years. Therefore, the data that has been affected by the cases resolved in 2019 are marked in red.

<sup>70</sup> Risk of fire due to the lack of maintenance of vegetation or the abandonment of material.

<sup>71</sup> PA2019\_69 and CHC\_20

<sup>72</sup> PA2020\_36



## 12. Environmental Expenditure

During 2020, Red Eléctrica has made environmental investments totalling **4,912,976.00 euros** in new facilities, equating to 1.28% of the total amount invested in the transmission grid (383 million euros). These investments correspond to the execution of Environmental Impact Assessments of all projects, implementation of preventive and corrective measures, environmental monitoring of electricity facilities under construction and the application of compensatory measures related to environmental aspects.

Similarly, during 2020 expenditure totalling **23,287,059.71 euros** was made in the improvement and protection of the environment, representing 2.80% of the total operating costs.

|  | 2018          | 2019          | 2020          |
|--|---------------|---------------|---------------|
| Investment   | 1,160,634.26  | 1,740,988.77  | 4,912,976.00  |
| Engineering and construction of facilities <sup>73</sup>             | 1,160,634.26  | 1,740,988.77  | 4,912,976.00  |
| Expenditure  | 23,539,321.90 | 25,806,074.64 | 23,287,059.71 |
| Development of methodology and Systems <sup>74</sup>                 | 208,397.98    | 137,976.75    | 199,109.00    |
| Environmental studies and analyses                                   | 111,435.80    | 130,841.53    | 78,621.94     |
| Environmental actions in facilities in service                       | 21,174,054.64 | 22,901,500.30 | 19,916,317.10 |
| Prevention of contamination <sup>75</sup>                            | 1,429,676.30  | 1,960,966.65  | 1,302,741.16  |
| Protection of biodiversity, landscape <sup>76</sup>                  | 18,268,161.57 | 19,536,227.88 | 17,647,216.56 |
| Climate change <sup>77</sup>   | 851,828.77    | 1,026,398.77  | 600,407.47    |
| Waste reduction and management <sup>78</sup>                         | 624,388.00    | 377,907.00    | 365,951.91    |
| Research and development <sup>79</sup>                               | 583,478.00    | 886,748.00    | 1,531,876.50  |
| Training and communication   | 210,895.98    | 233,413.84    | 99,221.73     |
| Environmental training and awareness programmes                      | 24,285.17     | 54,094.84     | 16,064.73     |
| Communication <sup>80</sup>  | 186,610.81    | 179,319.00    | 83,157.00     |
| Environmental taxes and levies <sup>81</sup>                         | 282,421.26    | 49,921.26     | 62,802.43     |
| Cost of personnel dedicated to activities of an environmental nature | 968,638.24    | 1,465,673.00  | 1,399,111.01  |
|  | 24,699,956    | 27,547,063    | 28,200,035.71 |

<sup>73</sup> Environmental impact studies carried out on all projects, application of preventive and corrective measures, environmental supervision at electricity facilities under construction and application of environmental improvement measures.

<sup>74</sup> Certifications, audits, environmental consultancy.

<sup>75</sup> Adaptation of facilities, repair of equipment, analysis, etc.

<sup>76</sup> Fire prevention (inspection of facilities, felling, pruning and clearing of vegetation for the maintenance of the safety distances, projects related to the prevention and fight against fires) line marking with bird-flight diverters, bird-nesting deterrents, management of nests, landscaping adaptation, biodiversity conservation projects, etc.

<sup>77</sup> The Red Eléctrica Forest, offsetting of emissions, support for calculating the CO<sub>2</sub> footprint, verification of the Carbon Footprint, energy efficiency measures, climate change action plan and sustainable mobility (fleet of electric vehicles).

<sup>78</sup> Waste management of facilities and an office waste management service.

<sup>79</sup> R&D projects of an environmental nature; examples: sustainable transformer, PRODINT, VEGETA, towers unique designs, sustainable water, SF<sub>6</sub> sensors, SF<sub>6</sub> leakage repair methodology in substations with Gas Insulated Switchgear, etc.

<sup>80</sup> Publications, videos and dissemination of other informative materials of an environmental nature.

<sup>81</sup> Municipal taxes on waste, water, occupation of public utility woodland and felling works, ...





The following table shows the evolution of the environmental expenditure and investments in environmental aspects as a percentage of the total expenditure, and the investment in the transmission grid, respectively:

| Percentage of investment and expenditure on the Environment |  | 2018 | 2019 | 2020        |
|---|--|------|------|-------------|
| Percentage of investment on the environment                 | Environmental investment / total investment in the transmission grid | 0.30 | 0.44 | <b>1.28</b> |
| Percentage of expenditure on the environment                | Environmental expenditure / total operating costs                    | 2.67 | 2.79 | <b>2.80</b> |

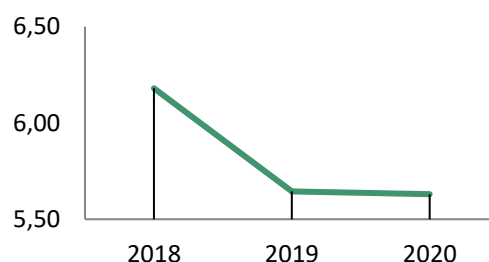


## 13. Performance Indicators

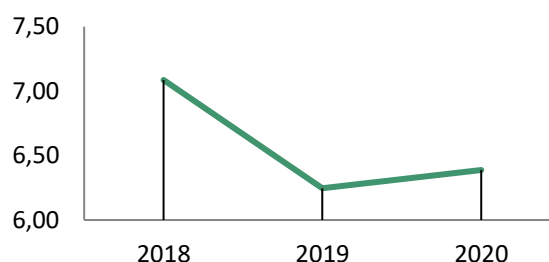
### Key indicators

#### Energy

| Electricity consumption at the Head Office |  |       |             |
|--|--|-------|-------------|
| A  | MWh consumed                               |       |             |
| B  | No. employees at Head Office <sup>82</sup> |       |             |
| Indicator                                  | A/B  |       |             |
| Year                                       | 2018                                       | 2019  | 2020        |
| A  | 7,509                                      | 7,367 | 6,323       |
| B  | 1,215                                      | 1,305 | 1,123       |
| Indicator                                  | 6.18                                       | 5.84  | <b>5.63</b> |



| Red Eléctrica electricity consumption |   |           |             |
|---------------------------------------|---|-----------|-------------|
| A                                     | MWh consumed <sup>83 84</sup>             |           |             |
| B                                     | No. employees Red Eléctrica <sup>85</sup> |           |             |
| Indicator                             | A/B                                       |           |             |
| Year                                  | 2018                                      | 2019      | 2020        |
| A                                     | 14,583.57                                 | 13,516.96 | 12,569.77   |
| B                                     | 2,058                                     | 2,164     | 1,958       |
| Indicator                             | 7.09                                      | 6.25      | <b>6.42</b> |



<sup>82</sup> La Moraleja and Albatros buildings. Includes interns and collaborators, as well as personnel contracted from temporary employment agencies, as they also consume electricity.

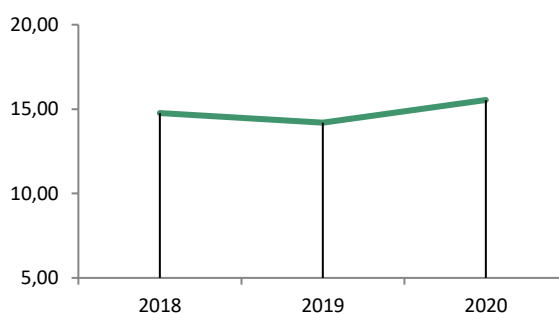
<sup>83</sup> Includes consumption of the Head Office, the electricity control centres (centres that operate 24/7 and have special energy consumption), work centres (regional offices/work centres and maintenance centres). The consumption of electric vehicles has also been included. (12,508.91 MWh for work centres and 60,778 MWh for electric vehicles).

<sup>84</sup> 89.2% of the energy consumed comes from renewable sources (green energy or GoO (with guarantees of origin)).

<sup>85</sup> For the calculation, all personnel working in the work centres and corporate buildings (Group employees, interns and collaborators, as well as personnel contracted from temporary employment agencies) are taken into account.

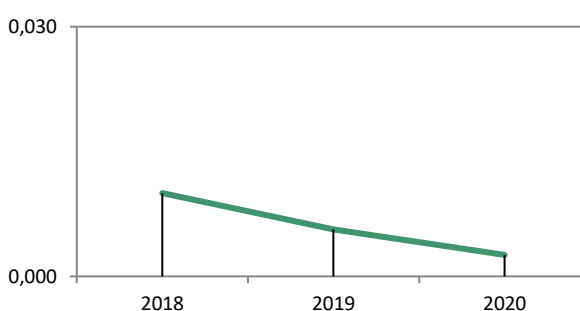


| Fuel consumption <sup>86</sup> |  |        |              |
|--------------------------------|--|--------|--------------|
| A                              | GJ (Gigajoules) consumed <sup>87</sup> |        |              |
| B                              | Total No. of employees <sup>88</sup>   |        |              |
| Indicator <sup>89</sup>        | A/B                                    |        |              |
| Year                           | 2018                                   | 2019   | 2020         |
| A                              | 22,810                                 | 25,014 | 27,272       |
| B                              | 1,630                                  | 1,762  | 1,755        |
| Indicator                      | 14.77                                  | 14.20  | <b>15.54</b> |



## Materials

| Paper consumption |                                      |        |              |
|-------------------|--------------------------------------|--------|--------------|
| A                 | Tonnes (t) consumed                  |        |              |
| B                 | Total No. of employees <sup>90</sup> |        |              |
| Indicator         | A/B                                  |        |              |
| Year              | 2018                                 | 2019   | 2020         |
| A                 | 20.597                               | 12.200 | 5.056        |
| B                 | 2,058                                | 2,164  | 1,958        |
| Indicator         | 0.010                                | 0.006  | <b>0.003</b> |



*The activity of Red Eléctrica (electricity transmission and electricity system operation) is not one that consumes materials/raw materials in a direct manner. The possible consumption of materials is related to the use and maintenance of equipment/apparatus acquired from different manufacturers. For this reason, only the consumption of paper used in office tasks is considered as possible material consumption DIRECTLY linked to the Company's activity.*

<sup>86</sup> Fuel consumed by Red Eléctrica vehicles (fleet, shared leasing and management/executive vehicles and the total amount of fuel consumed by mobile generator units).

<sup>87</sup> 1 kWh = 36 \* 10<sup>6</sup> joules; 1 litre of diesel = 37 \* 10<sup>6</sup> joules; 1 litre of gasoline = 34 \* 10<sup>6</sup> joules; 1 litre of gas oil = 37 \* 10<sup>6</sup> joules; 1 litre of biodiesel = 32.79 \* 10<sup>6</sup> joules; 1 litre of LPG = 25.7 \* 10<sup>6</sup> joules

<sup>88</sup> Number of employees on the workforce that can use vehicles (without taking into account interns or collaborators).

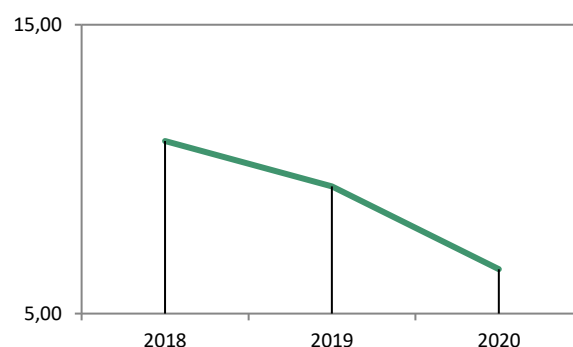
<sup>89</sup> Value of the Red Eléctrica Group

<sup>90</sup> Includes interns and collaborators, as well as personnel contracted from temporary employment agencies, as they may also consume paper.

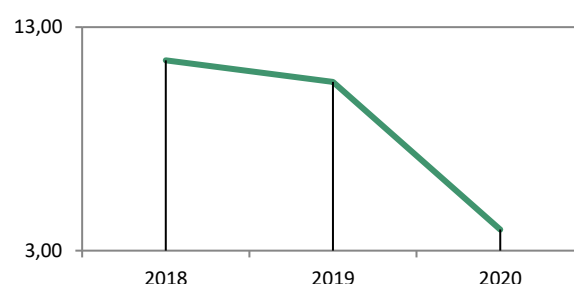


## Water

| Total water consumption |                                      |        |                          |
|-------------------------|--------------------------------------|--------|--------------------------|
| A                       | m <sup>3</sup> consumed              |        |                          |
| B                       | Total No. of employees <sup>91</sup> |        |                          |
| Indicator               | m <sup>3</sup> consumed              |        |                          |
| Year                    | 2018                                 | 2019   | 2020                     |
| A                       | 22,586                               | 20,347 | 12,802 <sup>92</sup>     |
| B                       | 2,058                                | 2,164  | 1,958                    |
| Indicator               | 10.97                                | 9.40   | <b>6.54<sup>93</sup></b> |

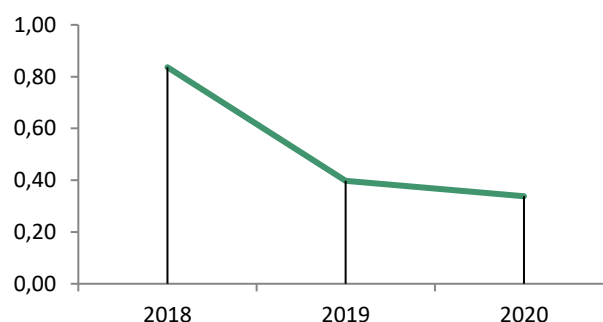


| Water consumption at the Head Office |  |        |                     |
|--------------------------------------|--|--------|---------------------|
| A                                    | m <sup>3</sup> consumed                      |        |                     |
| B                                    | Total employees at Head office <sup>94</sup> |        |                     |
| Indicator                            | A/B  |        |                     |
| Year                                 | 2018   | 2019   | 2020                |
| A                                    | 10,479                                       | 10,196 | 3,217 <sup>95</sup> |
| B                                    | 910  | 967    | 816                 |
| Indicator                            | 11.52  | 10.54  | <b>3.94</b>         |



## Waste

| Non-hazardous waste |   |         |             |
|---------------------|---|---------|-------------|
| A                   | Tonnes (t) of non-hazardous waste generated |         |             |
| B                   | Revenue (millions of euros)                 |         |             |
| Indicator           | A/B   |         |             |
| Year                | 2018  | 2019    | 2020        |
| A                   | 1,521.150                                   | 718.986 | 564.118     |
| B                   | 1,818.8                                     | 1,807.0 | 1,668.3     |
| Indicator           | 0.84  | 0.40    | <b>0.34</b> |



<sup>91</sup> Taking into account all the personnel that work in the various work centres: Group employees, interns and collaborators, as well as personnel contracted from temporary employment agencies.

<sup>92</sup> With a degree of coverage of 82.9% in terms of personnel (taking into account all personnel working in the various work centres: Group employees, interns and collaborators, as well as personnel contracted from temporary employment agencies). The figure is not available for some centres, mainly those not owned by the Company (rented/leased buildings).

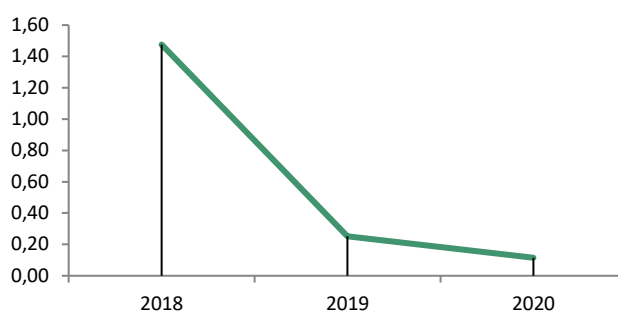
<sup>93</sup> Water consumption per employee is **7.93 m<sup>3</sup>/** for all water consumers, taking into account only the sum of consumption in buildings/centres where there are staff.

<sup>94</sup> The 'La Moraleja' buildings including interns and collaborators, as well as personnel contracted from temporary employment agencies, as they are considered water consumers. The Albatross building has not been included.

<sup>95</sup> Water consumption has decreased in the Head office and similarly the decrease has continued for the facilities as a whole with respect to previous years, although this year the sharp decrease may be due mainly to the months in which there were no staff in the work centres.

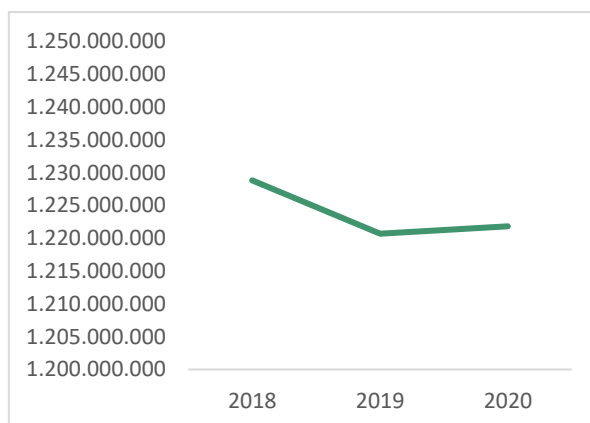


| Hazardous waste |   |         |                       |
|-----------------|---|---------|-----------------------|
| A               | Tonnes (t) of hazardous waste generated |         |                       |
| B               | Revenue (millions of euros)             |         |                       |
| Indicator       | A/B                                     |         |                       |
| Year            | 2018                                    | 2019    | 2020                  |
| A               | 3,036.874                               | 547.100 | 224.843 <sup>96</sup> |
| B               | 1,818.8                                 | 1,807.0 | 1,668.3               |
| Indicator       | 1.67                                    | 0.30    | <b>0.30</b>           |



## Land occupation in relation to biodiversity

| Biodiversity: Total land occupation <sup>97</sup> |  |               |                      |
|---|--|---------------|----------------------|
| A   | Surface area occupied by LINES <sup>98</sup> (m <sup>2</sup> )       |               |                      |
| B   | Surface area occupied by SUBSTATIONS <sup>99</sup> (m <sup>2</sup> ) |               |                      |
| TOTAL <sub>100</sub>                              | Total land occupation (m <sup>2</sup> )                              |               |                      |
|   | Facilities   |               |                      |
| Year  | 2018   | 2019          | 2020                 |
| A   | 1,218,783,913  | 1,210,466,383 | 1,211,410,000        |
| B   | 10,042,074   | 10,229,733    | 10,400,000           |
| TOTAL   | 1,228,825,987  | 1,220,696,116 | <b>1,221,810,000</b> |



<sup>96</sup> The amount of waste generated has fallen considerably in 2020. In the case of REE, there has been a reduction of 322t of hazardous waste (225t managed in 2020) and 155t of non-hazardous waste (564t in 2020), due to the limitation of maintenance actions and renovation and improvement projects resulting from COVID-19. In addition, hydrocarbon-contaminated soil waste has been reduced due to the decrease in the number of accidents.

<sup>97</sup> The most up-to-date database published by MITERD is used to calculate the indicators. The mapping of in-service facilities is improved and updated annually, from which some variations can be derived in the calculations not related to the increase or decrease in the number of facilities.

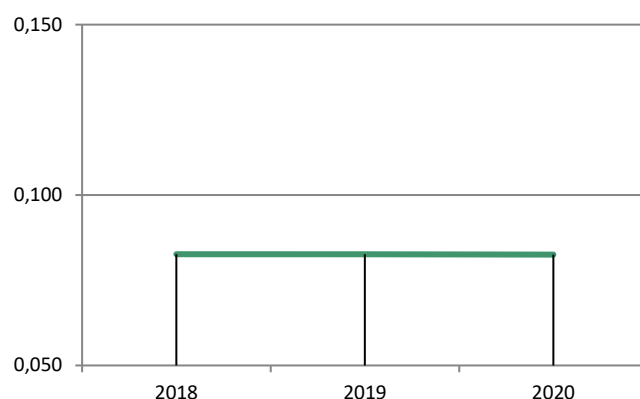
<sup>98</sup> Surface area occupied by electricity lines: The area occupied by the lines has been calculated assuming an occupation of 20 metres on each side of the line. It is necessary to take into account that the occupation is overhead; there is only real occupation in the case of the towers. The area occupied by the submarine cables has been estimated at 1 metre on each side of the line.

<sup>99</sup> Actual area occupied by the complete set of electricity transmission substations calculated to include the safety perimeter around each one of the substations.

<sup>100</sup> The land occupied by office buildings (11) is not included as it is not considered relevant for the calculation of total land occupation. Of the 11 corporate buildings, only 5 of them (La Moraleja Head Office, Tres Cantos CAMPUS, Tres Cantos 1- CECORE, North-eastern regional office and Canary Islands-VEGUETA regional office) occupy land. The rest is floor space in office blocks that are owned or rented in buildings shared with other companies and where the entire building is not owned by Red Eléctrica.



| Biodiversity: % occupation of Red Natura land <sup>101</sup> |   |                         |                         |
|--|---|-------------------------|-------------------------|
| A  | Surface area in Natura 2000 Network occupied by facilities <sup>102</sup> (m <sup>2</sup> ) |                         |                         |
| B  | Total surface area of Natura 2000 Network (m <sup>2</sup> ) <sup>103</sup>                  |                         |                         |
| Indicator  | A/B x 100   |                         |                         |
|  | Facilities  |                         |                         |
| Year   | 2018  | 2019                    | 2020                    |
| A  | 184.450*10 <sup>6</sup>   | 184.811*10 <sup>6</sup> | 184.580*10 <sup>6</sup> |
| B  | 223.210*10 <sup>7</sup>   | 223.682*10 <sup>7</sup> | 223.682*10 <sup>7</sup> |
| Indicator  | 0.083   | 0.083                   | <b>0.083</b>            |



As for the rest of the land occupation indicators, the following should be mentioned:

- **Total sealed area**

In the case of transmission lines (44,471 circuit kilometers of transmission line with a total of 81,126 towers distributed throughout the Spanish mainland, Balearic Islands and Canary Islands), the actual sealed area would be limited to the surface area occupied by the four truncated cone-shaped concrete footings of the towers used to carry the overhead lines (1.5-2 m<sup>2</sup> maximum occupation per footing). In the case of underground or submarine lines, we cannot consider these as sealed areas, but rather as areas 'occupied' by the cables themselves underground throughout their route.

In the case of substations (697 substations in service in 2020), the areas that can be considered as truly sealed within the enclosed area of the facility depend on several factors. The main factor is the type of substation: AIS (*Air Insulated Switchgear*) or GIS (*Gas Insulated Switchgear*). In addition, in the case of AIS substations (normally outdoors) there are different conditioning factors that determine the actual sealed surface area in each one of them, which will depend on the number of asphalted or concreted access routes; the greater or lesser presence of telecommunications shelters, relay shelters; the presence or absence of a control or work centre, warehouse-workshop, waste shelters, hard-standing areas for waste, etc.

Therefore, a case-by-case analysis would be necessary, which in turn would require a very high number of condition factors to be considered, in order to obtain a value regarding the **total sealed area**, without such a result being relevant, or at least indicative, for the assessment of actual environmental performance.

Due to all the aforementioned reasons, Red Eléctrica has opted to not consider the calculation necessary as it is not a basic indicator, nor is it related to the Company's activity or the possible impact of the Company on the environment.

<sup>101</sup> The most up-to-date database published by MITERD is used to calculate the indicators. The mapping of in-service facilities is improved and updated annually, which may lead to some variations in the calculations that are not related to the increase or decrease of land occupied by facilities.

<sup>102</sup> Surface area occupied by lines and substations: The surface area of lines has been calculated assuming an occupation of 20m on each side of the line. It is necessary to keep in mind that the occupation is overhead; there is only actual occupation in the case of the towers where each tower occupies approximately 8 to 10 m<sup>2</sup>. The surface area occupied by submarine cables has been estimated at 0.5 metres on each side of the line (total of 1 metre).

<sup>103</sup> Natura 2000 Network includes: SCIs (Sites of Community Importance) and SPAs (Special Protection Areas).



- **Total nature-oriented area on site/Total nature-oriented area off site**

With regard to nature-oriented areas, understood as those elements that promote biodiversity such as 'green' roofs, plant-covered façades, landscaping with native species, insectary plants, restoration of natural areas, etc., for the time being, the Company does not have any nature-oriented areas of this type, except for a small-landscaped roof garden in the Tres Cantos 1-CECORE corporate building (Tres Cantos - Madrid, Spain).

Nevertheless, Red Eléctrica is participating in an EU LIFE project called BooGI-BOP (<https://www.biodiversity-premises.eu/en/eu-life-project.html>). This initiative seeks to incorporate green spaces in urban and industrial environments into the network of green corridors by promoting the design and management of business and industrial environments taking into account biodiversity and nature.

Biodiversity-oriented design (BOP) is a practical approach that contributes to the protection of biodiversity, especially in densely populated regions. BOP provides solutions for shaping permanent or temporary habitats for local fauna and flora and contributes to the creation of biological corridors or green infrastructure. BOP enhances site functionality in a variety of ways and offers good opportunities to raise awareness and actively involve employees in improving biodiversity, enhancing the working environment and increasing the employee's pride of belonging and raising their awareness regarding the Company's values in this field.

This design concept gives Red Eléctrica the opportunity to showcase the potential of substations and corporate buildings in this aspect. Thus, in 2019, in the San Sebastián de los Reyes substation, an initial assessment of the situation of spaces was carried out and an adaptation proposal was drawn up, which could not be implemented in 2020 due to the COVID-19 pandemic. In addition, in the work centres of the Head office in the La Moraleja area of Madrid and in the CAMPUS in Tres Cantos, an initial assessment of the space has been carried out and an adaptation proposal is already available, which will be evaluated internally. Both proposals will be implemented through pilot projects over the next few years.

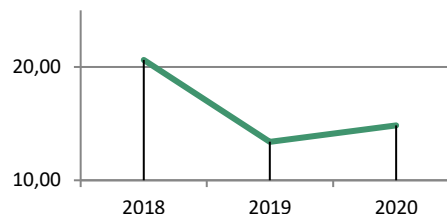
In addition, Red Eléctrica participated in a pilot experience carried out jointly with the CSIC and the regional government of Andalusia through the project called *Biotransporte* which considered power lines and their supports as biological corridors or biodiversity islands. This project analysed the viability of using power towers as stepping-stones or as hotspots for biodiversity. The results obtained were very satisfactory and showed an increase in the abundance and biodiversity of birdlife as well as in the number of micro mammals and invertebrates (7 out of 8 pollinators). In a subsequent internal analysis, this type of action was considered as an initiative that favoured the connection of around 60% of the spaces of the 2020 Natura Network, with many species of different groups would benefit directly, as well as many others indirectly by increasing the biodiversity of these areas. The article 'Transporting Biodiversity Using Transmission Power Lines as Stepping-Stones?' (Diversity 2020, 12, 439; doi:10.3390/d12110439) related with the results obtained through this case-study was published in 2020. [www.mdpi.com/journal/diversity](http://www.mdpi.com/journal/diversity).

Lastly, Red Eléctrica collaborates with the Autonomous University of Barcelona, with the aim of carrying out a study on biodiversity associated with electricity lines and their role as a reservoir of biodiversity in open areas. In 2020, a bibliographic analysis and monitoring of floral density, abundance of pollinators and abundance and diversity of diurnal butterflies was carried out. With the results obtained so far from the monitoring of floral density, abundance of pollinators, abundance and diversity of diurnal butterflies and indirect sampling of macrofauna, it can be understood that electricity lines act as a reservoir of biodiversity in open spaces where the adjacent habitat is of a closed-canopy type area and as a refuge for fauna where the adjacent habitat is impacted by anthropogenic actions.

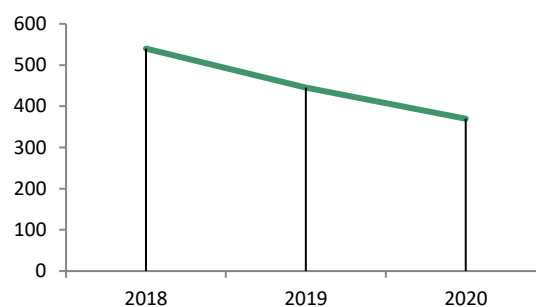


## Emissions

| Direct emissions of greenhouse gases (SCOPE1)<br>+ Emissions from electricity consumption<br>(SCOPE 2 without losses) <sup>104</sup> |  |           |              |
|--|--|-----------|--------------|
| A  | t CO <sub>2</sub> eq. SCOPE 1 + Emissions from electricity consumption |           |              |
| B  | Revenue (millions of euros)  |           |              |
| Indicator  | A/B  |           |              |
| Year   | 2018   | 2019      | 2020         |
| A  | 40,073.00  | 24,201.00 | 24,752.78    |
| B  | 1,943.3  | 1,807.0   | 1,668.3      |
| Indicator  | 20.62  | 13.39     | <b>14.84</b> |



| Emissions SCOPE 1 + SCOPE 2 including<br>transmission grid losses <sup>105</sup> |   |         |            |
|--|---|---------|------------|
| A  | tCO <sub>2</sub> eq (SCOPE 1 + SCOPE 2) |         |            |
| B  | Revenue (millions of euros)             |         |            |
| Indicator  | A/B                                     |         |            |
| Year   | 2018                                    | 2019    | 2020       |
| A  | 1,049,225                               | 804,479 | 616,831    |
| B  | 1,943.3                                 | 1,807.0 | 1,668.3    |
| Indicator  | 540                                     | 445     | <b>370</b> |



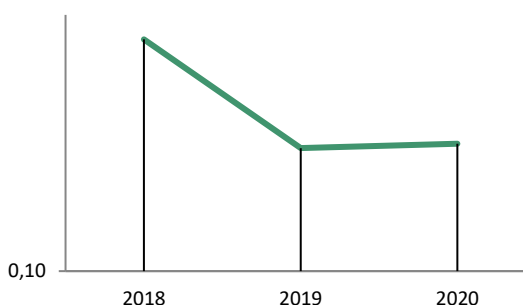
<sup>104</sup> Emissions of Scope 1 and 2 (not including transmission grid losses). Red Eléctrica considers it relevant to monitor this indicator, without including transmission grid losses (as it is not possible to act on them)..

<sup>105</sup> The emissions associated with the transmission grid losses, in the same way as for the emissions associated with the consumption of electricity, do not occur during the activities of Red Eléctrica as they take place at the various electricity generation points. For the calculation of these emissions, the emission factors corresponding to each system (Spanish mainland, Balearic Islands or Canary Islands) are calculated by Red Eléctrica based on the annual generation balance. There are several reasons for the reduction of emissions in 2020. The most relevant is the decrease in the average peninsular emission factor (0.165 t CO<sub>2</sub>/MWh in 2019 and 0.123 t CO<sub>2</sub>/MWh in 2020), which reflects the drastic reduction (55%) in the share of coal-fired production in the generation mix, the lower share of combined cycle (25% reduction) and the 6.6% increase in the share of renewable energy (mainly photovoltaic, which increased its contribution by 68%).





| % SF <sub>6</sub> emissions <sup>106</sup> |  |         |                            |
|--|--|---------|----------------------------|
| A  | t SF <sub>6</sub> emitted                  |         |                            |
| B  | t SF <sub>6</sub> installed <sup>107</sup> |         |                            |
| Indicator                                  | A/B*100                                    |         |                            |
| Year                                       | 2018                                       | 2019    | 2020                       |
| A  | 1.62                                       | 0.93    | 0.97                       |
| B  | 462.119                                    | 479.821 | 491.165                    |
| Indicator                                  | 0.35                                       | 0.19    | <b>0.20</b> <sup>108</sup> |



Concerning the indicator ‘**Total annual air pollution emissions**’, with regard to SO<sub>2</sub>, NO<sub>x</sub> and PM emissions, it is necessary to indicate:

Emissions of this type of pollutants (SO<sub>2</sub>, NO<sub>x</sub> and PM) into the atmosphere are not a direct consequence of the Company's production process (*Transmission of electricity and operation of the electricity system*) but are generated in auxiliary processes related to the main process. Although these processes are necessary for the correct execution of the activity, they are not considered by Red Eléctrica as relevant in terms of their repercussion or impact on the environment.

Specifically, emissions of these pollutants into the atmosphere are derived from:

- Fixed combustion sources: emissions from diesel consumption in **emergency** diesel generator units.  
There is no other type of fixed combustion source. These units are located in corporate buildings (where office work is carried out) and substations. They are only used in the event of a loss of electricity supply in order to power the systems and avoid a shutdown of the facilities for the duration of the emergency. Generally, with some exceptions, the time these units are in operation correspond to the firing up of unit to verify it is in good working order and at times when maintenance tasks are scheduled.
- Mobile combustion sources: emissions derived from fuel consumption by Red Eléctrica vehicles.
  - Fleet vehicles: those vehicles owned by Red Eléctrica, which are used by technical staff located in the various regional areas in the performance of their duties.
  - Shared leasing vehicles: used by technical staff in the various regional areas in the performance of their duties.
  - Executive vehicles: vehicles (Red Eléctrica's owned vehicles or those which are under a shared leasing scheme) used by executives in the performance of their duties (not including private use).

An efficient management of fleet vehicles is carried out by undertaking the commitment to using the best technologies currently available (100% of the new vehicles incorporated into the fleet are either hybrid, plug-in hybrid or electric cars) and to optimize their use through the application of CARS (Agile, Responsible and Safe Driving System), which facilitates the use of efficient routes and promotes responsible driving. Since 2015 Red Eléctrica has maintained the ‘Ecological Fleet Accreditation’ in its ‘Master’ category (the most demanding one) received from the Fleet Managers Association (AEGFA) and the Institute for Diversification and Energy Saving (IDAE).

<sup>106</sup> The most representative emissions of REE's activity are SF<sub>6</sub> emissions (direct) and emissions from transmission grid losses. The emission rate has been worked out based on the emission data calculated according to actual leakage records. To assess SF<sub>6</sub> gas emissions in relation to the total SF<sub>6</sub> gas installed, it is considered more appropriate to use tonnes of SF<sub>6</sub> emitted as the unit of measure, rather than calculate it in tonnes of CO<sub>2</sub> equivalent.

<sup>107</sup> The increase in installed gas is mainly due to the commissioning of new facilities and the replacement of old equipment for SF<sub>6</sub> insulated equipment.

<sup>108</sup> The rates shown are calculated based on actual data collected in the field and include, in addition to leakage during maintenance, the estimated emissions corresponding to the end of life of the equipment. The maximum leakage rates for equipment in service included in the voluntary agreement for SF<sub>6</sub> management, signed in 2015, are based on their age. Equipment commissioned since 2008 is associated with a leakage rate of 0.5% per year (older equipment is allowed higher leakage rates). The low emission rates reflect the Company's enormous effort to improve the management and control of SF<sub>6</sub> emissions, in particular, the decrease over the last few years reflects the repair work that has been carried out since 2018. In addition, during 2019 and 2020 there have been no relevant accidents that have caused a gas leak.



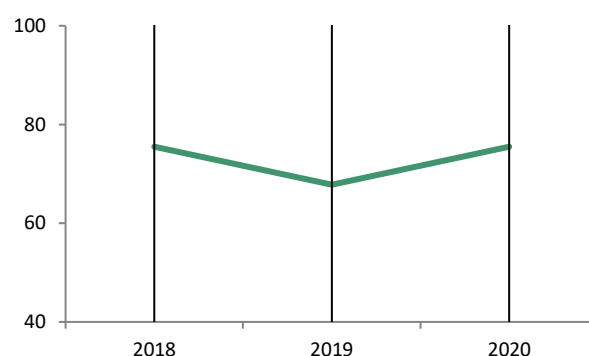
These reasons have led Red Eléctrica to not consider it necessary for the moment to calculate or estimate emissions as it is not an indicator directly related to its activity or the possible impact of the Company's activities on the environment. In any event, it is necessary to indicate that when calculating our emissions in tCO<sub>2</sub> eq. the impact of the aforementioned gases (SO<sub>2</sub>, NO<sub>x</sub> and PM) on the possible greenhouse effect is included.

## Specific environmental performance indicators related to the activity

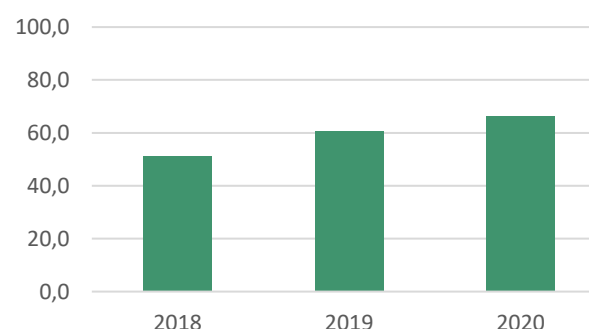
Shown below are specific environmental performance indicators related to Red Eléctrica's activity not already included as part of the key indicators. As there is no specific EMAS sector document of reference available for the High-Voltage Transmission and Electricity System Operation activity, the choice of specific indicators is based on:

- environmental indicators requested for said activity within the scope of the Global Reporting Initiative (GRI) guidelines for the preparation of sustainability reports incorporating the additional applicable information of the Electric Utility Supplement in its G4 version.
- direct and indirect environmental aspects related to the Company's core activity
- other relevant aspects that reflect the evolution of Red Eléctrica's commitment in the environmental field

| % Fulfilment of the Environmental Programme |  |      |             |
|---|--|------|-------------|
| A   | Contribution of fulfilled environmental objectives |      |             |
| B   | Total contribution of the programme                |      |             |
| Indicator                                   | A/B x100   |      |             |
| Year  | 2018   | 2019 | 2020        |
| A   | 75.5   | 67.8 | 75.5        |
| B   | 100  | 100  | 100         |
| Indicator                                   | 75.5   | 67.8 | <b>75.5</b> |



| Biodiversity: % critical lines marked |  |       |             |
|---------------------------------------|--|-------|-------------|
| A                                     | Km of line marked in critical areas <sup>109</sup> |       |             |
| B                                     | Km of line in critical areas <sup>110</sup>        |       |             |
| Indicator                             | A/B x 100 (% of line in critical area marked)      |       |             |
| Year                                  | 2018   | 2019  | 2020        |
| A                                     | 375.7  | 459.7 | 508.4       |
| B                                     | 734.2  | 757.1 | 764.6       |
| Indicator                             | 51,2   | 60,7  | <b>66,5</b> |

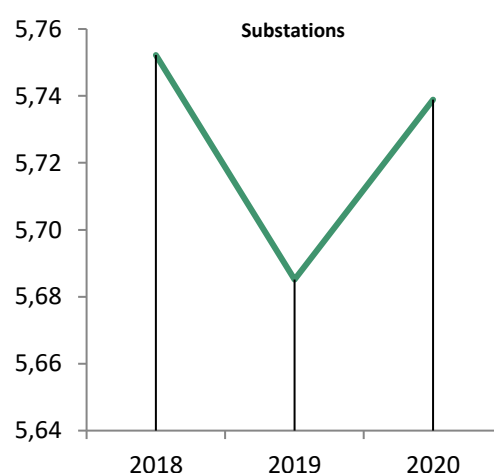
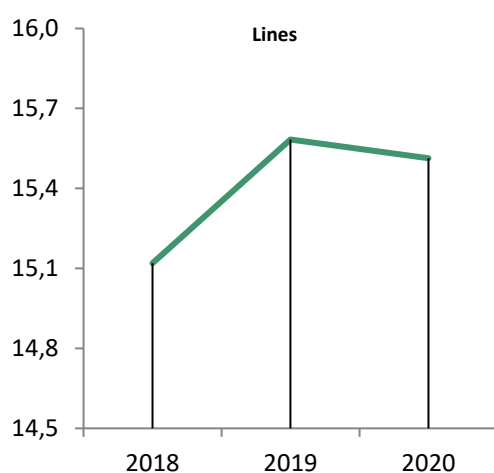


<sup>109</sup> Cumulative data at the end of each year. This data refers to the route, i.e., the length of the lines irrespective of the number of circuits they have.

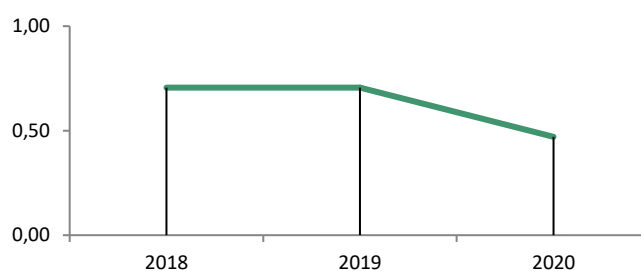
<sup>110</sup> The target value fluctuates slightly each year, depending on the variations in the transmission grid facilities (new lines and changes to existing lines) and the updating of birdlife accident data. The percentage of marking refers to the target value defined in each of the years.



| Biodiversity: Impact of facilities |  |           |             |   |      |             |
|------------------------------------|--|-----------|-------------|---|------|-------------|
| A                                  | Km of line in Natura 2000 Network <sup>111</sup> |           |             | No. of substations in Natura 2000 Network |      |             |
| B                                  | Total Km of line                                 |           |             | Total No. of substations                  |      |             |
| Indicator                          | A/B x 100  |           |             | A/B x 100                                 |      |             |
|                                    | Lines  |           |             | Substations                               |      |             |
| Year                               | 2018   | 2019      | 2020        | 2018                                      | 2019 | 2020        |
| A                                  | 4,791.28   | 4,924.25  | 4,904.09    | 39  | 39   | 40          |
| B                                  | 31,689.50  | 31,599.53 | 31,611.31   | 678                                       | 686  | 697         |
| Indicator                          | 15.1   | 15.6      | <b>15.5</b> | 5.75                                      | 5.69 | <b>5.74</b> |



| Biodiversity/Relationship with stakeholders |  |      |                  |
|---|--|------|------------------|
| A   | No. of autonomous communities with biodiversity projects |      |                  |
| B   | Total No. of autonomous communities                      |      |                  |
| Indicator                                   | A/B  |      |                  |
| Year  | 2018   | 2019 | 2020             |
| A   | 12   | 12   | 8 <sup>112</sup> |
| B   | 17   | 17   | 17               |
| Indicator                                   | 0.71   | 0.71 | <b>0.47</b>      |

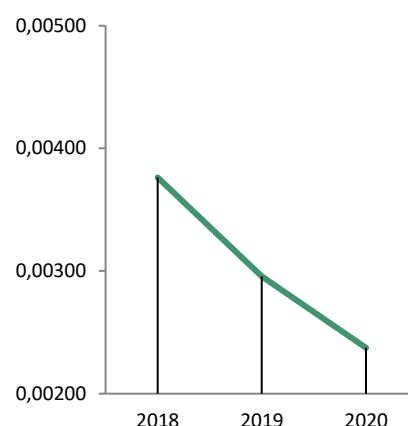


<sup>111</sup> Includes the total number of kilometres of submarine cable and those in Red Natura.

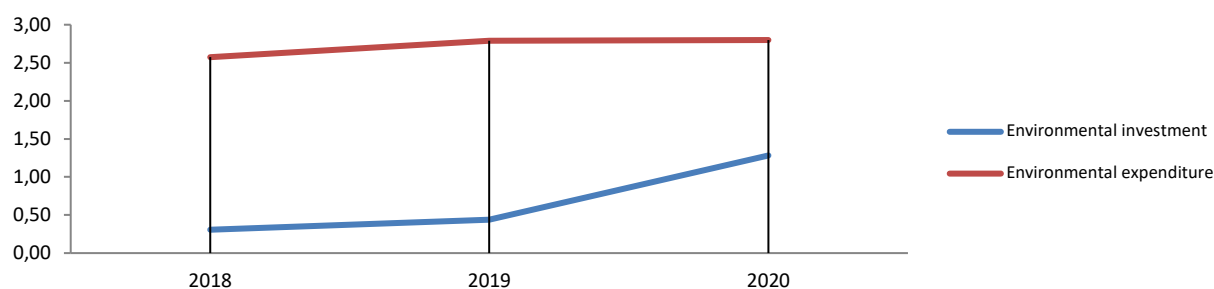
<sup>112</sup> Conservation projects have been carried out in a total of 8 autonomous communities: Andalusia, Balearic Islands, Canary Islands, Castilla y León, Catalonia, Extremadura, Navarra and Valencia.



| Emissions |  |             |                |
|-----------|--|-------------|----------------|
| A         | Indirect emissions derived from transmission grid losses (tCO <sub>2</sub> eq) |             |                |
| B         | MWh transported  |             |                |
| Indicator | A/B  |             |                |
| Year      | Emissions derived from transmission grid losses <sup>113</sup>                 |             |                |
| A         | 2018   | 2019        | 2020           |
| B         | 1,009,953  | 780,865     | 592,078        |
| Indicator | 268,387,270  | 264,132,778 | 249,411,925    |
| A         | 0.00376  | 0.00296     | <b>0.00237</b> |



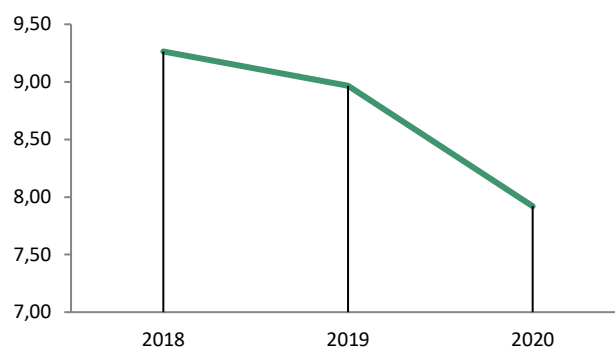
| Environmental investment and expenditure |                          |              |              |                           |               |               |
|--|--------------------------|--------------|--------------|---------------------------|---------------|---------------|
| A  | Environmental investment |              |              | Environmental expenditure |               |               |
| B  | Total investment         |              |              | Total expenditure         |               |               |
| Indicator                                | A/B x 100                |              |              | A/B x 100                 |               |               |
|  | Environmental investment |              |              | Environmental expenditure |               |               |
| Year                                     | 2018                     | 2019         | 2020         | 2018                      | 2019          | 2020          |
| A  | 1,160,634.26             | 1,740,988.77 | 4,912,976.00 | 23,539,321.90             | 25,806,074.68 | 23,287,059.71 |
| B  | 378,244,167              | 396,400,000  | 383,102,000  | 914,745,279               | 924,913,000   | 832,061,000   |
| Indicator                                | 0.31                     | 0.44         | <b>1.28</b>  | 2.57                      | 2.79          | <b>2.80</b>   |



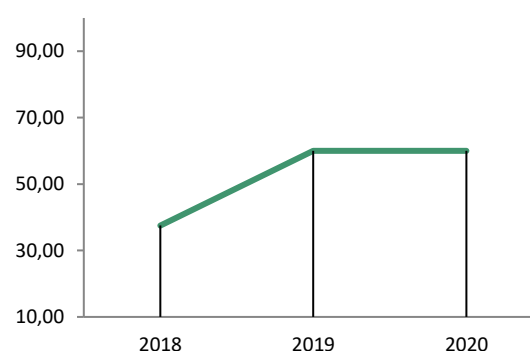
<sup>113</sup> The emissions associated with the transmission grid losses, in the same way as for the emissions associated with the consumption of electricity, do not occur during the activities of Red Eléctrica de España as they take place at the various electricity generation points. For the calculation of these emissions, the emission factors corresponding to each system (peninsular, Balearic Islands or Canary Islands) are calculated by Red Eléctrica de España based on the annual generation balance. There are several reasons for the reduction of emissions in 2020. The most relevant is the decrease in the average peninsular emission factor (0.165 t CO<sub>2</sub>/MWh in 2019 and 0.123 t CO<sub>2</sub>/MWh in 2020), which reflects the drastic reduction (55%) in the share of coal-fired production in the generation mix, the lower share of combined cycle (25% reduction) and the 6.6% increase in the share of renewable energy (mainly photovoltaic, which increased its contribution by 68% compared to 2019).



| Training and awareness |  |       |             |
|------------------------|--|-------|-------------|
| A                      | No. of employees who received environmental training |       |             |
| B                      | No. of employees <sup>114</sup>                      |       |             |
| Indicator              | A/B x 100  |       |             |
| Year                   | 2018   | 2019  | 2020        |
| A                      | 151  | 158   | 139         |
| B                      | 1,741  | 1,762 | 1,755       |
| Indicator              | 9.26   | 8.97  | <b>7.92</b> |



| Accidental spill of hydrocarbons |  |       |              |
|----------------------------------|--|-------|--------------|
| A                                | No. of accidents involving oil or fuel spills from in-service transformers and equipment |       |              |
| B                                | Total No. of accidents <sup>115</sup>  |       |              |
| Indicator                        | A/B x 100  |       |              |
| Year                             | 2018   | 2019  | 2020         |
| A                                | 3  | 6     | 9            |
| B                                | 8  | 10    | 15           |
| Indicator                        | 37.50  | 60.00 | <b>60.00</b> |



<sup>114</sup> Only Red Eléctrica personnel

<sup>115</sup> Accidents not involving birdlife



## 14.Frequency of the Environmental Statement

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This Report is published annually and acts as an Environmental Statement. Its purpose is to provide information to all stakeholders concerning Red Eléctrica's environmental behaviour regarding those activities carried out during 2020.

The Spanish Association of Standardisation and Certification (AENOR), with Head Offices at Génova 6 - 28004 Madrid, and Accredited Certifying Body Number E-V-0001, is the entity that verifies that the Environmental Statement of Red Eléctrica complies with the requirements set forth in Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009, Regulation (EU) 2017/1505 amending Annexes I, II and III to Regulation (EC) No. 1221/2009 and also Regulation (EU) 2018/2026 amending Annex IV to Regulation (EC) No. 1221/2009, on the voluntary participation by organisations in a Community Eco-management and Audit Scheme (EMAS).

The next Statement will be presented and published during the first half of 2022.



## Glossary of terms

|                                   |  |
|-----------------------------------|--|
| Bird saving devices or 'spirals'  | <p>A white or orange spiral made of polypropylene (PVC) in the shape of a spiral, measuring 30-35 centimetres in diameter and with a length of 1 metre, which is coiled around the grounding cable or conductor to mark it and alert birds to the presence of the lines in order to reduce the risk of collisions.</p> <p><i>(Own definition. Red Eléctrica).</i></p>  |
| Electrical field                  | <p>In a point in space, the force exerted on a static load located at that point. Expressed in volts per metre (V/m).</p> <p><i>(50 Hz. Electrical and Magnetic fields Red Eléctrica and UNESA, 1998)</i></p>  |
| Environmental aspect              | <p>An element of the activities, products or services of an organisation which has, or which may have, an impact on the environment.</p> <p><i>(Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community Eco-Management and Audit Scheme (EMAS)).</i></p>   |
| Environmental behaviour indicator | <p>Specific performance indicators providing information on an organisation's environmental behaviour.</p> <p><i>(Standard UNE-EN ISO 14031 Environmental management. General Guidelines).</i></p>   |
| Environmental impact              | <p>Any change in the environment, either adverse or beneficial, that is caused in full or in part by the activity, products or services of any organisation.</p> <p><i>(Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community Eco-Management and Audit Scheme (EMAS)).</i></p>   |
| Environmental management system   | <p>That part of the general management system that includes the organisational structure, planning of activities, responsibilities, good practices, procedures, processes and resources to develop, apply, achieve, revise and maintain the environmental policy and manage the environmental aspects.</p> <p><i>(Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community Eco-Management and Audit Scheme (EMAS)).</i></p>   |
| Environmental objective           | <p>A general environmental objective, which originates from the Environmental Policy and is set out as a goal to be fulfilled by the organisation and which, insofar as is possible, is measured.</p> <p><i>(Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community Eco-Management and Audit Scheme (EMAS)).</i></p>  |
| Environmental policy              | <p>The general management and intentions of an organisation with respect to its environmental behaviour, put forward officially by its management teams, including compliance with all the regulatory provisions applicable to environmental matters, as well as the commitment to continuously improve environmental behaviour. It constitutes a framework for the company's actions and for establishing environmental targets and objectives.</p> <p><i>(Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community Eco-Management and Audit Scheme (EMAS)).</i></p> |



|  |   |
|--|---|
| Magnetic field                             | <p>In a point in space, the force exerted on a live element located at that point. Expressed in amperes per metre (A/m). The international measuring unit is Tesla (T) or any fraction thereof, and in particular the microtesla (<math>\mu</math>T).</p> <p><i>(50 Hz. Electrical and Magnetic fields. Red Eléctrica and UNESA, 1998).</i></p>   |
| Nesting deterrent                          | <p>A device comprised of several elements made of galvanised steel, and of different sizes, that deters birds from nesting or perching in the places where it is installed or on the actual device itself.</p> <p><i>(Own definition. Red Eléctrica).</i></p>   |
| Red Natura 2000 (Natura 2000 Network)      | <p>The European Natura 2000 Ecological Network is a coherent environmental network comprised of Sites of Community Importance whose management shall take into account the economic, social and cultural requirements, as well as the special regional and local characteristics. These sites are later designated as either Special Areas of Conservation (SACs) or Special Protection Areas (SPAs) for Birdlife.</p> <p><i>(Law 42/2007 of 13 December, on Natural Heritage and Biodiversity).</i></p>  |
| Significant environmental aspect           | <p>An environmental aspect that has, or which may have, a significant impact on the environment.</p> <p><i>(Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community Eco-Management and Audit Scheme (EMAS)).</i></p>  |
| Special Area of Conservation (SAC)         | <p>An area which, based on the biogeographic region or regions to which it belongs, contributes greatly to maintaining or restoring a type of natural habitat (...) in a favourable state of conservation so that it can help considerably in establishing the cohesion of Natura 2000 (...) and/or contributes noticeably to maintaining biological diversity in the biogeographic region or regions in question. For the animal species occupying large areas, the special areas of conservation will usually correspond to specific locations inside the area in which that species is naturally distributed, presenting the physical or biological elements that are essential for them to live and reproduce.</p> <p><i>(Directive 92/43/EC, of May 21, on the Conservation of Natural Habitats and Wild Fauna and Flora).</i></p> |
| Special protection Area (SPA) for Birdlife | <p>An area of community interest for the protection of bird species listed in Annex I of the Council Directive 79/409/EEC of 2 April 1979, on the conservation of wild birds.</p>   |
| Visual simulation                          | <p>An infographic technique (based on computer applications for graphic representation) applied in order to obtain a visual representation of a project, providing an approximate idea of what it will truly look like once completed, and showing the elements that it is comprised of, as well as its integration into its environment.</p> <p><i>(Own definition. Red Eléctrica).</i></p>  |
| Waste                                      | <p>Any substance or object belonging to any of the categories established in the appendix to the Waste Act, in which the owner disposes of or has the intention to dispose of it. In all cases, the items listed in the European Waste Catalogue (CER) will be classified as such. (Law 10/1998, 21st April, on Waste).</p> <p><i>(Law 22/2011, 28 July, on Waste and Contaminated Soils).</i></p>  |





# AENOR

### DECLARACIÓN DEL VERIFICADOR MEDIOAMBIENTAL SOBRE LAS ACTIVIDADES DE VERIFICACIÓN Y VALIDACIÓN

**AENOR INTERNACIONAL, S.A.U.**, en posesión del número de registro de verificadores medioambientales EMAS nº ES-V-0001, acreditado para el ámbito 35.12. "Transporte de energía eléctrica" y 62.20 "Actividades de las sociedades holding"(Código NACE) declara:

haber verificado que la organización, según se indica en la declaración medioambiental de **RED ELÉCTRICA CORPORACIÓN, S.A.**, en posesión del número de registro ES-MD-000313

cumple todos los requisitos del Reglamento (CE) nº 1221/2009 del Parlamento Europeo y del Consejo, de 25 de noviembre de 2009, relativo a la participación voluntaria de organizaciones en un sistema comunitario de gestión y auditoría medioambientales (EMAS), modificado según Reglamento (UE) 2017/1505 y Reglamento (UE) 2018/2026.

Mediante la firma de esta declaración, declaro que:

- la verificación y validación se han llevado a cabo respetando escrupulosamente los requisitos del Reglamento (CE) nº 1221/2009 modificado según Reglamento (UE) 2017/1505 y Reglamento (UE) 2018/2026;
- el resultado de la verificación y validación confirma que no hay indicios de incumplimiento de los requisitos legales aplicables en materia de medio ambiente;
- los datos y la información de la declaración de la organización reflejan una imagen fiable, convincente y correcta de todas las actividades de la organización en el ámbito mencionado en la declaración medioambiental.

El presente documento no equivale al registro en EMAS. El registro en EMAS solo puede ser otorgado por un organismo competente en virtud del Reglamento (CE) nº 1221/2009. El presente documento no servirá por sí solo para la comunicación pública independiente.

Hecho en Madrid, el 7 de junio de 2021

Firma del verificador

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## Annex: Environmental Actions 2020

### Construction or modification of facilities

#### Protection of flora and fauna

| Protection and conservation of flora: noteworthy preventive and corrective measures  |
|--|
| To avoid impacts on flora  |
| Helicopter-assisted hanging of several sections of the 400/220 kV incoming/outgoing feeder lines in Soto de Ribera substation to avoid affecting native woodland (holm oak, chestnut and oak).   |
| Boom crane for the erection of all the towers on 5 new lines and the hanging by hand on 4 new lines.   |
| Hoisting by sections of 31 towers on the 220 kV José María Oriol-Los Arenales line.  |
| Passing the guide wire by hand over the river Nalón to avoid affecting the 'Alluvial forests of European black alder ( <i>Alnus glutinosa</i> ) and European ash ( <i>Fraxinus excelsior</i> )' habitat.   |
| Preliminary inspection to locate hay-scented buckler-fern ( <i>Dryopteris anemula</i> ) and Guanche woodfern ( <i>Dryopteris guanchica</i> ), which are ferns in danger of extinction. After locating several specimens, impacts on the vegetation underneath the spans was avoided. |
| Surveys conducted and actions to mark the specimens were carried out for the protection of <i>Caralluma burchardii</i> , an endemic and endangered cactus-like species according to the Canary Islands Catalogue of Protected Species.   |
| Protection of the lesser water-plantain ( <i>Baldellia Ranunculoides</i> ) a type of flowering plant: preparation of a botanical study, modification of accesses and the marking off of specimens.   |
| Signposting and cordoning off of a population of <i>Chamaecytisus proliferus</i> - tree lucerne (a small spreading native evergreen tree) located near infrastructure.   |
| Modification of the route of the line, increasing the height of the towers and reduction of the area of the worksites to avoid the felling of a native forest.   |

| For the restoration of affected areas: noteworthy preventive and corrective measures   |
|--|
| 400kV Ascó-Pierola line (towers 244-245), where 100 trees were planted in 800 m <sup>2</sup> : 30% white pine; 35% holm oak; 35% gall oak, at the request of the local administration.   |
| The elimination of invasive species in the vicinity of our facilities (for example, the Pampa feather duster ( <i>Cortaderia selloana</i> ) in the vicinity of the 220 kV Astillero substation).   |
| Clearing and management of crimson fountaingrass ( <i>Pennisetum setaceum</i> ) and ( <i>Opuntia sp.</i> ) at the worksite for the 220 kV Caletillas- El Rosario line.   |
| Geomorphological recovery of the land, reuse of tephra (small stones from volcanic eruptions) in the restoration of affected areas and the restitution of landscaping plants affected by the underground channelling of the Lanzarote-Fuerteventura interconnection. |



#### Protection of fauna: noteworthy preventive and corrective measures

Biological stoppages for 22 actions. Particularly noteworthy was the stoppage carried out between 15 February and 15 September regarding 20 towers on the 400 kV Gueñes-Itxaso line, due to it being in an area with Egyptian vultures (*Neophron percnopterus*), and the stoppage carried out on a tower on the 400 kV Aguato-Garofia line from November to April to avoid affecting the fauna present in the watercourses (salmon spawning grounds and species of interest such as otters, Iberian desman and native crayfish).

Prior surveys of the terrain to avoid affecting Montagu's harrier nesting sites during the works.

Relocation of the conductor cable to within the body of the tower itself to avoid its replacement in an area declared a special protection area for the Capercaillie (*Tetrao urogallus*) and being located within an area of the brown bear recovery plan.

Intensive ornithological survey prior to and during the 24-month construction and/or operation phases.

Installation of refuges to bolster populations of wild rabbits in areas where Bonelli's eagle (*Aquila fasciata*) and Golden eagle (*Aquila chrysaetos*) both breed and forage.

Monitoring of the tagging of 23 little bustards, in collaboration with the University of Lisbon, with the aim of identifying the characteristics of the preferred habitat for the species and the identification of the potential causes that alter its habitat.

Placement of a barrel-type nest for peregrine falcons.

#### Archaeological heritage

##### Protection of archaeological-ethnological heritage

220kV Beniferri-La Eliana line

Preventive measures to avoid affecting the Mestalla and the Tragador de Fora irrigation channels, protected heritage elements.



## Biodiversity Action Plan (2017 - 2021): Biodiversity challenges

| Improve the management of biodiversity in the Company, incorporating new approaches and expanding its scope   |   |  |  |   |
|---|---|--|--|---|
| Most relevant actions   | Progress made in 2018   | Progress made in 2019  | Progress made in 2020  | 2021 Goals  |
| <ul style="list-style-type: none"> <li>• Definition of a new assessment methodology for investment projects.</li> <li>• Promoting the management of biodiversity in the Group's subsidiaries.</li> <li>• Extending commitment to the supply chain.</li> </ul> | <ul style="list-style-type: none"> <li>• Definition of a new methodology for assessing the impact of investment projects on natural capital.</li> <li>• Definition of biodiversity conservation criteria for the selection of suppliers.</li> </ul> | <ul style="list-style-type: none"> <li>• Design of a methodology for the analysis and responsible assessment of natural capital, based on ecosystem services and tested in a practical business case.</li> </ul> | <ul style="list-style-type: none"> <li>• Inclusion of the concept of net zero or positive impact on biodiversity, linked to the design of compensatory measures in Environmental Impact Assessments.</li> <li>• Delivery of 2 training workshops on the methodology designed in 2019</li> <li>• Design of the Group's 2030 Biodiversity Roadmap was started</li> <li>• Supplier survey on biodiversity performance was sent out</li> </ul> | Completion of the three proposed actions.   |
| Make facilities compatible with biodiversity  |   |  |  |   |
| Most relevant actions   | Progress made in 2018   | Progress made in 2019  | Progress made in 2020  | 2021 Goals  |
| Birdlife: Multi-year line marking plan.   | 51% of critical priority areas marked.  | 60.7% of critical priority areas marked.   | 66.5% of critical priority areas marked.   | 100% critical priority areas marked by 2023.  |
| Forested areas: Signing of agreements for the prevention of forest fires.   | 13 agreements in force.   | 10 agreements in force and 3 in the process of being renewed.  | 12 agreements in force and 2 in the process of being renewed.  | 21 agreements in force (nationwide).  |
| Habitat of high ecological value: HABITAT Project.  | Field-validated mapping for all the autonomous communities (30,361 ha of Priority HCIs beneath overhead electricity lines, 11,000 ha with a high conservation status).  | Standardisation of the mapping of the different autonomous regions. Integration into the mapping database.   | Design of pressure-state-response indicators and monitoring of the influence that the Company's activities have on habitats. Guidelines for preservation and improvement of conservation status by priority HCI-type defined.  | Mapping designed, field-validated state of conservation and management plans for the conservation of the habitats identified in all the autonomous communities. |



| Promote biodiversity conservation  |  |   |   |   |
|--|--|---|---|---|
| Most relevant actions  | Progress made in 2018  | Progress made in 2019   | Progress made in 2020   | 2021 Goals  |
| Participation in wildlife conservation projects (especially birdlife) and flora.                     | 12 birdlife projects (on focal species) in force.  | 15 birdlife projects (on focal species) in force.   | 14 birdlife projects, 13 on focal species in force.   | 6 annual projects in force, 5 of them on focal species.   |
| Red Eléctrica Forest.  | 843 ha recovered (cumulative since the outset of the project).<br>Investment: 2,126,327 euros.   | 843 ha recovered (cumulative since the outset of the project).<br>Investment: 2,126,327 euros.  | <b>864 ha</b> recovered (cumulative since the outset of the project).<br>Investment: 2,190,581.44 euros.  | Exceed 1,000 ha recovered and reach a total investment of 2,500,000 euros.                          |
| Red Eléctrica Marine Forest.   | 1 ha planted.  | 1.5 ha planted.   | 2 ha planted.   | Posidonia forest: planting of 2 ha.   |
| Raise awareness on Red Eléctrica's stance on biodiversity matters                                    |  |   |   |   |
| Most relevant actions  | Progress made in 2018  | Progress made in 2019   | Progress made in 2020   | 2021 Goals  |
| Increase employee awareness.   | Publication of information related to biodiversity on the corporate intranet.  |   |   | Publication of internal news and the carrying out of specific campaigns.                            |
| Promote corporate volunteering in the field of biodiversity.   | European Natura 2000 Network Day; Libera project campaigns; REE Asturias Forest; Workday for the removal of invasive flora in Valencia.                        | Natura 2000 Network campaign; Libera project campaigns; Limne Foundation; Oceans Day; Scopoli's s Shearwater Release project.                                     | Corporate volunteering actions:<br>1) #stay in the nest<br>2) what is urban biodiversity and how to help by making nesting boxes.<br>3) #plant a new world from home. | Development of new actions (at least one a year).   |
| Increase the Company's externally visibility with regard to biodiversity.                            | Dissemination of projects in the press and on social networks, publication of brochures and videos and participation in forums and specialised working groups. | In addition: meetings with journalists, visit to the Red Eléctrica Marine Forest and visit to CIMA (International Bird Migration Centre), conference on birdlife. | Dissemination of projects in the press and via social networks, publication of brochures and videos, and participation in forums and specialised working groups.      | New informative products and participation in events related to biodiversity (at least 2 per year). |
| Promote innovation in biodiversity matters   |  |   |   |   |
| Most relevant actions  | Progress made in 2018  | Progress made in 2019   | Progress made in 2020   | 2021 Goals  |
| Implementation of innovation projects that contribute to the achievement of biodiversity challenges. | <i>Biotransporte</i> Project<br><i>Vegeta</i> Project<br>PRODINT Project.  | <i>Vegeta</i> Project<br>PRODINT Project.<br>Project for the assessment of natural capital.   | <i>Vegeta</i> Project<br>PRODINT Project.   | Minimum of three innovation projects implemented in the period.                                     |



## Waste management 2020

The data and the evolution of waste generation and its final destination in the last three years can be seen below:

| Treatment method                     | HAZARDOUS WASTE     |                   |                   |               |               |               |
|--------------------------------------|---------------------|-------------------|-------------------|---------------|---------------|---------------|
|                                      | 2018                | 2019              | 2020              | 2018          | 2019          | 2020          |
|                                      | kg                  | kg                | kg                | %             | %             | %             |
| Elimination                          | 985,949.00          | 252,612.00        | 13,250.00         | 32.47         | 46.17         | <b>5.89</b>   |
| Recycling                            | 1,491,162.50        | 293,670.00        | 208,791.15        | 49.10         | 53.68         | <b>92.86</b>  |
| Regeneration                         | 535,600.00          | 818.00            | 2,802.00          | 17.64         | 0.15          | <b>1.25</b>   |
| Reuse                                | 14,840.00           | 0.00              | 0.00              | 0.49          | 0.00          | <b>0.00</b>   |
| Waste-to-Energy<br>(Energy recovery) | 9,323.00            | 0.00              | 0.00              | 0.31          | 0.00          | <b>0.00</b>   |
| <b>Total</b>                         | <b>3,036,874.50</b> | <b>547,100.00</b> | <b>224,843.15</b> | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> |

| Treatment method                     | NON-HAZARDOUS WASTE |                   |                   |               |               |               |
|--------------------------------------|---------------------|-------------------|-------------------|---------------|---------------|---------------|
|                                      | 2018                | 2019              | 2020              | 2018          | 2019          | 2020          |
|                                      | kg                  | kg                | kg                | %             | %             | %             |
| Elimination                          | 171,463.00          | 152,968.00        | 167,576.00        | 11.27         | 21.28         | <b>29.71</b>  |
| Recycling                            | 1,349,467.00        | 534,993.50        | 396,342.00        | 88.71         | 74.41         | <b>70.26</b>  |
| Regeneration                         | 0.00                | 0.00              | 0.00              | 0.00          | 0.00          | <b>0.00</b>   |
| Reuse                                | 0.00                | 30,400            | 0.00              | 0.00          | 4.23          | <b>0.00</b>   |
| Waste-to-Energy<br>(Energy recovery) | 220.00              | 625.00            | 200.00            | 0.01          | 0.09          | <b>0.04</b>   |
| <b>Total</b>                         | <b>1,521,150.00</b> | <b>718,986.50</b> | <b>564,118.00</b> | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> |



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This English version is a translation of the original and authentic Spanish text found in RED ELÉCTRICA'S '*Declaración ambiental EMAS 2020*', originally issued in Spanish. In the event of discrepancy, the Spanish-language version shall prevail.