Environmental Statement

EMAS 2022

March 2023

redeia

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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 **Redeia**.

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[1] 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[2].

Our main facilities are comprised of electricity control systems that manage, monitor and supervise the operation of the system; 45,019 circuit kilometres of high voltage transmission line and 6,214 substation bays with a transformer capacity of 94,221 MVA.

Evolution of facilities/infrastructure[3]		2020	2021	2022
Transmission lines (km of line circuit)	Km of line circuit	44,482	44,715	45,019
	400 kV	21,764	21,768	22,013
	220 kV or less	22,717	22,946	23,006
Substations	Total number of bays	5,971	6,105	6,214
	400 kV	1,549	1,591	1,628
	220 kV or less	4,422	4,514	4,586
	Transformer capacity (MVA)	93,021	93,496	94,221

[1] 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.

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

[3] Data corresponding to the last three years - revised and updated in 2023. Source: Sustainability Report 2022.

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[4] 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[5] 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.

The name **Redeia,** is used in this EMAS report when reference is made to some aspect or subject that encompasses all the companies belonging to the holding company.

[4] Statistical Classification of Economic Activities in the European Community.

[5] As of 2021 registration in the EMAS Register in 2021 is 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

Environmental policy[6]

Purpose

To establish the principles in environmental matters that guarantee Redeia commitment to the conservation and improvement of the environment and the sustainable development of any activity and facility throughout its life cycle. Furthermore, the Company will work towards meeting the needs and expectations of stakeholders within this scope.

Focusing on and complying with the principles contained within this Policy contribute to achieving the purpose of the organisation, as well as to help achieve its strategic objectives, in coherence with the values, principles and guidelines for conduct established in Redeia's Code of Conduct and Ethics.

Scope of application

This Policy applies to all majority-owned companies of Redeia. It is the responsibility of all persons forming part of Red to comply with this Policy in the fulfilment of their duties and responsibilities, and in all professional areas in which they represent the organisation.

In those investee companies in which the Redeia does not have effective control, principles aligned with those established in this Policy shall be promoted.

Principles

- Ensure **compliance with environmental legislation, regulations and standards** applicable to the activities and facilities in the countries where the Company operates, anticipating as far as possible the application of new regulations when these are more demanding, as well as complying with the **voluntary commitments** acquired regarding environmental matters.
- Contribute to a model for the execution of activities that is carried out in an environmentally respectful manner, and which considers the **life cycle of infrastructure**, facilities and buildings and that integrates such infrastructure into the landscape, thus minimising its environmental impact.
- **Prevent** the materialisation of **environmental risks** and the appearance of situations that could lead to environmental emergencies, applying the necessary preventive measures and, where appropriate, responding effectively, mitigating the consequences of such materialisation.
- Strengthen our commitment to the **fight against climate change**, contributing to the energy transition and taking steps towards achieving carbon neutrality, while facilitating the electrification of society and the increased integration of renewables. Furthermore, the Company is committed to reducing the emissions associated with its activities through energy efficiency and sustainable mobility, as fundamental pillars, while factoring in the impact of the Company's supply chain in this aspect.
- Consider **biodiversity and natural capital** as key factors in the group's strategy, with the aim of generating a net positive impact on the environment in which the Company carries out its activities.
- Integrate **circular economy** criteria in all of the group's activities with a view to achieving responsible consumption and the sustainable use of resources.
- Ensure **continuous improvement, risk management and control, the precautionary principle and the prevention of pollution** in the environmental management of the group's companies through the

[6] Environmental policy applicable to all the companies that make up Redeia. Second Edition (*E-PA011 replacing Edition 1 of Policy PC01*) approved by the Executive Committee in June 2021.

implementation and maintenance of environmental policy management systems aligned with the requirements of international standards and adjusted to the specificities of each of them.

- Incorporate **environmental criteria** and consider environmental risks in **investment and procurement** decision-making processes, as well as in the planning and execution of activities.
- Promote behaviour in accordance with environmental requirements and the principles and commitments undertaken by the group with regard to its supply chain and partners, ensuring that its **supplier value chain** adopt these same commitments.
- Foster a culture of respect for the environment through ongoing internal and external **training**, **awareness-raising campaigns and activities** aimed at promoting engagement that convey the importance of environmental protection and the relevance of minimising impacts on the environment.
- Encourage and contribute to **innovation** aimed at the design and adoption of solutions and new ways of working in order to avoid or minimise environmental impacts.
- Promote channels of communication to inform, to establish dialogue and generate **alliances with stakeholders** that enhance the generation of shared value.
- Promote **visibility and transparency** in terms of the information communicated regarding the results of the group's environmental performance.
- Integrate best environmental practices into the activities carried out by the Company and proactively promote the application of the decisions adopted by national and international forums and organisations, which promote and encourage sustainable behaviour and conservation in the field of environmental management, in order to achieve **leadership** in this area within the activities carried out by the companies of the group.
- Ensure the **collaborating companies** acting on behalf of any of the group's companies apply the principles of this Policy.

Responsible environmental management

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.

Sustainability indexes

The firm and focused effort of Red Eléctrica to become a model company that is responsible, efficient and sustainable has been recognised by the leading sustainability rating agencies, which has led to the inclusion of the Company being in some of the main sustainability indexes as a result of their performance in this field. Some of the most noteworthy indexes 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 2022 for its environmental management the following are noteworthy:

- **Worldwide leadership position** in the Dow Jones Sustainability Index within the Electric Utilities sector. In 2022, the Red Eléctrica group was once again recognised as one of the most sustainable companies in the world by the prestigious Dow Jones Sustainability Index (DJSI), which is evaluated by S&P Global Corporate Sustainability Assessment.
- **Silver Class** distinction in the Electric Utilities sector of the 'The Sustainability Yearbook 2023' published by S&P Global.
- **CDP Supplier Engagement** Leader. The Red Eléctrica group was recognised as a Supplier Engagement Leader in 2022.
- **Good Practice of the Year Award 2021 organised by RGI (Renewables Grid Initiative)**. Special mention by the European Commission Jury for the '*Pastoreo en RED'* project (project for livestock grazing under overhead power lines).

More information can be found at:

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

https://www.redeia.com/en/publications/sustainability-report-2022

Environmental management system

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 Nº **ESMD000313** (previously ESSB000013).

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

The environmental policy stems from the **Executive Committee** as the primary signatory of the same.

The sustainability policy also encompasses a comprehensive set of principles, guidelines, and specific criteria for action, ensuring that activities are conducted in a responsible manner to promote environmental stewardship. These guidelines are established by the **Boards of Directors** and are reinforced through their endorsement and commitment.

The management area responsible for defining and coordinating the development and monitoring of the environmental management system falls under the remit of the **Sustainability Area**, which is part of the **Sustainability Department**, 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 oversee the implementation of the strategies, policies, systems, criteria and actions regarding the sustainability of Redeia and, as part of its duties and responsibilities, it is also responsible for coordinating the development and monitoring of the Environmental Management System.

Of particular note are the functions carried out in the management system of the **Environmental Department** belonging to the Licenses and Environmental Management Area which is part of the Transmission Division. Its function is to integrate the environmental parameters in all phases of the life cycle of the facilities, collaborating in the determination and implementation of sustainability criteria and actions, and reporting all relevant information regarding its management. It also ensures compliance with the environmental conditioning factors required by the competent bodies in environmental matters and by internal and external regulations.

In the specific case of corporate buildings, responsibility for environmental management falls under the remit of the **Corporate Culture and People Management Area** (REC).

The maintenance of environmental management system also involves all the units of the Company within the scope of their competences and responsibilities. The **functional guideline manual highlights two functions common to all organisational units and which are of a strategic nature** and are relevant to the environmental management system in order to:

- Implement management systems in the strategic areas established by the Company that promote continuous improvement and facilitate the achievement of the expected results.
- Guide the execution of all activities in the fulfilment of the objectives established in the different environmental management plans in order to guarantee the fulfilment of the commitment regarding the protection of and respect for the environment.

The objective of the **Sustainability Committee of the Board of Directors** is, among other things, to monitor and promote actions related to the environment and the fight against climate change within the group.

The Committee is responsible for the oversight of the Group's strategy and practices in relation to the **2030 Sustainability Commitment**, monitoring compliance with policies aimed at meeting the Sustainable Development Goals, oversight of stakeholder relation processes and supervising and coordinating the sustainability reporting process.

Similarly, the Sustainability Steering Committee and the Corporate Sustainability and Research Area play a key role, reinforcing the engagement of the highest levels of decision-making within the Company and involving all areas of the organisation in the monitoring, supervision and implementation of the 2030 Sustainability Commitment.

- 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.

Redeia's management of internal regulations is effectively outlined by the general procedure R-GN01, entitled 'Management of Internal Regulations'. This procedure serves as a guiding framework that regulates various crucial aspects, including the development, review, approval, repeal, publication, dissemination, updating, and oversight of Redeia's internal regulations.

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

- **Corporate policies**: these encompass a set of fundamental principles that play a pivotal role in realising the organisation's mission and strategic objectives. These policies are designed to align with the values, principles, and business conduct guidelines outlined in Redeia's Code of Conduct and Ethics.
- **Action guides:** establish clear criteria, guidelines, and action steps for the development of processes and activities within the Company. These guides facilitate the effective implementation of the principles outlined in corporate policies.
- **General procedures**[7]**:** regulate the organisation's processes. They describe the purpose, scope, responsibilities and the activities and tasks to be followed in each procedure.
- **Technical instructions:** they describe in detail some of the activities of a process. Their purpose is to explain how the technical tasks are to be performed by Redeia's employees.

[7] Prior to the current edition of the general procedure R-GN01 'Management of internal regulations', procedures were categorised into two types of documents: general and technical, depending on their scope. These documents will be adapted to the current categorisation as they are revised, becoming general procedures, technical instructions or any other regulatory element considered within the typology of internal regulations, where applicable.

- **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 regularly requested from external suppliers.
- **Management manuals:** regulate activities related to certifiable or accreditable management systems, as well as control systems. These manuals are aligned with national or international benchmarks.

Changes in the documentation of the environmental management system 2022

During 2022 many of the environmental management system documents[8] 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	Approval date	Supersedes
R-GN02	Crisis management in Redeia	1	16-12-2021	17-01-2022	--
E-GT04	Management of transmission grid investment projects	2	22-02-2022	21-03-2022	Edition 1
R-GP02	Internal communication	4	10-05-2022	17-05-2022	Edition 3
E-ET239	Specifications for the prevention and extinction of forest fires	2	30-03-2022	26-05-2022	Edition 1
R-PN06	Sustainability Policy	4	31-05-2022	31-05-2022	Edition 3
R-GN05	Internal audits	8	21-09-2022	23-09-2022	Edition 7
E-IT490	Forest fire prevention and extinction measures	2	06-09-2022	27-09-2022	Edition 1
R-GN01	Management of internal regulations	14	21-10-2022	21-10-2022	Edition 13
R-IA010	Identification, assessment and registering of data regarding environmental aspects in corporate buildings	1	28-11-2022	14-12-2022	--
R-IA011	Environmental monitoring of works and environmental inspections in corporate buildings	1	28-11-2022	14-12-2022	--
R-IC001	Corporate monitoring of suppliers	5	20-12-2022	20-12-2022	Edition 4

[8] The environmental specification EA002-2 'Application of Pest-control substances' has been cancelled or annulled. The cancellation is due to the fact that it is no longer applicable.

3 Scope of EMAS Register

Red Eléctrica has an environmental management system, with EMAS Registration No. ESMD000313, 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.**

The abovementioned activities are carried out in:

- **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**: Gran Vía, 38. 2ª planta. 48009 Bilbao (Vizcaya)
- **North-Eastern Regional Office**: Avenida Paralelo, 55. Edificio REE. 08004 - Barcelona.
- **North-Western Regional Office**: C/Gambrinus, 7 2º 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/facility is excluded from the scope of the EMAS register specifically in those areas where it is located, or through which it crosses (municipalities indicated)[9]:

Facility/infrastructure	Municipality
Salto de Chira (Hydroelectric Power Station)	Mogán y San Bartolomé de Tirajana (Las Palmas)

On the other hand, the following facilities or sections of line with sanctioning proceedings resolved during 2022 are excluded:

Facility/infrastructure	Municipality
San Sebastián de los Reyes substation.	San Sebastián de los Reyes (Madrid)
400 kV Morata-Villaviciosa line[10]	Valdemoro (Madrid).

Also excluded from the scope of the EMAS register are those facilities or sections of line with sanctioning proceedings that have not yet be resolved (currently in processing):

Facility/infrastructure	Municipality
400 kV Galapagar-Lastras line	El Espinar (Segovia).
220 kV Cartelle-Castrelo 1 line	Castrelo de Miño (Orense).
132 kV Puerto del Rosario-Gran Tarajal line	Gran Tarajal. (Fuerteventura).
400 kV Baza-Caparacena line	Dehesas de Guadix (Granada).
220 kV Abadiano-Vitoria line	Abadiño.(Vizcaya).
Turbine installed in the Formentera electricity substation[11]	Formentera (Balearic Islands)

[9] Completed proceedings are understood as those in which the following circumstances (all of them) occur together:

1. The Company is declared responsible for the non-compliance.
2. The required amount has been paid.
3. No appeal has been filed or the option to file an appeal at a higher instance is open.
4. The Company has made the decision to assume responsibility for what happened and has chosen not to appeal.

[10] A contentious-administrative appeal has been formally lodged before the Contentious-Administrative Courts, as prescribed by articles 8, 14, and 46 of Law 29/1998, dated 13 July, which governs the regulations for Contentious-Administrative Jurisdiction.

[11] The sanctioning procedure is initiated against GAS ELECTRICIDAD GENERACIÓN S.A. and REE, S.A.U. as jointly responsible parties. Responsibility is attributed to REE due to the fact that the operating regime of the Formentera turbine responds to the strategies derived from REE's new operating procedures that came into force in 2006. However, and as pointed out in the allegations submitted on 5 May 2011, the fact that the System Operator decides to schedule the use of a turbine for electricity system security reasons does not imply responsibility for the condition and maintenance of said turbine. The sole owner of the turbine is GESA ENDESA, and therefore, it is the only entity that has the power to repair or replace it in the event it is in poor condition.

4 2030 Sustainability Commitment. Sustainable Development Goals

The 2030 Sustainability Commitment of Redeia, 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 governed by 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:

- **55% reduction in Scope 1 and 2 emissions and 28% reduction in Scope 3 emissions compared to 2019.**
- **Generate a net positive impact on the natural capital of the environment surrounding our facilities**[12].
- **Be a leading company in circular economy**
    - 0% of waste to landfill.
    - 6.5 m³ of water consumption per employee per year in work centres (at group level)

The 2030 Sustainability Commitment is deployed through multi-year plans. Within the 17 courses of action, there are several directly related to the environment, which encompass the following:

- **Climate change mitigation: reduction of the carbon footprint.**
- **Biodiversity and natural capital conservation. Promotion of biodiversity.**
- **Transformation to a circular economy.**

The 2020-2022 Sustainability Plan has reached a final degree of completion of 98.5%.

In 2022, Redeia embarked on the development of its 2023-2025 Sustainability Plan. This new Plan is designed to drive progress and address the sustainability objectives and priorities of the group, aligning it with the expectations and demands of stakeholders. The 2023-2025 Sustainability Plan will include environmental objectives from 2023 onward.

[12] All Red Eléctrica facilities, regardless of whether they are included in the Plan or not, and irrespective of whether they fall under state or regional legislation, are subject to an environmental assessment process (simplified or ordinary).

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

Identification and Prioritisation of SDGs for the Redeia

SDGs High Relevance	
SDGs Medium Relevance	

A specific report on the Company's contribution to the SDGs is produced annually (*https://www.redeia.com/en/sustainability/commitment-to-sustainability/sustainable-development-goals*)

In 2022, with the aim of continuing to move forward with its 2030 Sustainability Commitment, the Company updated its Materiality Study in order to identify its relevant issues in accordance with leading international opinion generators and standards on sustainability, noteworthy among which are the following: Directive (EU) 2022/2464 on Corporate Sustainability Reporting, IQNet SR10 for Social Responsibility Management Systems, ISO 26000 Social Responsibility Guidelines, Global Reporting Initiative (GRI), RobecoSAM, SASB (sector materiality map) and AA1000AS Assurance Standard (principle of materiality).

This analysis led to the identification of a total of **13 relevant issues**.

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 Change**
- **Biodiversity and Natural Capital**
- **Circular Economy**
- **Integration of facilities and infrastructure into the landscape**
- **Social Licence to Operate**

The aforementioned material issues serve as the foundational pillars for the environmental courses of action outlined in the 2023-2025 Sustainability Plan. As of 2023, this Plan incorporates objectives and actions aimed at continuous improvement, specifically targeting the mitigation of environmental impacts resulting from the group's activities. These objectives and actions are closely linked to the commitments outlined in the Environmental Policy of the group. Moreover, the Sustainability Plan is aligned with the group's Strategic Plan and the Sustainability Goals for 2030.

5 Respect for the Environment and Red Eléctrica's Activities

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. In this sense, the main potential environmental impacts on the territory and landscape are related to where the substations are located and the territories through which the HV electricity lines run.

The main measure to reduce and even avoid the undesired effects of the facilities of the Company on the environment and on the local communities/municipalities is the selection of the site where they are to be located. In this regard, Red Eléctrica considers all environmental and social variables during all the stages involved in the development of the transmission grid.

This includes carrying out a viability analysis of the facilities prior to their incorporation into the electricity transmission grid planning proposal that Red Eléctrica, as system operator, submits to the Ministry of Ecological Transition and the Demographic Challenge (MITERD).

Once the Transmission Grid Planning is approved, which is subject to the strategic environmental assessment procedure, the Company carries out 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.

Over the last three years, the Company has worked intensively on the infrastructure included in the 2021-2026 Electricity Transmission Grid Planning, approved in March 2022, and has held numerous meetings and made many visits to the areas being studied in order to reach a consensus on its future implementation.

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 (EIA)** procedure; a procedure which the majority of the Company's projects are legally required to carry out. In addition, those facilities that do not require an environmental procedure, in accordance with current legislation, are voluntarily submitted to consultations with those responsible for the Natura 2000 Network or with the public administration for the assessment of their possible environmental impact and to receive proposals regarding alternative mitigating measures that have deemed appropriate.

To ensure the implementation and effectiveness of the established measures, the Company defines and conducts **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 facilities in operation, the Company conducts periodic reviews in order to verify compliance with environmental standards. It should be noted that the Company has a maintenance management and territorial observatory system that integrates into the corporate mapping system all the environmental, social, cultural and technical conditioning factors that must be taken into account when requesting authorisation to carry out maintenance works on facilities (more than 70 layers of digitalised information covering 200 metres on each side of electricity transmission lines).

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.

The following diagram schematically illustrates the main environmental criteria applied during the main transmission grid development phases.

Development and implementation phases for transmission grid infrastructure

Infrastructure proposal *(Drawn up Red Eléctrica)*	Transmission grid planning *(Drafted by MITERD)*	Project design *(New facilities and modifications)*	Construction or modifications of facilities/ infrastructure	Maintenance
Environmental Feasibility Study: • Analysis of all proposals from an environmental point of view. • Only includes environmentally viable projects.	**Strategic environmental assessment of plans and programmes.** **Public consultation and participation of stakeholder groups** through the submission of comments, suggestions and/or arguments.	**Prior dialogue with stakeholders** before defining the project (Autonomous Communities, local councils and NGOs). **Environmental Impact Assessment:** 1. Prior consultation with stakeholders. 2. Defining the alternative of the least impact. 3. Public information. Submission of comments, suggestions and/or arguments by stakeholders. 4. Proposal for preventive and corrective measures. 5. Publication of results. 6. Environmental permits and authorisations.	**Implementation of preventive and corrective measures.** **Environmental monitoring** (monitoring of preventive and corrective measures). **Monitoring the work of contractors** regarding compliance with environmental requirements. **Environmental certification of works** taking into account compliance with environmental requirements.	**Environmental monitoring programmes** in the initial years of operation of a facility. **Periodic inspections** of facilities to verify compliance with standards and identify improvement measures. **Application of environmental improvement measures.**

Taking the previously shown diagram regarding the environmental criteria applied as a reference, the following are relevant events that occurred during 2022:

1. Transmission grid planning

As a consequence of the obligations derived from the Environmental Report of the 2015-2020 Electricity Transmission Grid Planning and, previously, from the 2008-2016 Planning of the electricity and gas sectors, since 2009 the Company has been collaborating with MITERD in the drafting of the annual environmental monitoring reports consisting, basically, of the calculation of a series of performance indicators defined in such Environmental Report. The 2021 report has already been sent to MITERD, however, and as has been the case since 2016, they are not proceeding with its publication on their website.

In addition, in 2021, a Strategic Environmental Statement was issued linked to the Electricity Transmission Grid Development Plan for 2021-2026 (Resolution of 9 December 2021 of the Directorate General for Environmental Quality and Assessment) and, in March 2022, the **Electricity Transmission Grid Development Plan for 2021-2026** was approved.

In the development of this Plan, the Transmission Division of the Company carries out feasibility studies on any action before it is integrated into the planning proposal. This approach ensures that only environmentally and socially viable actions are included.

2. Definition of projects

Environmental permitting processes were initiated for **53 investment projects**:

	Permitting process initiated		
	2020	**2021**	**2022**
Initial document	0	0	0
Environmental Impact Statement	0	0	48
Environmental Impact Assessment	1	6	5[13]
Total initiated	**1**	**6**	**53**

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

	Permitting process completed		
	2020	**2021**	**2022**
Positive Environmental Impact Statement	3	10	10
Negative Environmental Impact Statement	0	0	0
Environmental Resolution	4	6	13
Total completed	**7**	**16**	**23**

Environmental authorisation was obtained for 13 projects, all of which received positive environmental impact statements.

Positive Environmental Impact Statement[14]
Environmental Impact Statement (EIS) for the 400 kV Beariz sub-station, the incoming and outgoing feeder lines in Beariz for the 400kV/Cartelle-Mesón line, and the 400 kV Beariz-Fontefría line, the 400/220 kV Fontefría substation, the 400 kV Fontefría-Frontera line and the incoming and outgoing feeder lines in Beariz for the 220 kV Pazos-Suido and Pazos-Cartelle lines
EIS for the underwater interconnection with France (400 kV Gatica-French border and the Gatica converter station with all cables in direct current)

[13] EIS Chio-Los Olivos. June 2022.
EIS Puerto Real-Cartuja. May 2022.
EIS SE Ribina. Mayo 2021. April 2022.
EIS La Serna-Magallón. December 2022
EIS Mercadal (Energy Storage Battery). December 2022

[14] Authorisation resulting from the Simplified Environmental Impact Assessment process (Environmental Document)

EIS for the underwater interconnection between Tenerife and La Gomera (66 kV Chío-El Palmar circuit, 66 kV Chío substation and the 66 kV El Palmar substation)
EIS for the Los Vallitos-Chayofa-Los Olivos line (Line+Cable/66 kV Los Vallitos-L/Chayofa-Los Olivos)
EIS Ribina (400 kV Ribina substation and the incoming/outgoing feeder lines in Ribina for the 400 kV Carril-Litoral line)
EIS Tierra Estella (220 kV Muruarte-Terra Estella line and the 220 kV Terra Estella substation)
EIS San Jorge 132 kV Bossa-San Jorge 1 circuit (Voltage change) 66 kV Ibiza -San Jorge line San Jorge (Transformer) 132 kV Ibiza-Torrent circuit (Voltage change) 132 kV San Jorge substation
EIS Elda (Elda 220 kV substation and the Elda incoming/outgoing feeder lines for the 220 kV Benejama-Petrel line)
EIS 220 kV Mangraners-Espluga-Begues line
EIS CT 220 kV Loeches line-San Sebastián de los Reyes 400 kV line

Environmental Impact Statement/ Environmental Resolution[15]
220 kV Calera y Chozas substation and incoming/outgoing feeder lines in Calera y Chozas for the 220 kV Almaraz-Talavera line
Increase in transmission capacity of the 220 kV Gurrea-Villanueva 1 line and the 220 kV Gurrea-Villanueva 2 line
400 kV Alange substation (currently Don Álvaro) and incoming/outgoing feeder lines for the 400 kV Almaraz-Bienvenida line
400 kV Llerena substation and the 400 kV Llerena-L/Valdecaballeros-Guillena line
220 kV Olite substation (Enlargement)
400 kV Pinofranqueado substation and the 400 kV Pinofranqueado-L/Aldeadavila-Arañuelo line
400 kV Quintana de la Serena substation and the 400 kV Quintana-Valdecaballeros-Carmona line
Increase in transmission capacity of the 220 kV Jalon-Magallon 1 line and the 220 kV Jalon-Magallon 2 line

[15] Authorisation resulting from the Simplified Environmental Impact Assessment process (Environmental Document)

400 kV Escatron substation (Enlargement)
400 kV Fuente de Cantos substation and the 400 kV Fuente Cantos-L/Brovales-Guillena line
400 kV Fuente del Maestre substation and the 400 kV Fuente del Maestre-L/San Servan-Brovales line
Increase in transmission capacity of the 220 kV La Serna-Tudela 1 and 2 lines
Increase in transmission capacity of the 220 kV Almaraz-Talavera line

At the end of 2022, **48 investment projects are at different stages of their environmental permitting process.**

The '*Environmental permitting process*' section can be consulted in the environmental subsection of the Sustainability Area of the corporate website (*https://www.ree.es/en/sustainability/the-natural-environment/status-of-the-environmental-permitting-process-of-projects*). This web section details the process regarding the permitting procedures related to environmental projects, and also provides the documentation related to projects that are currently being processed.

3. Construction or modification of facilities/infrastructure

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 facilities/infrastructure underwent works in 2022: **54 substations** and **523 km of line** (466 km investment and 57 facility improvement and update projects).

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 underway** (for a total of 91).

The **permanent environmental supervision**, aimed at intensifying the control and monitoring of measures, covered 95.1% of total **works** performed.

Environmental monitoring of construction works		2020	2021	2022
Substations	% Permanent environmental monitoring	91.7	97.6	83.3
Lines (km)	% Permanent environmental monitoring	98.9	100	89.5

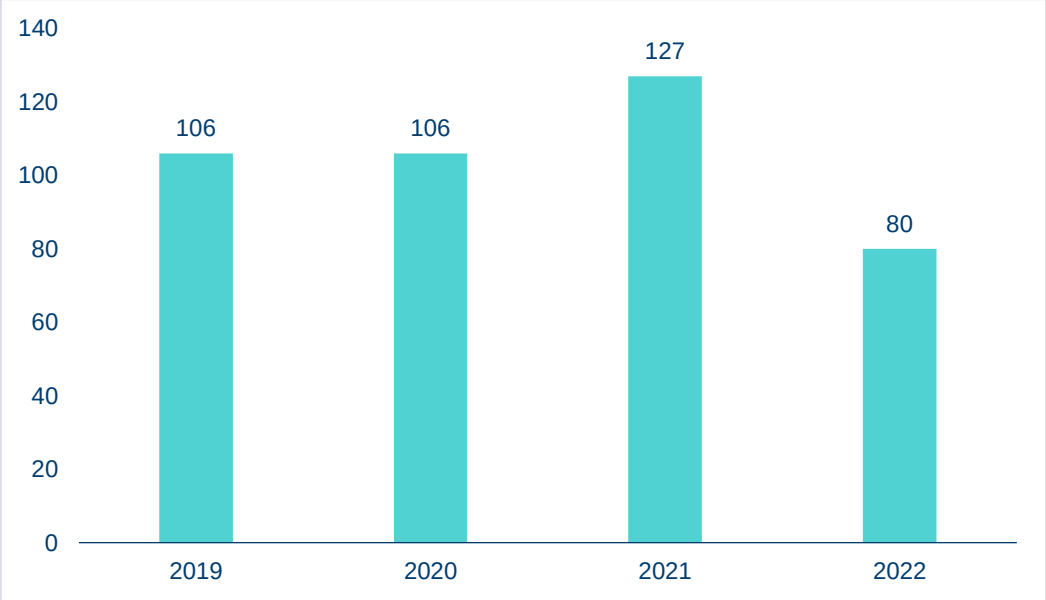
The main impacts to be avoided in works associated with the construction of lines or the modification of facilities are the alteration of the habitat of certain species of fauna and flora, and also the impact on vegetation due to the opening up of safety corridors, necessary to prevent fires during the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

The specific preventive, corrective and offsetting measures carried out in this phase during 2022 can be consulted in the Annex: 'Environmental Actions 2022', shown at the end of this document.

4. Maintenance of facilities/infrastructure

Regarding the maintenance phase, in 2022, a total of **80 environmental inspections** were carried out in substations. This total represents 11% of all the substations in operation (708) in 2022. In the last 6 years a total of 544 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_6 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 2022, a total of **102 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

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 Assessment (EIA) 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/infrastructure**: 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/infrastructure**: 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 Assessment (EIA) 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:

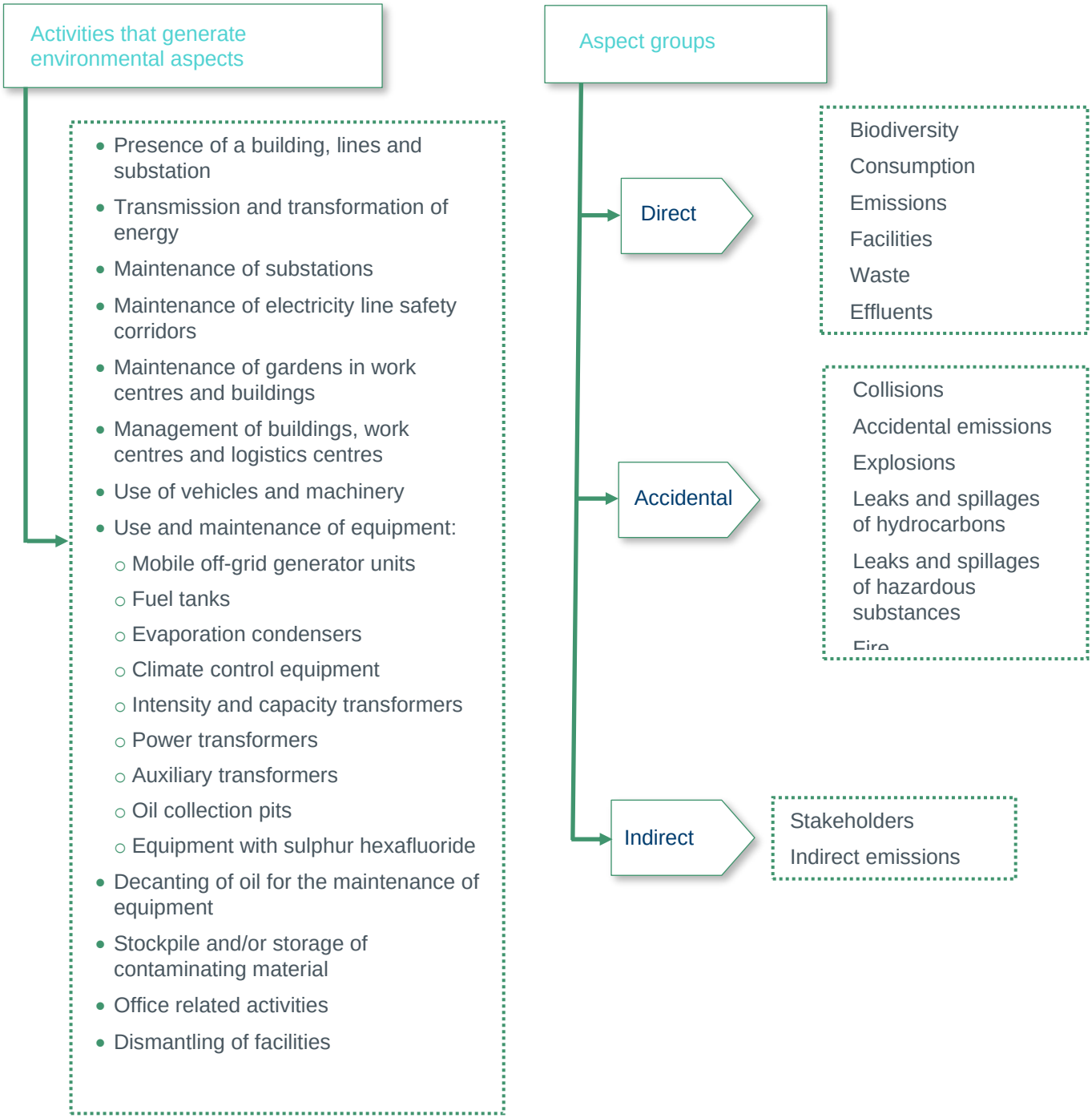
Activities that generate environmental aspects
Storage and transfer of oils and fuels
Storage and management of waste
Work sites (substations)
Land compacting
Clearing, pruning and felling
Excavation and landfill works
Concreting and cleaning of containers used
Hanging/stringing of conductors and grounding 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 below:

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 2022 assessment:

Aspect	Relevant evaluation	Environmental aspect susceptible to impact	Impact	Observations[16]
Biodiversity				
Clearing, pruning and felling	All Regional Areas	Biological	Potential impact on species	The most restrictive criteria is used for the evaluation, due to the lack of detailed information.
Removal of bird nests	Balearic Islands and Canary Islands	Biological	Potential impact on species	Crow and Raven nests were removed in the Canary Islands Regional Area in 2022.
Consumption				
Water consumption	Central, North and Eastern Regional Areas. Albatros and La Moraleja Offices	Physical	Reduction of natural resources	These are significant in that consumption increased by 5% or more compared to last year's average value and reduction measures were not implemented or were insufficient. In the Albatros B building there was a 23% increase in consumption compared to 2021 due to the new level of occupation of the building after the pandemic. The same situation occurred at the Moraleja Head Office where 7,377 m^3 were consumed in 2022 compared to 6,395.8 m^3 in 2021. In the Central Regional Area, the increase in consumption was due to the newly planted areas in San Sebastián de los Reyes that required frequent irrigation in the summer season, and there were also

[16] 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.

Regarding evaluations carried out in previous years, it should be noted that the waste criteria for the assessment of aspects related to 2022 were used, mainly regarding the concept of prevention measures implemented in 2019 for Red Eléctrica de España and the new criteria established for corporate buildings. 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'.

				water leaks in the Villaviciosa substation. In North Regional Office there was an increase of 48% compared to 2020 (from 268.6 m^3 to 570.42 m^3).
Electricity consumption	Canary Islands, Central and North Regional Offices	Physical	Reduction of natural resources	These are significant in that consumption increased by 5% or more compared to last year's average value and reduction measures were not implemented or were insufficient. In the Canary Islands Regional Office, consumption increased by 5.4% compared to 2021. In North Regional Office there was an increase of 8.5% compared to last year due to the activation of air recirculation due to COVID measures.
Paper consumption	North Regional Office	Physical	Reduction of natural resources	Consumption increased from 391.08 kg in 2021 to 501.87 kg in 2022.
Hazardous waste				
Soil contaminated with hydrocarbons	Central, East, North-western, North and South Regional Areas	Physical	Potential soil and water contamination from its storage and management	In the South Regional Area there was some waste management that could not be recovered due to the fact that the geographical location of the collection site did not allow the waste to be transported for said treatment.
Laboratory chemicals consisting of or containing hazardous substances	North-western Regional Area	Physical	Potential soil and water contamination from its storage and management	Waste for elimination
Fluorescent and mercury vapor lamps	North-eastern Area, Barcelona Regional Office and La Moraleja Head Office site	Physical	Potential soil and water contamination from its storage and management	At the Moraleja Head Office site, 120 kg of fluorescent and mercury vapour lamp waste was generated in 2022.
Materials impregnated with hazardous substances (absorbent / filtering materials, rags, clothes)	Central, Eastern, North and South Regional Areas	Physical	Potential soil and water contamination from its storage and management	Waste for elimination
Electrical and electronic waste with hazardous components	Moraleja Head Office site	Physical	Potential soil and water contamination from its storage and management	In 2022, 4,494 kg of electrical and electronic waste with hazardous components were generated, compared to 1,875 kg in 2021. (an increase of 58%).

Accidental aspects				
Birdlife collisions	Canary Islands, Central, Eastern, North-eastern, North-western, North and South Regional Areas	Biological	Potential impact on species	Derived from collisions with unmarked electricity lines or with ineffective marking.
Fire under or in the vicinity of electricity lines	North-eastern Regional Area	Physical	Potential impact on species	Fire outbreak at the Sant Just-TCelsa line in Collserola Park.
Leaks or spills of hydrocarbons	North Regional Area	Physical	Potential contamination of soil and water	Leaks or spills from equipment with small volumes of oil (4 spills in substations).
Explosions of transformers/equipment	South Regional Area	Physical	Potential contamination of soil and water	Explosions of transformers and equipment (fire and oil spill). Bottle transformer at the Tarifa substation and capacitor transformer at Onuba substation.

7 Environmental Performance in 2022

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.

Red Eléctrica actively participates in the energy transition towards an emission-free model, committing to the electrification of the economy and the efficient integration of renewable energy, through a robust and better interconnected grid, the development and operation of energy storage systems and the promotion of new services and innovative activities that facilitate coordination between the various agents.

Additionally, 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 2022 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 2022 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

In the case of electricity and water consumption, in those months of 2022 for which actual data was not available at the closing date of this Statement, the value has been estimated[17].

[17] In those cases where there was no value in the first place, the real data for that month of the previous year was used. In the event that there was no real data for the previous year, the direct value of the invoice was taken. If there was no real data or invoice data, the average for the year was calculated by selecting the months that had real data.

7.1 Climate change and energy efficiency

Climate change is a global challenge that is high on the international agenda. In a context of decarbonisation, the role of the electricity sector is fundamental to achieve the transformation of the energy sector.

Red Eléctrica, is a key player in the Spanish electricity system and an **essential agent** in the transition towards a new energy model in Spain, whose key elements shall be **overall efficiency**, the **electrification of the economy** and **the maximum integration of renewables into the energy mix,** all while guaranteeing the security of supply at all times.

This position of the Company is reflected in its 2021-2025 Strategic Plan, whose central pillar is to make the energy transition a reality in Spain by being a key agent in boosting and promoting the digital and green transition.

The mechanisms that will be decisive in advancing this transition are the development of a robust, smart and increasingly interconnected transmission grid, the establishment of energy storage systems that maximise the integration of renewables and increase the flexibility, efficiency and security of the system and the incorporation of tools that enable the operation of a more complex, dynamic and digital electricity system of the future.

In addition, since 2011, the Red Eléctrica group has stated its **voluntary commitment to the fight against climate change**, which is materialised in specific objectives and a **Climate Change Action Plan**. Both of these targets were updated for 2021 with a goal to **increase the Company's climate ambition** and align it with the global goal of limiting the **average temperature increase to no more than 1.5°C**. The targets have been set in line with the criteria of the Science Based Target initiative (SBTi).

Redeia's emission reduction targets for 2030, approved by the Science-Based Targets initiative (SBTi)

Commitment to achieving net zero emissions by 2050 compared to 2019 levels

2030 Targets	2050 Targets
• 55% reduction of Scope 1 and 2 emissions compared to 2019. • 28% reduction in Scope 3 emissions compared to 2019. • Suppliers that account for two-thirds of the supply chain emissions need to have science-based targets implemented (approved by SBTi).	• 90% reduction of Scope 1 and 2 emissions compared to 2019. • 90% reduction in Scope 3 emissions compared to 2019 levels.

Based on the approved targets, a new Red Eléctrica group Climate Change Action Plan for 2022-2030 has been drawn up, aligned with the internal objectives, those of Spain's National Energy and Climate Plan and the Company's Strategic Plan.

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**.

- ## Contribution to a sustainable energy model

The following are actions related to Red Eléctrica's activity as transmission agent and operator of the Spanish electricity system and which are necessary to achieve the targets of Spain's National Energy and Climate Plan (NECP), with a 2030 horizon:

- Develop the **infrastructure to facilitate the electrification of the economy**, connect new renewable energy power capacity, reduce technical constraints and provide the power to feed the railway network. Noteworthy is the development of electricity interconnections, both international and between islands, which guarantee supply when dealing with the variability associated with renewable generation.
- Achieve the **maximum level of integration of renewable energy** into the electricity system through the optimisation of system operation and the operation of the Control Centre of Renewable Energies (CECRE), the improvement of generation forecasting tools, the greater integration of distributed generation and the development of **energy storage** systems that will enable the integration of renewables, while guaranteeing the security of the system.
- Make progress in the **efficient management of the grid**, promoting technological innovation (smart grids and digitalisation), incorporating new elements and services and applying new flexibility measures.

- ## Reduction of the carbon footprint

Redeia has set ambitious reduction targets for 2030, consistent with its long-term goal of achieving net zero emissions by 2050. This commitment and the one related to the contribution to a sustainable energy model, have been endorsed by the **Science Based Target initiative (SBTi)**. Different actions, mainly aimed at reducing emissions, have been established and are described in this section.

- ## Adaptation to change

Red Eléctrica is aware of the need to make progress in adapting to climate change, in order to tackle both the inevitable physical changes in climate parameters and the social, economic and regulatory changes associated with the fight against climate change. The Company periodically identifies and assesses both risks and opportunities derived from climate change and applies various measures defined within the framework of this analysis.

Since 2018, Red Eléctrica integrates the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). As established in said recommendations, the financial impacts of relevant risks and opportunities are quantified, incorporating the consideration of different physical and transitional scenarios.

- ## Raising awareness regarding the Company's commitment

Red Eléctrica works to communicate with stakeholders and involve them in its commitment to climate change. The main objective is to **disseminate knowledge and provide complete and transparent** information on the electricity system and its role in the energy transition, as well as to promote different energy efficiency measures.

Since 2011, Red Eléctrica has annually participated in the Carbon Disclosure Project (CDP[18]) survey and discloses its responses to society. The Company has established as an objective, the progressive improvement of its score. In 2021, (corresponding to the 2020 fiscal year), Red Eléctrica was granted a rating of A- and was included in the CDP Leadership index (A list).

7.1.1 Inventory of CO_2 emissions

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

In addition, the Company has developed methodologies for calculating the carbon footprint associated with the life cycle of the different types of facilities built by Red Eléctrica de España, the application of which facilitates the identification of improvements and specific reduction measures that can be implemented on a case-by-case basis

The inventory of Red Eléctrica's greenhouse gas emissions in the last three years is shown in the following tables:

Greenhouse gas emissions ($tCO_2eq.$)[19]	2020	2021	2022
SF_6	22,214	20,299	17,690[20]
Climate control equipment (HVAC systems)	533	500	465
Fleet vehicles	1,364	1,647	1,494
Mobile off-grid generator units	334	313	287
Total direct emissions (SCOPE 1)	**24,445**	**22,759**	**19,936**
Emissions associated with electricity consumption[21]	308	295	308
Emissions derived from losses in transmission[22]	592,078	634,221	717,707
Total indirect emissions (SCOPE 2)	**592,386**	**634,516**	**718,015**
Total (SCOPE 1+2)	**616,831**	**657,275**	**737,951**

[18] 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.

[19] 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 *https://www.ree.es/en/sustainability/decarbonisation-of-the-economy/carbon-footprint*

[20] There has been a relevant change in the methodology for calculating SF_6 emissions, as the 100-year GWP (23,500) of the 5th IPCC report (Intergovernmental Panel on Climate Change), has been used instead of the GWP (22,800) of the 4th IPCC report.

[21] The emissions are calculated under the 'market based' approach, applying the emission factors associated with the market agents that supply the electricity.

[22] 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. The increase in emissions in 2022 is mainly due to the recovery of the demand and the increase in transmission grid losses.

Indirect emissions (Scope 3) ($tCO_2eq.$)	2020	2021	2022
Purchased goods and services[23]	186,282	222,467	271,521
Capital goods	162,834	193,394	123,689
Energy generation (not included in Scope 1 and 2)	486	1,546	809
Waste	70	31	48
Transportation and distribution (logistics)[24]	1,177	1,236	1,000
Business travel[25]	269	332	734
Employee commuting[26]	952	1,518	3,205
Leased assets	153	163	90
Total emissions Scope 3[27]	**352,223**	**420,686**	**401,097**

7.1.2 SF_6 Emissions

The main direct emissions derived from Red Eléctrica's activities are those arising from the sulphur hexafluoride (SF_6) gas present in the equipment installed in the transmission grid it manages.

This gas, despite its high global warming potential, has enormous technical advantages. It is a non-toxic gas that allows the distances between the various elements of the facilities to be much less, which makes it possible for the overall size of the facilities to be reduced and, therefore, enable them to be better integrated 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, therefore, it has various gas reduction initiatives underway and which have been reinforced as part of the Company's Climate Change Action Plan. The most important courses of action are the following:

- **SF_6 gas inventory**. Improvement of the procedures for carrying out the inventory, monitoring and the recording of leaks.
- **Training** of people involved in the handling of the gas. Red Eléctrica is legally recognised to provide training for the handling of gas. Since 2013, 483 employees have been trained, of which 444 have the official SF_6 gas handling certificate.
- **Renewal/replacement of switchgear**. The progressive renewal of old equipment and equipment with very high leakage rates of SF_6 represents a significant control measure in quantitative terms. In this regard, it is worth highlighting the start of the project to renovate the equipment in the Litoral 400 KV substation, one of the facilities in which, due to its age and environmental conditions, most gas emissions have occurred in recent years

[23] 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.

[24] Corresponds to emissions associated with internal logistics and other emissions regarding transport of materials.

[25] Includes trips made by train, plane, own vehicle, rental vehicle and taxi.

[26] 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 significantly.

[27] REE+REC+ELEWIT.

- **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_6 emissions to be kept at low levels, not exceeding an average emission rate of 0.2%.

  Noteworthy is the '**Development of SF_6 leak repair methodology in GIS facilities**', which enables the repair of breakdowns/faults in GIS substations without the need to disassemble the damaged sections, and this significantly speeds up repair work.

  The Climate Change Action Plan envisages enhancing the resources dedicated to these actions and includes additional measures. The most relevant in the period 2022-2023 are the following:

  - Design of protective roofing for existing facilities to prevent degradation of materials due to atmospheric agents and, therefore, reducing leakage.
  - Incorporation of requirements in procurement tenders that help minimise gas losses (rapid intervention in cases of leakage and equipment design criteria, among others).
  - Substitution of SF_6 gas for nitrogen (N_2) in equipment that has been stored as back-up units.
- **Reduction of SF_6 and the search for alternatives:** Red Eléctrica is committed to promoting alternative solutions to SF_6, which are currently under development. The Company has started to work on its application in lower voltages and in passive elements in substations. In relation to this last point, two very relevant pilot projects have been started up, in which the use of an alternative gas has been planned for 400 KV insulation gas ducts and substation busbars.

Additionally, Red Eléctrica has two 66 kV cubicle-type GIS units equipped with alternative gases, located in the Canary Islands for use as mobile substation transformer units.

In 2022, progress was made in the technical qualification of SF_6-free AIS (Air Insulated Switchgear), which will continue in 2023. Also, in 2023, one of these devices will be commissioned, and a control protocol will be drawn up for the certification process of this type of device.

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 of SF_6, signed in May 2015, between the Ministry of Ecological Transition and the Demographic Challenge and the manufacturers and suppliers of Electrical equipment that use SF_6, 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_6 in the electricity industry that is more respectful towards the environment.

REDUCTION TARGETS[28]: SF_6 Emissions
25% net reduction in SF_6 emissions compared to 2015 by 2030.
Maximum cumulative emissions in the period 2021-2030: **252,000 t of CO_2.**
PROGRESS MADE IN 2022[29]

[28] The targets are set taking the year 2015 as the base year.

[29] Actions aimed at reducing SF_6 gas emissions are proving to be very effective. However, it should be considered that the probability of SF_6 leakage is directly related to the amount of gas installed and the age of the equipment. In 2030, a significant increase in installed gas is expected, associated with the development of the transmission grid and an increase in the average age of the installed equipment. Considering these circumstances, the expected trend is an increase in emissions.

45.7% reduction in SF_6 gas emissions compared to 2015.

Cumulative emissions in the period 2021-2022: **38,706 t of CO_2eq.**

	2020	2021	2022
SF_6 installed (kg)[30]	491,165	521,311	518,425
SF_6 emissions/SF_6 installed (%)[31]	0.20	0.17	0.14
Total emissions (kg)	**974**	**890**	**753**

[30] The increase in installed gas is mainly due to the commissioning of new facilities and the replacement of old equipment with SF_6 insulated equipment. The commissioning of these facilities is essential for the development of the transmission grid necessary in order to undertake the energy transition.

[31] 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_6 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 before 2008 is known to have higher leakage rates). The low emission rates reflect the enormous effort of the Company in improving the management and control of SF_6 emissions. Specifically, the decline shown in recent years due to the breakdown repair work performed since 2018.

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.

7.1.3.1 Electricity consumption – Reduction of electricity consumption

Taking into account all Red Eléctrica work centres[32], electricity consumption in the last three years has been as follows:

	2020 (kWh)	2021 (kWh)	2022 (kWh)
Total (kWh)	12,508,991	14,055,399	**14,763,374**[33]
Total (Joules)[34]	$4.50*10^{13}$	$4.48*10^{13}$	**$5.31*10^{13}$**

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. **92.2%** of the electricity consumed comes from renewable sources (Renewable Energy Guarantee of Origin (REGO) certificates).

REDUCTION TARGETS (COMPARED TO 2015): Electricity consumption
Reduction of emissions associated with electricity consumption: 90% by 2030.
Reduction of electricity consumption in work centres: 30% by 2030.
PROGRESS MADE IN 2022
Reduction of emissions associated with electricity consumption in work centres: **93.3%.**
8.7% reduction in electricity consumption in Red Eléctrica work centres compared to 2015.

[32] 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 2022, 92.2% of the total electricity consumed (work centres + electric vehicle) has come from renewable sources (13,159,312 kWH work centres + 210,960 kWH electric vehicles).

[33] In the case of electricity consumption, for those months in 2022 for which actual data was not available at the closing date of this Statement, the value has been estimated.

[34] 1kWh = $3.6*10^6$ Joules; Total consumption data in Joules following criteria defined by GRI G4.

7.1.3.1.1. Energy efficiency measures implemented in 2022

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 or 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
Energy management system certified under the ISO 50001:2001 standard in the buildings of the Head Office and the Redeia Campus.
Buildings with reduced energy consumption. The buildings in which the control centre and the technology company of the group, Elewit, are located, include a system that helps maximise the available geothermal energy and have construction measures that significantly reduce their electricity consumption, in accordance with NZEB (Nearly Zero Energy Buildings) criteria. The training campus also has a solar photovoltaic installation for self-consumption.
Efficiency measures in buildings. The Climate Change Action Plan encompasses the implementation of a set of energy efficiency measures that seeks to achieve an estimated energy savings that is expected to exceed 1,700,000 kWh in the period 2021-2030. Throughout 2022, measures related to indoor and outdoor lighting (replacement with LED lamps) and with the reduction of standby consumption of equipment were implemented.
Design of the main control building of the **Salto de Chira pumped storage hydroelectric power station** in accordance with the criteria of **LEED Platinum** certification (US Building Council).
IT Systems
Renewal of IT equipment and systems in accordance with maximum efficiency criteria.
Consolidation of the **use of collaborative communication platforms** that reduce work-related travel or commuting (this aspect has been especially relevant in the last two years due to the COVID-19 pandemic).
Application of efficient use policies in all end-user IT systems.
Migration to and intensive use of **virtual servers** (since 2015).
Substations
Rationalising the use of lighting: Thanks to the improvement in remote control systems for outdoor lighting currently there are 426 substations whose night-time exterior lighting does not switch on unless it is necessary.

7.1.3.1.2. Use of renewable energy

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. In addition, in 2022, 14 solar photovoltaic systems were installed for self-consumption in work centres, four of which were in operation for part of the year:

- Tres Cantos training campus, which since June has had a saving of 45,550 kWh representing 16% of the building's total consumption.
- Seville's Regional Office, which has generated 26,950 kWh since June, 8% of the building's total consumption.
- La Eliana and Mangraners work centres, which were commissioned in the last quarter of the year.

Reductions in energy consumption[35]

Net savings in 2022	**kWh**	**Joules**
Implementation of self-consumption installations (Tres Cantos and Seville)	72,500	$2.61 \cdot 10^{11}$
Estimated annual savings	**kWh/year**	**Julios/year**
Efficiency measures in work centres: lighting and reduction of standby consumption of equipment	59,701	$2.15 \cdot 10^{11}$
Implementation of self-consumption installations at work centres (12 centres)[36]	461,686	$1.66 \cdot 10^{12}$
Efficiency measures in electricity substations: switching off of night-time lighting.	10,050,655	$36 \cdot 10^{12}$
Efficiency measures in computer IT equipment: renewal of desktops and laptops, data storage systems.	57,459	$2.07 \cdot 10^{11}$

Reduction of greenhouse gas emissions

Net savings	**$tCO_2eq.$**
Contracting an electricity supply with a Renewable Energy Guarantee of Origin (REGO) certificate[37]	3,006
Reduction of emissions as a result of works/actions to repair SF_6 leaks	2,357
Estimated annual savings[38]	**$tCO_2eq./year$**
Reduction of SF_6 emissions by replacing old equipment with equipment with lower leakage rates.	26.3
Switching off of night-time lighting in substations.	1,437
Implementation of energy efficiency measures and self-consumption	16

[35] The estimated annual reductions derived from the measures implemented in 2021 have been included.
[36] No actual data is available at the moment.
[37] Electricity supply with a Renewable Energy Guarantee of Origin (REGO) certificate or International Renewable Energy Certificates (IRECs): 0 tCO_2/kWh
[38] The energy efficiency measures that have been implemented in work centres result in insignificant emissions savings, given that most of the energy consumed (saved) is of renewable origin.

7.1.3.2. Sustainable mobility

Red Eléctrica 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 optimise 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, the Company has kept its 'Ecological Fleet Accreditation' up-to-date in its 'Master' category (the most demanding one), awarded by the Fleet Managers Association (AEGFA) and the Institute for Diversification and Energy Saving (IDAE).
- **Provision of a pool of 100% electric vehicles** to cover corporate needs.
- **Measures to optimise business travel** by promoting and improving online/virtual communication tools to reduce travel (video conferences and remote accessibility platforms) and the consideration of sustainability criteria in the Company's travel policy. In this regard, it is worth highlighting the Company's clear stance in favour of the use of the train over other means of transport and the communication of this decision to the workforce.
- **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.

Fuel consumption (litres) associated with vehicles during 2022:

	2020	2021	2022
Diesel (l)	353,817	332,850	**239,850**
Gasoline (l)	237,934	390,584	**417,175**
Biodiesel	0	0	**0**
LPG Autogas	0	0	**0**
Total vehicle fuel[39] (l)	591,751	723,434	**657,025**
Consumption not associated with vehicles (l) (Off-grid diesel generators[40])	164,635	153,538	**172,139**

[39] Includes fuel consumed by Red Eléctrica fleet vehicles and shared leasing.
[40] In 2020, the methodology for calculating this indicator was modified.

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) and, therefore, the Company has implemented various actions to further reduce emissions in order to meet the targets it committed to in 2021.

In addition to the actions aimed at incorporating circularity and climate change criteria in purchasing decision, noteworthy is the development of a **specific Collaboration Programme with its main suppliers in matters related to reducing the carbon footprint**.

Once the first phase (2019-2021) was completed, a second phase was initiated in 2022, aimed at ensuring that suppliers that are responsible for two-thirds of the emissions associated with the supply chain have targets approved by SBTi. To this end, in addition to identifying and promoting common initiatives and projects to reduce emissions, accompanying actions to establish these targets will be strengthened through actions aimed at improving the collection of quantitative information.

During 2022, 26 suppliers, which account for 47% of the emissions of the supply chain, were contacted and they agreed to participate. A diagnosis of the situation and a first proposal for development measures were made, which will be agreed and implemented in 2023.

As a result of the programme carried out between 2019 and 2021, there was a positive evolution in the number of suppliers with a third party verified emissions inventory and, more importantly, of suppliers with SBTi approved targets.

The final assessment carried out showed that 35% of participating suppliers improved their climate performance level and 50% were at high maturity levels.

The Company was recognised by **CDP as a Supplier Engagement Leader in 2022**, a seal that highlights its performance in transferring its commitment to climate action to its supply chain.

SCOPE 3 TARGETS

Suppliers accounting for two-thirds of supply chain emissions need to have science-based targets implemented in 5 years' time.

28% reduction in Scope 3 emissions compared to 2019 levels[41].

[41] Emissions associated with the supply chain account for 92 % of total Scope 3 emissions.

7.1.5 Offsetting emissions

In addition to the measures aimed at reducing emissions and to minimise the carbon footprint of the group as much as possible, specific actions have been implemented to offset emissions. In this regard, and as part of its strategy to move towards climate neutrality, Red Eléctrica is committed to offsetting all direct emissions that it cannot reduce as of 2023.

One of the main offsetting projects is the '**Redeia Forest**', which is described in the Conservation of Natural Capital section of this report.

It should be noted that the Cuevas del Valle and Mombeltrán Forests (both in Ávila) are registered in the absorption projects section of the Spanish Climate Change Office (MITERD) registry, with projected absorption of 3,403 tCO_2eq and 8,321 tCO_2eq respectively. Prior to starting these projects, the absorption rate of said forests stood at **619** tCO_2eq and **1,513** tCO_2eq, respectively.

On the other hand, the Company has also acquired a total of **18,428 VCUs** (Verified Carbon Unit) verified under the VCS standard, associated with a project to stop deforestation in the Cordillera Azul National Park in Peru.

The total emissions offset amount to 20,560 t CO_2eq. These credits, together with the absorption of the forest, allowed for the offsetting of 100% of Redeia's Scope 1 emissions in 2022, as well as the emissions associated with corporate events (the General Shareholders' Meeting and the 2nd Sustainability Conference sessions).

EMISSION OFFSETTING TARGETS
Offset 100% of Scope 1 emissions as of 2023

7.1.6 Transmission Grid Losses

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 energy dissipation 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[42], 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:

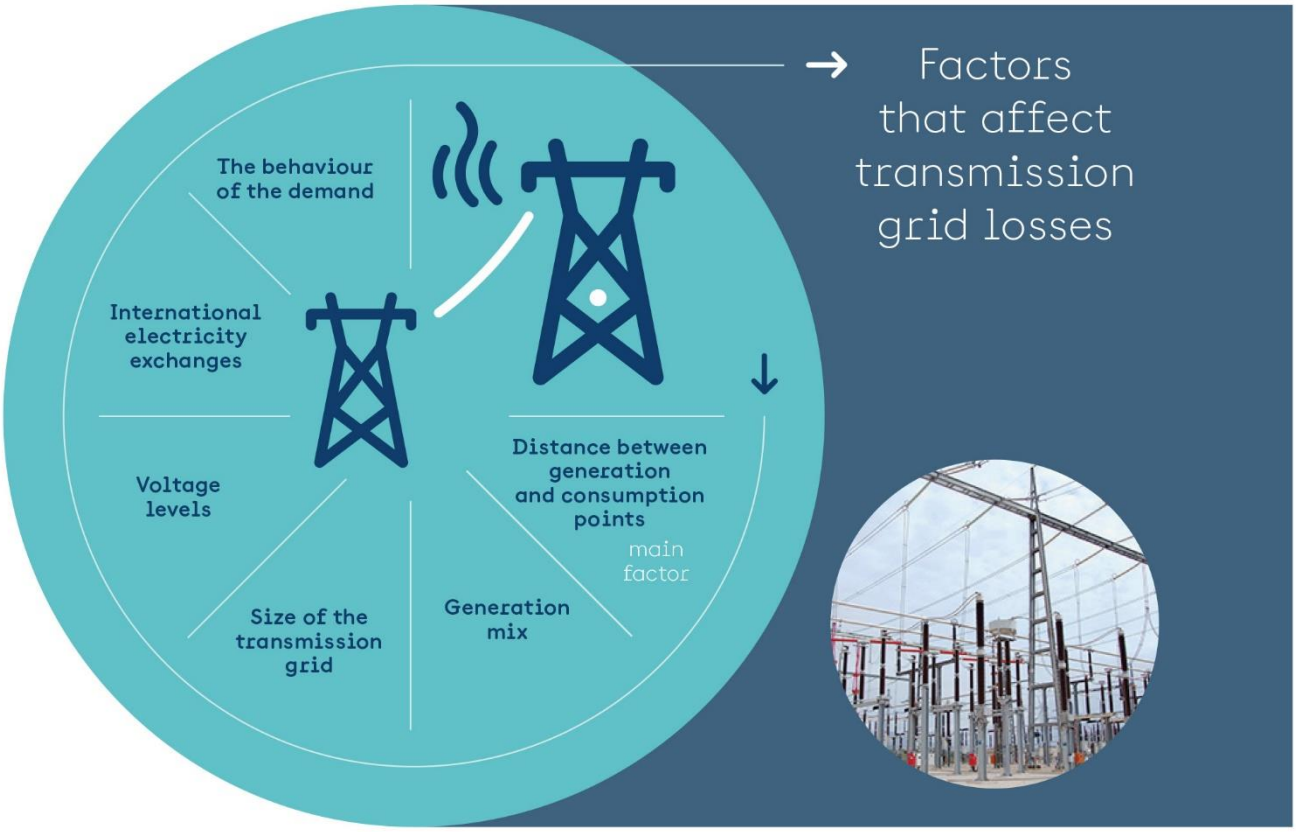
- Development and meshing of the transmission grid.
- Increase in the number of conductors per circuit.
- Use of technologies and systems with the best performance.
- Maintenance of the facilities in the best conditions to ensure their proper functioning.

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.

Increased losses are mainly due to 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 electricity exchanges, the shape of the demand curve and weather conditions. It is important to highlight that the evolution of the **electricity system towards a more decarbonised and flexible one** in which the participation of renewables (generation generally far from consumption points), the demand (greater electrification) and international energy flows will **entail a higher level of losses**.

The electricity generation mix and the flows in the transmission grid depend on the rules of the electricity market, regulated by an independent body. The function of Red Eléctrica de España, as operator of the electrical system, is carried out in accordance with specific and statuary operating procedures. In accordance with 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.

[42] 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.


Factors that affect transmission grid losses
The behaviour of the demand
International electricity exchanges
Voltage levels
Size of the transmission grid
Generation mix
Distance between generation and consumption points
main factor

7.2 Biodiversity – Natural Capital

For Redeia, **natural capital**[43] encompasses the set of assets found in nature, including both living (biotic) and non-living (abiotic) elements, which, either individually or collectively, contribute to society's well-being through the provision of ecosystem services. Biodiversity, a term derived from the combination of 'biological' and 'diversity', refers to the immense range of life forms present on Earth, and it encompasses plants, animals, fungi, and microorganisms, as well as the intricate web of interactions between species and the habitats in which they live.

Biodiversity plays a vital role within natural capital as it serves as the foundation for the services and goods that ecosystems provide, which are essential for sustaining life on Earth. It is intricately linked to the generation of value for society and the economy. However, biodiversity is currently facing mounting pressures and challenges. Wildlife populations are declining, ecosystems are experiencing degradation, and finite resources are being depleted at an alarming and ever-accelerating pace.

This concerning situation is intricately tied to socio-economic activities, the expanding global population, and the escalating demand for resources. As a result, approximately two-thirds of the Earth's marine area and 75% of its land area have been significantly impacted or altered by human activities[44].

The current state of biodiversity loss has reached such alarming levels that the point of no return or system collapse is rapidly approaching. Such is the interdependence between human beings and the natural environment that a collapse in the species we depend upon or the environment we inhabit could have more devastating consequences than economic or health crises, or the impacts of climate change.

The primary factors fuelling the decline and depletion of global biodiversity are the widespread alterations in land and ocean use, which encompass habitat loss and degradation; overexploitation; climate change; pollution; and the introduction of invasive species[45] also significantly contribute to this alarming trend. It is important to recognise that these threats predominantly arise from various socio-economic activities.

In light of the pressing issue of biodiversity loss, it is imperative for all businesses to embrace a commitment to foster an economic system that decouples economic growth from the degradation of natural resources. This entails recognising the need to operate within planetary boundaries while simultaneously ensuring social development.

Redeia is dedicated to establishing a sustainable business model that recognises the importance of biodiversity, natural capital, and the ecosystem services they provide to society. This acknowledgment serves as a fundamental pillar of its business strategy. The Company is keenly aware of the risks associated with biodiversity loss and is committed to directing its activities towards generating a positive impact on biodiversity by adhering to the principles of the mitigation hierarchy.

In order to achieve its objectives, Redeia continually strengthens and optimises its efforts and resources in the realm of biodiversity and sustainability. The Company is committed to maximising efficiency in its pursuit of the proposed goals, by leveraging its environmental policy and through its unwavering commitment to biodiversity conservation.

[43] Definition provided by Natural Capital Coalition: "Natural capital is another term for the stock of renewable and non-renewable resources (e.g., plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people."

[44] Global Assessment Report on Biodiversity and Ecosystem Services (IPBES, 2019).

[45] Living planet report 2020 (WWF, 2020).

7.2.1 Commitment to Biodiversity

The protection and conservation of biodiversity have consistently remained a top priority within Red Eléctrica's environmental management framework and the Company places great emphasis on this crucial aspect and has established a **specific Commitment** that encompasses the implementation of biodiversity principles. Looking ahead to 2030, Red Eléctrica has set an ambitious objective to generate a **net positive impact on biodiversity** and natural capital within the surroundings of its new facilities.

The scope of the biodiversity commitment covers the Company's own operations as well as those of its suppliers and partners.

The commitment is underpinned by 5 priority courses of action:

- Positive leadership in biodiversity.
- Management of risks and opportunities related to natural capital and biodiversity.
- Positive impact on habitats and species.
- Increasing biodiversity knowledge and promoting actions.
- Promoting the reduction of the biodiversity impact within the supply chain.

By way of these five courses of action, Redeia seeks to strengthen and implement mechanisms to achieve a **positive impact** on biodiversity and 'Living in Harmony with Nature' (2050 Vision of the United Nations Convention on Biological Diversity).

With this goal, the group participates and collaborates with the public administration, NGOs and other stakeholders on different projects that promote the development of the environmental and social landscape, mainly focused on the aspects most closely related to the Company's business activities.

Explicitly, and as part of both its Biodiversity Commitment its Commitment to Combat Climate Change, Redeia also has a specific Commitment to protect vegetation and fight against deforestation in the execution of its activities and those of its supply chain.

The correct selection of the location for the siting of infrastructure, the adequate design of facilities and the application of the preventive and corrective measures during its construction and maintenance make it possible to avoid and reduce the impact on vegetation as much as possible, without causing a significant loss of forested areas and ensuring that the group's activities do not have a deforestation impact, and therefore, prevent an impact on biodiversity.

7.2.2 Objectives related to Biodiversity Conservation

In accordance with the guidelines of the Natural Capital Protocol and given the interdependence relationship of the activities of Redeia with society, Red Eléctrica has defined its **Biodiversity Roadmap** with a 2030 horizon focused on **natural capital**.

The Roadmap consists of five strategic axes that are carried out through specific courses of action, and which have concrete measures and actions defined.

The two supporting axes (governance and management) set the framework for the coordination, implementation and monitoring of the Roadmap. They also cover issues related to governance, financing, accounting and assessment, reporting and management of risks and opportunities in natural capital. Regarding assessment, it should be noted that work will be carried out on the validation and application of the methodology and analysis of responsible assessment of natural capital based on ecosystem services, designed in recent years.

The three operational axes include actions aimed at creating social and environmental value and creating a positive impact on biodiversity:

- **Habitat and species**: actions aimed at protecting and conserving relevant habitats and species and extending the application of the mitigation and conservation hierarchy to all the group's activities.
- **Social value**: the contribution to social development is addressed through environmental awareness and training actions, in addition to collaboration with public entities and other stakeholders. Of particular note is the course of action aimed at developing the green economy in rural, urban and industrial environments based on the sustainable management of natural capital.
- **Supply chain**: measures aimed at reducing the impact of the group's supply chain on biodiversity.

A series of objectives related to biodiversity have been defined with a scope extending to 2025, aiming to work towards the goal of achieving a positive impact **on biodiversity** by 2030 **in the areas where we conduct our operations**.

Scope of action	Objectives for 2025
Measurement and valuation of the impact on biodiversity	• Implementation of a financing accounting assessment system regarding natural capital in biodiversity in Red Eléctrica. • 100% of the group's companies in the electricity business with a baseline regarding the potential impact on biodiversity.
Biodiversity-related risks and opportunities	• Identification of risks and opportunities for natural capital and biodiversity in Red Eléctrica. • 100% of critical spans marked with bird-saving devices.
Habitat protection and restoration: protected areas or areas of high biodiversity value	• Carrying out emission offsetting projects, associated with the Commitment to protect vegetation and combat deforestation, for 100% of investment projects.
Recovery and conservation of vulnerable and endangered species	‣ Recovery projects for 10% of the faunal groups with marine and terrestrial focal species.
Eradication of invasive species associated with electricity transmission infrastructure	‣ Prevention and control plans for invasive species for at least 30% of the identified area.

Electricity infrastructure as a biodiversity reservoir	• 20% of the km of electricity lines in Spain identified as 'Biodiversity Islands', consolidated as a biodiversity reservoir and corridor, and a tool for adaptation to the effects of climate change.

The results obtained in 2022 are included in the annex: 'Environmental Actions 2022' of this environmental statement.

Red Eléctrica is working on the development of a methodology for quantitative valuation of impacts (negative and positive) on biodiversity, which will allow progress to be measured and will ensure compliance with the 2030 target of net positive impact on biodiversity.

7.2.3 Impacts and Ecosystem Services

Although there are key economic sectors that have a high impact on biodiversity, in the case of Redeia, specifically in the business activity of electricity transmission, it is not among the productive sectors that contribute the most to direct impacts on biodiversity.

To avoid, minimise, and effectively address any potential impacts that may arise from activities, products, and services throughout the life cycle of the facilities, the materiality (*High, Medium, or Low*) of potential impacts on nature and biodiversity has been identified and established.

The ultimate goal is to continue developing the most effective strategies to avoid, minimise, remediate, or offset the associated impacts, in line with the mitigation hierarchy included in the Biodiversity Commitment of Redeia.

The potential impacts or effects stem from actions carried out in each phase of the activity (mainly related to construction, operation, and dismantling). Based on these actions, a series of significant potential impacts on biodiversity resulting from the activities carried out by Red Eléctrica have been identified.

To identify and evaluate the most relevant impacts for the electricity transmission activity, an internal assessment was conducted, identifying the environmental impacts and the aspects of the environment that are most significantly affected.

As a result of this exercise, a matrix of materiality or relevance of environmental impacts on biodiversity was obtained, which includes natural assets such as habitats, species (flora and fauna), and landscapes that experience greater impacts due to the activities of the Company.

To validate the work carried out, the results were cross-checked with the results of other tools available in the market that work towards the same objectives and with the same guidance.

The ENCORE[46] tool has been mainly used, adjusting it as closely as possible to Red Eléctrica's business model (*Utilities, Electric Utilities, Electric Transmission and distribution*).

The main differences between the ENCORE analysis and the internally conducted expert-based analysis lie in the categorisation of the 'species' asset, which, contrary to the internal materiality analysis, decreases from High to Medium relevance. Additionally, the 'atmosphere' asset, classified as Medium relevance in the internal analysis, is characterised by ENCORE as highly relevant.

As an explanation for this disparity, it is important to note that ENCORE's results are global in nature and cover the entire electricity sector, with a particular focus on the transmission and distribution of electricity from hydroelectric, thermal, and nuclear power stations. For this reason, natural assets such as the atmosphere or species may have variations in their assessment compared to the internal analysis.

[46] ENCORE: Exploring Natural Capital Opportunities, Risks and Exposure. ENCORE identifies the impacts and dependencies of this business model on the natural assets of natural capital. *https://encore.naturalcapital.finance/es*

Matrix of materiality or relevance of impacts on biodiversity

Aspect	Potential impact	Materiality of the impact[47]	Description of the impact on biodiversity
Consumption of resources and the generation of waste	• Consumption of raw materials by the supply chain necessary for the manufacturing of equipment and materials used by the activity in its different phases. • Generation of hazardous and non-hazardous waste	M	The environmental impact generated by the extraction and use of certain natural resources (renewable and non-renewable) and the dependence of businesses on this environmental asset makes it necessary to develop specific actions for an efficient use of natural resources and the waste generated after their use and consumption, under a circular economy vision.
Habitats, species	• Destruction and/or alteration, modification of terrestrial and aquatic habitat conditions. • Fracturing of ecosystems • Displacement of species • Collision of birdlife with grounding cables. • Elimination of protected vegetation/flora (opening of safety corridors, accesses, buried cables). • Occurrence and spread of fires	H	The transformation and occupation of habitats causes positive and negative impacts on flora and fauna, as well as on the ecosystems they form. The main negative effects on biodiversity, both terrestrial and marine, are associated with the construction and maintenance phase. The main direct impact on biodiversity is caused by the collision of birdlife with grounding cables associated with overhead transmission lines.
Air quality	• Dust and particulate emissions during the construction phase. • Emissions of combustion gases from vehicles.	L	Construction and operation activities can sometimes generate negative effects on ecosystems and society due to emissions of pollutants or suspended particles, which influence the loss of air quality in the environment. This effect is residual and occurs mainly during the construction phase, being very limited to a specific point and its accesses.
Noise	• Noise emissions from the transit of machinery on land, use of vessels at sea that during construction and maintenance generate nuisance or adverse effects on species and the population.	L	Construction and operational activities can sometimes lead to negative impacts on ecosystems and society through noise emissions, resulting in loss of comfort and disruption of species' behaviour and people's quality of life.

[47] Materiality of the impact: L=Low; M=Medium; H=High

Aspect	Potential impact	Materiality of the impact[48]	Description of the impact on biodiversity
Soil	• Change in the use of land • Soil compaction • Erosion • Deterioration of the soil environment • Variations in soil quality due to accidental spills of oils and fuels.	H	Land occupation and transformation causes negative and positive impacts on flora and fauna. Occasionally, during the construction, operation and maintenance phases of facilities, there may be events of emission of polluting substances that affect soils and/or ground, surface or marine waters due to leaks or spills, thus degrading ecosystems that are transformed and/or fragmented.
Water	• Damage to waterways due to the passage of machinery • Interruption/modification of the drainage network • Variations in water quality due to accidental spills of oils and fuels.	L	Occasionally, during the construction, operation and maintenance phases of facilities, there may be events of emission of polluting substances that affect soils and/or ground, surface or marine waters due to leaks or spills, thus degrading ecosystems that are transformed and/or fragmented.
Landscape	• Visual impact • Loss of landscape quality • Artificialisation of land	H	Landscape impact. The transformation that takes place in the territory due to the installation of transmission lines, electricity substations and other associated overhead infrastructure causes visual impact and occasional alteration of the vegetation cover, affecting the cultural value of the territory and its social perception.
Greenhouse gas emissions	• SF_6 emissions • CO_2 emissions	M	This impact is linked to the increase in greenhouse gas emissions, contributing to a greater or lesser extent to climate change throughout the value chains, either by generating direct emissions derived from their activity or indirect emissions by affecting natural elements that contribute to mitigating climate effects.
Electromagnetic fields	• Generation of electric and magnetic fields	L	During the operation phase, species such as migratory birds, bats and certain fish and insects, which strongly depend on magnetic fields for their orientation or migration, could be affected in their behaviour if there are changes in these fields. Electromagnetic field emissions from electricity lines (overhead and underwater) and substations are not sufficient to generate behavioural variations in species or harm people.

[48] Materiality of the impact: L=Low; M=Medium; H=High

Lastly, based on the analysis conducted and the comparison with tools and published studies that examine natural capital and ecosystem services, the **priority ecosystem services** associated with the activity were identified in terms of their **high materiality**. The identification and categorisation of ecosystem services are based on the Common International Classification of Ecosystem Services (CICES)[49].

High Materiality Impacts	Priority Ecosystem Services	CICES Code	Ecosystem Service
• *Destruction and/or alteration, modification of terrestrial and aquatic habitat conditions.* • *Fracturing of ecosystems* • *Displacement of species* • *Collision of birdlife with grounding cables.* • *Elimination of protected vegetation/flora* • *Occurrence and spread of fires.*	**Biodiversity conservation**	**2.2.2.3**	Maintaining nursery populations and habitats
		3.2.2.1	Characteristics or features of living systems that have an existence value
		N/A	Habitats and their role in protecting people from fire
		3.2.2.2	Characteristics or features of living systems that have a bequest value
	Relevant supply services (food, water, timber, fisheries...)	**1.1.1.1**	Cultivated terrestrial plants grown for nutritional purposes
		1.1.1.5	Cultivated plants grown for nutritional purposes by in- situ aquaculture (freshwater or saltwater)
		1.1.1.2	On-farm or open-range reared livestock for nutritional purposes
		1.1.1.6	Livestock reared by in-situ aquaculture (freshwater or saltwater) for nutritional purposes
		1.1.1.3	Food from wild plants
	Climatic Regulation	**2.3.5.2** **2.2.3.2**	Physical air quality regulation by habitats for humans
	Carbon sequestration (foliage, shrub and soil structure)	**2.3.5.1**	Regulating our global climate (fixing atmospheric CO_2)
	Regulation of liquid flows	**2.2.2.1** **2.2.2.2**	Regulating the flows of water in our environment

[49] https://cices.eu/

	Regulation of mass flows	**2.2.1.1**	Controlling or preventing soil loss
	Pollination	**2.2.2.1**	Pollinators and seed dispersal
	Intellectual and representative interactions with the natural environment	**3.1.2.1**	Characteristics of living systems that enable scientific investigation or the creation of traditional ecological knowledge
		3.1.2.2	Characteristics of living systems that enable transfer of inherited education and training in theoretical-practical skills
		3.1.2.3	Characteristics of living systems that are resonant in terms of culture or heritage
		3.2.1.2	Elements of living systems that have sacred or religious meaning
	Recreational services	**3.1.1.1**	Using the environment for sport and recreation or other social uses; using nature to help stay fit
• *Change in the use of land* • *Soil compaction* • *Erosion* • *Deterioration of the soil environment* • *Variations in soil quality due to accidental spills of oils and fuels.*	**Regulation of mass flows**	**5.2.1.1**	Physical barriers or land formations to regulate landslides
	Regulation of liquid flows	**5.2.1.2**	Physical barriers or geomorphological formations to regulate run-offs
• *Visual impact* • *Loss of landscape quality* • *Artificialisation of land*	**Physical and experiential interactions with the natural environment**	**6.1.1.1**	Things in the physical environment that we can experience actively
		6.1.2.1	Things in the physical environment that we can experience passively
		6.2.1.1	Things in the physical environment that are important as symbols
		6.2.2.1	Things/Elements in the physical environment that we think are important to others and future generations

7.2.4 Biodiversity Dependencies

Dependencies[50] can be defined as 'those assets and ecosystem services that enable the viability and sustainability of business models'.

By identifying dependencies on natural capital and biodiversity, an organisation can effectively assess and understand the potential risks it may face and develop appropriate strategies to mitigate such risks arising from these dependencies. Failure to take these dependencies into account throughout the life cycle of infrastructure can lead to operational, social or market, legal or financial risks.

In this case, the assessment criteria indicated by the SBTN[51] and the TNFD[52] proposal, and the guidelines provided by the ENCORE tool were used. These were then reviewed internally with expert judgement based on the specific solutions adopted at each stage of the activity.

The dependencies considered material based on the criteria indicated by the SBTN are attributable, in relation to the main direct activities, to the ecosystem services necessary for the operation of the infrastructure, as summarised in the following table:

[51] Science Based Targets Network

[52] Taskforce on Nature-related Financial Disclosures

Dependency	Materiality[53]	Description of the ecosystem service	Natural assets[54]
Climate regulation	M	Global climate regulation is provided by nature through the long-term capacity to store carbon dioxide in soils, plant biomass, and the oceans. On a regional scale, climate patterns are regulated by the intricate interplay of ocean currents and wind systems. while, at local and micro level, the presence of vegetation has the power to influence and modify temperature, humidity, and wind speeds.	• Atmosphere • Habitats • Soils and sediments • Species • Water
Protection against flooding and storms[55]	H	Flood and storm protection is provided through the shelter, buffering and attenuation effects of natural and planted vegetation.	• Habitats
Stabilisation and erosion control	H	Erosion stabilisation and control is achieved through protection by vegetation cover and stabilising terrestrial, coastal and marine ecosystems, as well as wetlands and coastal dunes. Vegetation on slopes also prevents avalanches and landslides. Mangroves, seaweed and macroalgae provide protection against coastal erosion.	• Habitats • Geomorphology of the soil • Soils and sediments

Regarding the upstream supply chain, it was identified that primary dependency lies in the use of raw materials, both mineral and non-mineral, for the construction and operation of electricity transmission lines (both overhead and underground), substations, equipment, etc.

Lastly, a high indirect (or Scope 2[56]) dependence on ecosystem services linked to the natural asset 'landscape' was identified when mitigating ecosystem services linked to the visual impact that transmission lines may generate, in order to avoid future social conflicts.

[53] Dependency materiality: L=Low; M=Medium; H=High;

[54] Natural assets providing ecosystem services

[55] In ENCORE this dependency had a materiality of very high for the subservice 'Transmission and distribution of electricity'.

[56] Scope 2: Indirect dependencies. Dependencies that arise from the direct impact of an operation on specific elements of natural capital, such as assets or ecosystem services. These dependencies are critical as they can potentially jeopardise the maintenance, regulation, and provisioning functions of the ecosystem, which in turn may have significant consequences for stakeholders and local communities in close proximity to infrastructure related to the business. (Process or operations approach).

7.2.5 Tools and methodologies to address biodiversity impacts and dependencies

The main tools and methodologies currently in place in Redeia to address biodiversity impacts and dependencies are shown below.

Tools or methodologies to address biodiversity impacts and dependencies	
The consumption of resources and the generation of waste	• Circular Economy Roadmap. • Responsible supply chain: Supplier Code of Conduct under the group's sustainability principles. • Specific criteria for suppliers regarding environmental impacts in terms of climate change, biodiversity, soil and water impact, and waste generation.
Habitats, species	• Commitments to Biodiversity. • Commitment to protect vegetation and combat deforestation. • Biodiversity Roadmap • Methodology for analysis and quantification of impacts and dependencies of Red Eléctrica´s ecosystem services. • Methodology for calculating the biodiversity baseline in terms of natural capital. • Multi-annual line marking plan for 2016-2023 to reduce the risk of bird collisions. • Plans to reduce the risk of forest fires alongside electricity transmission lines. • Supply chain: setting requirements for suppliers with respect to biodiversity impacts.
Soil and water	• Environmental monitoring programmes applied in the construction of the facilities and in the first years of their operation, in addition to guaranteeing the implementation and effectiveness of the environmental measures established. • Methodology for the assessment of environmental risks in substations and regarding overhead and underwater cables. • Emergency Intervention Service in the event of environmental accidents.
Impact on the landscape	• Landscape analysis and integration methodology to assess the landscape impact of future facilities and to facilitate decision-making to avoid impacts on the environment and local communities. • Methodology for analysing the visible impact of electricity lines.
Contribution to climate change	• Climate Change Commitment • Climate Change Action Plan. • Calculation of the Company's carbon footprint. • Alignment with climate risk measurement and reporting tools (TFCD). • Climate risk management, measurement and monitoring tools to detect opportunities.

In addition to the aforementioned tools, various projects are implemented to further contribute to the objective of achieving a positive impact on natural capital.

7.2.6 Biodiversity Risks

Red Eléctrica has established a Comprehensive Risk Management System that facilitates compliance with the group's strategies and objectives, ensuring that the risks that could affect the group are identified, analysed, assessed, managed and controlled systematically, with uniform criteria and within the acceptable level of risk approved by the Board of Directors.

Said Management System is implemented and applied in accordance with the ISO 31000 standard on risk management principles and guidelines and has a comprehensive and ongoing approach that consolidates risk management by business unit, subsidiary and support areas at a corporate level.

In addition, the Company has a Comprehensive Risk Management Policy that was reviewed and updated during 2021. Furthermore, it has a General Comprehensive Risk Management and Control Procedure, based on the comprehensive Enterprise Risk Management (ERM) framework established by COSO (Committee of Sponsoring Organisations of the Treadway Commission). The approach in the case of those related to biodiversity is aligned with such guidelines.

The assessment and management of biodiversity risks related to identified impacts and dependencies are integrated into multidisciplinary risk management processes throughout the Company. In the case of biodiversity risks, an approach aligned with the guidelines set out in the TNFD and SBTN proposal began to be implemented in 2022.

The Company has a taxonomy or classification of risks in order to facilitate a more complete identification of threats and to allow a more detailed analysis. This structure allows the risks identified to be classified into three levels of aggregation (Operational, Financial and Strategic). Operational risks include environmental risks, and therefore those related to biodiversity, linked to the Company's activities and assets in service in the environment in which the activities are carried out.

The biodiversity risks identified are the following:

	Risks to biodiversity	Level of risk[57]
1OPE06	Impact on vegetation due to fire (Habitats)	
1OPE07	Impact on birdlife regarding transmission grid facilities (Species)	
1OPE16	Contamination of soil and/or ground, surface or marine water due to leaks or spills of oils, fuels and hazardous substances (Soil)	

In the case of the dependencies identified, the risks that could derive from them are initially aligned with some of the **physical risks** identified (acute in the short and medium term and chronic in the long term) associated with climate change. In the case of climate risks, the Company follows the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) in their management and has a methodology for their identification, prioritisation and financial quantification.

[57] The risk management system establishes a methodology for the determination of the risk level so that all risks are individually classified into three categories: high (red), medium (yellow) and low (green).

	Associated risks[58]	Classification	Potential impact on the business
Physical risks	Impact on outdoor facilities (electricity lines) due to extreme events (*wind, storms, etc.*).	High 	• Damage to infrastructure. • Increase in maintenance cost. • Impact on the electricity supply. • Reputational impacts, associated with power outages. • Impacts on third parties or the environment (in the case of fire).
	Fires beneath electricity lines and in the vicinity of electricity substations.	Medium-high 	
	Damage to infrastructures, associated with desertification conditions (erosion).	Medium-low 	• Damage to infrastructure. • Increased maintenance costs. • Reputational impact associated with poor infrastructure condition.

RISKS AND IMPACTS ON BIODIVERSITY IN THE SUPPLY CHAIN (*upstream activities*)

Redeia has an impact matrix for the supply of equipment and/or materials, as well as for the supply of services and works. In total, twenty types of impact have been identified, nine of which are in the environmental scope. The environmental scope includes **potential impacts and risks on biodiversity**.

The main risks are managed through the management systems in place and via regular audits, after which recommendations and points for improvement are identified, analysed and implemented in order to continuously improve processes. In the event that a high impact is identified, the Company can establish an action plan with the supplier, closely monitoring its implementation and reserving the right to take action if necessary.

The identification and prioritisation of the risks and impacts of the supply chain have been instrumental for the Company in establishing effective controls to minimise them. In this regard, for each of the risks identified, including those **affecting biodiversity**, the organisation implements a comprehensive approach that encompasses qualification, monitoring, development, and training of suppliers. The Company also identifies the impacts and effects on biodiversity associated with each of the incidents managed in order to have more information and be able to measure the impact of such incident.

NATURAL CAPITAL AND ENERGY WORKING GROUP

In order to deepen the analysis of the company's short and long term risks and opportunities, Redeia works in the Natural Capital and Energy Working Group, promoted within the framework of the Sectorial Groups of the Natural Capital Factory[59] (the Spanish hub of the Capitals Coalition), having published the Guide "Natural Capital and the Spanish Energy Sector"[60] which sets out the nexus between natural capital and energy, the methodology for assessing the degree of relevance of the value contributed by natural capital to the activities and sub-activities carried out by the working group´s member companies, a qualitative matrix, on a sectoral scale and by technology, of the impacts (negative and positive) and dependencies of natural capital in the Spanish energy industry, and a detail of the main impacts (negative and positive) and dependencies of natural capital in the Spanish energy industry.

[58] Risks identified as high, medium-high and medium-low in the business context of the Company are included. Risks rated as high or medium-high are considered relevant.

[59] https://naturalcapitalfactory.es/grupos-sectoriales/

[60] https://capital-natural.es/

7.2.7 Measures to reduce dependencies and impacts on biodiversity

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 using the hierarchy of impact mitigation approach. 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.

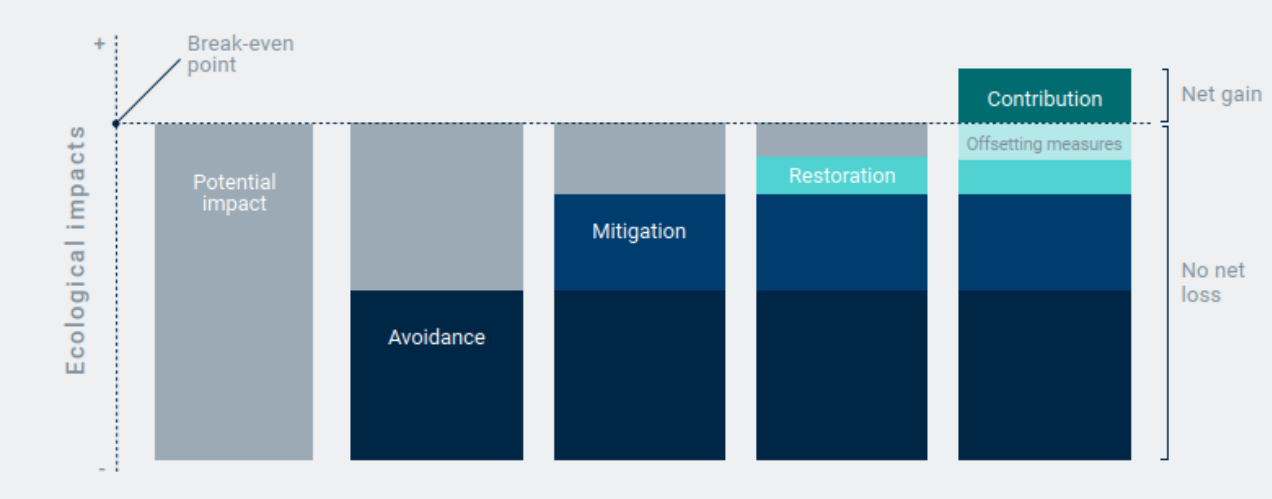
However, bearing in mind that 25% of the surface area of Spain has some form of environmental protection, it is inevitable that in some cases infrastructure will cross or be located in protected areas or areas with species of interest.

On these occasions, Red Eléctrica implements all the preventive and corrective measures required to **reduce** the possible impacts on habitats and species, including **restoration** measures of affected areas, where possible, or **regeneration** measures that improve the biophysical function of existing processes and the productivity of the ecosystem.

The Company carries out different environmental improvement actions aimed at promoting biodiversity in the vicinity of its facilities/infrastructure, promoting and collaborating with the administration, non-governmental organisations, research bodies and other stakeholders 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 and that contribute to generating **positive impacts**.

Currently, Red Eléctrica's facilities occupy only **0.08%** of the Spanish Natura 2000 Network. Of all existing infrastructure, only **15.45%** of total lines and **5.67%** of substations are located in protected areas (Natura 2000 Network).

Work is underway on the application of a methodology for the calculation of the biodiversity baseline, in terms of natural capital for both new projects to be carried out as of 2023 and for the facilities under maintenance. In parallel, work is being carried out on the development of a methodology for quantitative assessment of impacts (negative and positive) on biodiversity that will enable progress to be measured and ensure compliance with the 2030 target for net positive impact on biodiversity.



- **MAIN MITIGATION MEASURES ADOPTED**

Throughout the life cycle of both its activities and the different development phases of its facilities, Red Eléctrica establishes a series of mitigation measures aimed at reducing the dependencies and impacts on biodiversity. The following are examples of the most important mitigation measures it carries out:

	Main AVOIDANCE measures
Avoid	• Introduction of modifications in the design and layout of the facilities to minimise the impact on vegetation and birdlife: compaction or increasing of the height of towers, movements of towers, modification of access roads, etc.
	• Prior surveys to identify the presence of protected fauna and flora.
	• Detailed field studies on specific issues related to biodiversity, such as reports on the impact on protected areas
	• Construction of decanting ponds and filters to avoid contamination of waterways.
	• Use of sensitivity and risk maps that identify both species sensitive to collision with grounding cables and the habitats or areas where they can be found and sensitive areas where there are factors that influence the probability of accidents occurring (Mapping of Bird Flight Paths project).
	• Signposting/Marking-off and protection of habitats and specimens of ecological value to prevent them from being damaged during the execution of the works.
	• Use of construction techniques that minimise earthworks and land occupation (reduction in the opening of accesses, the size of work areas and stock-pilling areas): hoisting with a boom crane, hanging of cables by hand or carrying out conductor-laying work with helicopters or drones.
	• Recovery of topsoil and its storage for use for landscaping actions.
	• Transplanting of species that may be affected by the work to other areas.
	• Biological stoppages in all the works during the breeding or nesting periods of species that may be affected by such work. In 2022, biological stoppages have been implemented in 12 works in progress, some of which have lasted up to 7 months
	• Stoppage of work during periods or situations of high fire risk.
	• Provision of resources and specific training for the prevention of forest fires

	Main REDUCTION measures
Reduce	• Recovery of affected areas by restoring slopes, sowing, and planting.
	• Carrying out selective pruning, avoiding felling of wooded and leafy areas and plant formations of interest.
	• Preventive clearing in forested areas that represent a fire risk: elimination of scrub associated with pastures that have high density and height.
	• Mapping and characterisation of all priority habitats (sites of community interest - SICs) and other plant formations of interest in the vicinity of 100% of the transmission lines. All this data will be consolidated in the corporate geographic information system (GIS). (Habitat Project).
	• Implementation of a multi-year (2016-2025) line marking plan for overhead transmission lines that involves the installation of bird flight diverters in critical birdlife priority areas.
	• Early detection system for the collisions of birds with high-voltage power line, through devices installed on the grounding cables of the lines and connected to its internal fibre optic cable, it will be possible to obtain early information that could favour the recovery of individual birds that have collided with the lines and that are still alive. (Proyecto ALERION).
	• System for the early detection of forest fires, using the towers of the transmission lines and by means of sensors based on the Internet of Things technology, which captures the radiation emitted by the fire and automatically sends warnings to the system operator, reducing the reaction time of firefighting agents, with a consequent reduction in costs and environmental and personal damage. (PRODINT System).
	• Integrated management of each type of habitat identified with the aim of guaranteeing correct management and preservation during the maintenance of the facilities.

	Main RESTORATION measures
Restore	• Projects for the conservation of focal birdlife species [61]
	• Redeia Forest: 993 ha of surface area recovered/restored *2009-2022* *In 2022:* ○ *Forest restoration in Vizcaya: 14.23 ha reforested and recovery of 105 ha of beech forest (planting, forestry works and fencing off the area).* ○ *Navarra Forest: 47.37 ha recovered.* ○ *Ávila Forest: 30.22 ha recovered.*
	• Marine restoration (Posidonia Oceanica): 2 ha recovered. Currently, under scientific control and monitoring (Majorca Marine Forest).
	• Mareta del Río marsh/wetland restoration project (in Tenerife in collaboration with SEO BirdLife).
	• Eradication of invasive species - Pampas Grass (*Cortaderia seollana*) – in collaboration with SEO BirdLife.
	• Eradication of invasive species – Elephant Grass (*Arundo donax*) - in collaboration with Fundación Limne.
	• Research on invasive species – microalgae (*Rugulopteryx okamurae*) – in collaboration with the University of Seville.

	Main REGENERATION measures
Regenerate	• Management of the surface area of the safety corridors of transmission lines as a connector between natural spaces favouring the mobility of species under pressure from fragmentation and habitat reduction. In addition, other more generalist species (without dispersal problems) would benefit from the presence of a varied ecosystem, increasing biodiversity in the area. (*BIORED-Green Infrastructure Project*).
	• Use of electricity towers as biodiversity islands (stepping-stones), generating an increase in the abundance and biodiversity of birdlife as well as in the number of micromammals and invertebrates (mainly pollinators). (*Biotransporte Project*[62]).
	• Boosting the potential of the transmission grid as a corridor and reservoir of biodiversity by studying the biodiversity associated with the safety corridors and the base of the electricity line towers. (*Proyecto Naturaleza en Red*).
	• Maintenance of vegetation beneath high voltage electricity lines with extensive livestock farming (*Pastoreo en RED Project*). This project has been qualified as a nature-based solution according to the IUCN standard
	• Incorporation of green spaces in urban and industrial environments into the network of green corridors in corporate buildings. (*Life BooGi-BOP Project*)

[61] For further information about specific projects, please refer to section 7.2.7.3.2 of this EMAS Environmental Statement

[62] In 2022, the project was awarded the Good Practice of the Year Award by RGI (Renewables Grid Initiative)

- **TRANSFORMATION**

As part of its commitment to biodiversity, Redeia undertakes actions aimed at driving cultural transformation and focused on contributing to change in the system and tackling the fundamental causes or factors that drive the loss of nature.

The Company maintains commitments and collaboration frameworks, as well as alliances in biodiversity conservation, with the competent areas of the state administration and other organisations in the different autonomous communities. Other alliances with benchmark organisations are also worth mentioning. In this way, the aim is to increase the ambition for action on the part of all those involved in protecting nature an fighting against climate change.

	Main TRANSFORMATION measures	
Transform	**Commitments and Memberships**	• Biodiversity Pact. Spanish Initiative for Business and Biodiversity (IEEB)[63] promoted by MITERD[64]. • Business for Nature Initiative. • Adherence to the Global Compact's Principles for a Sustainable Ocean. • Adherence to the European Grid Declaration on Grid Development and Nature Conservation. • Signatory of the European Marine Grid Declaration. • Global Compact's Sustainable ocean principles. • Transnational Strategy to fight against Cortaderia selloana (pampas grass) in the Atlantic Arc. • Forest fire prevention agreements with 10 Regions (Autonomous Communities).
	Working Groups	• Biodiversity working group – with MITERD's Sub-directorate General for Terrestrial and Marine Biodiversity. • Natural Capital in the Spanish energy sector, Natural Capital Coalition. • Natural Capital of the Spanish Green Growth Group. • ISO Committee CTN 328 Biodiversity.
	Alliances and Collaboration frameworks	• SEO BirdLife (Spanish Ornithological Society). • IUCN (International Union for Conservation of Nature) Centre for Mediterranean Cooperation. • Global Nature Foundation. • Agreements regarding the conservation of species with various entities in the Third Sector.
	Corporate Volunteering	• *Basuraleza* Project.[65] • Nesting boxes and feeding platforms for birds. • The 'Naturalist" Diary.
	Communication and transparency	• Environmental section and Biodiversity subsection on the corporate website. • Sustainability Report. • EMAS Environmental Statement.

[63] Red Eléctrica is a member of this initiative since 2013.
[64] MITERD: Ministry for the Ecological Transition and the Demographic Challenge
[65] *https://proyectolibera.org/*

7.2.7.1 Protection of birdlife

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

In 2022, 674 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 **18**% (5,329 km of line marked).

Thanks to the 'Birds and power lines: mapping of bird flight paths' project, which was updated in 2021, the Company identified a set of focal species prone to collision and selected them according to various criteria (52 species) and drew up sensitivity maps (areas where these species may be found and which must be considered for the definition of new power line routes) and risk maps (sensitive areas where there are also factors that influence the probability of accidents occurring).

Based on this information, the 2016-2025 multi-year line marking plan was defined, which prioritises actions on the sections of line with the greatest potential impact on birdlife. It is expected that the progressive marking of the lines will reduce the potential risk of collision with the electricity transmission grid to 39.7%.

Collaboration with regional administrations and the development of specific projects makes it possible to update this line marking plan and incorporate risk areas or line sections to be marked when deemed necessary. In 2022, noteworthy was the analysis of the flight paths and transit areas of the Bearded vulture, which was developed in collaboration with the Bearded vulture Foundation and has resulted in the marking of 86 km of line in the Picos de Europa area, for the specific protection of this species.

The line sections that have been identified as having a ‘critical’ priority (level 5), total 972.1 km in length, of which 681,2 km have already been marked, which represents **70.1**% of the target set. 291 km are yet pending to be marked.

Red Eléctrica also works on other relevant projects in relation to preventing birdlife collisions.

In addition, work is being carried out on the development of tools for collision detection, in particular, the ALERION project. Through devices installed on the fibre optic cable included in the grounding cable, it will be possible to obtain early information that could favour the recovery of individual birds that have collided with the lines and that are still alive.

7.2.7.2 Protection of habitats and species

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 minimise the risk of fires that may occur during the operation of the electricity line.

Among the **measures applied to protect habitats and species**, noteworthy are the following:

- Detailed field studies on specific issues, such as impact reports for Red Natura 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 filtering systems to prevent contamination of waterways.
- Signage and protection of habitats and species of ecological value to avoid them being harmed when carrying out works.
- Use of construction techniques that minimise earthworks and land occupation (reducing the opening up of access roads, size of worksites and storage areas for materials): hoisting structures with a boom crane, hanging of line by hand, or carrying out works using helicopters or drones. In addition to significantly minimising the impact on vegetation, the use of drones implies a saving in emissions associated with the works.
- Transplanting of flora species affected by the work to other areas to be replanted.
- Biological stoppages in 100% of the works during breeding or nesting periods to reduce impacts on the fauna that may be affected. In 2022, stoppages were carried out in 12 ongoing actions, some of which lasted up to 7 months.
- Stoppage of works in periods or situations of high fire risk.
- Provision of resources and specific training for the prevention of forest fires.
- Recovery of affected areas: restoration of slopes, sowing of seed and the planting of flora.
- Accompanying measures and the development of specific projects to improve biodiversity in affected areas.

The specific measures that are noteworthy regarding the protection of habitats and species during 2022 are included in the Annex: '*Environmental Actions 2022*' of this environmental statement.

7.2.7.3 Contribution to Biodiversity Conservation

Red Eléctrica actively contributes to the conservation of biodiversity, implementing various environmental improvement measures and promoting different projects for this purpose.

In general, initiatives focus on those aspects of biodiversity most closely related to the impacts of the Company's activities. For this reason, they are mainly focused on the conservation of habitats and the preservation of birdlife, specifically for focal species (those most prone to colliding with the lines).

In addition, the Company has launched various projects aimed at determining and enhancing the capacity of infrastructure as a biodiversity reservoir and a generator of natural capital.

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

7.2.7.3.1 Noteworthy Projects regarding the Protection and Conservation of Habitats

- **Habitat Project**

The Habitat Project was developed and implemented with the aim of guaranteeing the correct management and preservation of priority habitats/sites of community importance (SCI) and other plant formations of interest when performing maintenance work on the Company's facilities/infrastructure. In collaboration with the different regional government administrations and experts in the field, all the vegetation formations that are present in the vicinity of 100% of the transmission lines in Spain were mapped and characterised and are now consolidated in a data layer compatible with the corporate geographic information system. Additionally, an integrated management scheme is available for each type of habitat, therefore facilitating decision-making when carrying out the work.

- **Pampas grass (*Cortaderia seollana*).**

Red Eléctrica has adhered to the Transnational Strategy to fight against *Cortaderia seollana* in the Atlantic Arc, committing itself to work in the areas within its reach to control and eradicate this species to prevent it from spreading to areas of high environmental value. A pilot project was begun in 2021 to eliminate the grass in 2.2 ha under the Astilleros-Penagos overhead line (Cantabria), using a combination of clearing and chemical treatment and reinforcement of native vegetation, supplemented with control treatments for a period of two years. In 2022, the treatment was applied to an additional 7,000 m² under another overhead transmission line in the same region.

- **Black locust trees (*Robinia pseudoacacia*).**

This fast-growing species, which originated in America and was introduced in many temperate areas as an ornamental species, impedes the regeneration of native vegetation. During 2022, various control methods were applied under the overhead lines in the Basque Country: mixed method without revegetation on a surface area of 10,000 m² and a combination of mixed techniques with the planting of hazelnut and willow trees on a surface area of 350 m². Regrowth control measures will continue to be applied in 2023.

- **Horseshoe whip snake (*Hemorrhois hippocrepis*).**

This species arrived in Ibiza (Balearic Islands) in 2003 inside olive tree trunks imported for gardening. Since 2010, it has spread rapidly, posing a threat to the only endemic vertebrate on the island and currently in regression, the Ibizan lizard (*Podarcis pityusensis*). Its presence has been detected during maintenance work in the Bessons, Cala Mesquida and Torrent substations. The company is collaborating with COFIB (Consortium for the recovery of the fauna of the Balearic Islands) in the tasks of capturing specimens by installing cage traps.

7.2.7.3.2 Conservation Projects in relation to Focal and Threatened Species

The main objective of birdlife conservation projects is to collaborate in the conservation or reintroduction of endangered species. It should be noted that the electricity transmission grid infrastructure plays an important role as dominant surveillance points, lookout points, refuge, resting and roosting areas and even as nesting sites for some species.

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

The following is a brief summary of the **noteworthy projects carried out in 2022**

- **Use of towers by Bonelli's Eagle (*Aquila fasciata*) in Majorca.**
  Monitoring of the project for the reintroduction of Bonelli's eagles in Majorca (2015-2022) in association with the Natura Parc Foundation has confirmed that 6 individual birds use the towers, 3 of them on a regular basis.
- **Use of towers by the Golden Eagle (*Aquila chrysaetos*) in Navarre.**
  The radio-monitoring project of the Golden Eagle in Navarra (2015-2022) with the Regional Government of Navarre has confirmed the use of towers as dominant surveillance points, roosting areas and/or lookout points for stalking, by the three monitored eagle pairs.
- **Use of transmission lines by the Egyptian Vulture (*Neophron percnopterus*) in Fuerteventura.**
  The monitoring of 50 individual vultures using GPS devices (2019-2021) carried out in conjunction with the Doñana Biological Station (CSIC) has confirmed that this species prefers using towers as surveillance points and roosting platforms.
- **Osprey (*Pandion haliaetus*) nesting platforms in Cádiz.**
  Since 2010, four nesting platforms have been installed on towers in the Barbate reservoir area (Cádiz) and chicks have been ringed, in collaboration with the Migres Foundation and the Andalusian Regional Government. The osprey, which has not reproduced in Andalusia since the 1980s, is again nesting in the region. Since the installation of the nesting platforms, the hatching of 30 chicks has been recorded on Red Eléctrica towers. In 2022, 6 chicks from two breeding pairs have fledged.
- **Reintroduction** of the Osprey (*Pandion haliaetus*) in the Marjal Natural Park in the region Valencia
- **Monitoring of Bonelli's Eagle (*Aquila fasciata*)** in the region of Valencia.
- **Ex-situ conservation of the Bearded vulture** (*Gypaetus barbatus*) in Andalusia.
- **Reintroduction of the Bearded vulture** (*Gypaetus barbatus*) in the region of Valencia.
- **Monitoring, conservation and recovery of the Imperial Eagle population** (*Aquila adalberti*) in Doñana.
- **Nesting platform for Iberian Egyptian vulture** (*Neophron percnopterus*) in an electricity tower in Extremadura.
- 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.
- **Studies on the foraging grounds and movements of the Canarian Houbara Bustard** (*Chlamydotis undulata fuertaventurae*) in the Canary Islands.

7.2.7.3.3 The 'Redeia Forest'

The Redeia Forest is an ongoing project, initiated in 2009, which aims to offset part of the Company's emissions through the planting of trees and the recovery of degraded natural areas on publicly owned land, thus contributing to the conservation of biodiversity. In addition, this initiative aims to support the development of local economies by contracting the work to companies or associations in the area, as well as to raise awareness of the importance of forests by involving the local population, mainly students, and company employees.

Since the inception of this project, the Company has contributed to the recovery of 18 forests in Spain In 2022, 77,239 trees have been planted (birch, chestnut, beech, pine, holm oak, oak, poplar, walnut, ash and willow) for the recovery of 47 ha. in three public-use highland areas in Navarra and 30 ha. in two public use highland areas in Ávila.

The 'Redeia Forest' in figures (2009-2022)	
Trees and shrubs planted	812,972 units
Surface area recovered/restored	993 ha
Emissions offset	260,976 t of CO_2eq
Investment	2,743,419 €

- The 'Redeia Marine Forest'

The 'Redeia 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 (IMEDEA- CSIC-UIB) on the use of seeds or fragments of Posidonia oceanica in the restoration of degraded areas of its natural habitat.

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_2 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 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_2 uptake, as well as the associated epifauna.

In 2017 an agreement was signed (CSIC-IMEDEA-UIB, the Balearic Islands Government and the Pollensa military air base) for the restoration of 2 ha. of Posidonia in the Bay of Pollensa, with the work having been completed in 2020. IMEDEA researchers are monitoring the plantation. Periodic monitoring of the recovered area of the Marine Forest shows that the survival of the fragments varies between 94% and 98%.

To further raise awareness of the conservation of marine environments, Redeia 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. Between 2021 and 2022, 9 schools and 498 schoolchildren participated.
- Collaboration with the Marine Interpretation Centre '*Aula de la Mar*' in Majorca in a programme of workshops for schoolchildren to increase their knowledge about Posidonia.
- Virtual exhibition on Posidonia oceanica and the 'Red Eléctrica Marine Forest', published on the corporate website *https://www.ree.es/en/sustainability/noteworthy-projects/environmental-projects/posidonia-oceanica*

7.2.7.3.4 Innovation Projects for the Management, Protection and Conservation of Biodiversity

The **BIORED** framework considers the electricity transmission grid as a reservoir of biodiversity and a generator of natural capital. The management of the areas below the electricity lines and in the vicinity of substations as 'biodiversity islands', and the use of electricity line corridors as a connecting element between biodiversity spaces, could be an optimal solution to facilitate the mobility of the various species currently under pressure due to the fractioning and reduction of their natural habitats. Additionally, other more general species (not affected by territorial dispersal movements) would benefit from the presence of a varied ecosystem, increasing the biodiversity in the area. Thus, what we know today as 'grey infrastructure' used essentially to supply power to the industry in general, could be perceived as 'green'.

The aim of this initiative is to identify, diagnose and assess the effectiveness of electricity lines (tower bases and safety corridors) and substations as biodiversity reservoirs that facilitate the connectivity of fauna between the different protected natural areas. In this context, some pilot projects have been carried out in this field, such as the *Biotransporte* project, the *Naturaleza en RED* project, *Pastoreo en RED* (livestock grazing project) and the LIFE BooGI-BOP project.

In 2022, the *Biotransporte* project was awarded the RGI (Renewables Grid Initiative) Good Practice of the Year Award in the category of environmental protection.

Innovation projects regarding the management, protection and conservation of biodiversity	
Biotransporte	The analysis carried out regarding how to maximise the use of a given number of electricity towers as biodiversity islands (stepping-stones) yielded very satisfactory results: an increase in the abundance and biodiversity of birdlife as well as in the number of micro mammals and invertebrates (mainly pollinators). In a subsequent internal analysis, this type of action could be considered as an initiative that favours the connection of around 60% of the spaces of the 2020 Natura Network, thus benefiting a multitude of species, both directly and indirectly.
Pastoreo en RED	Maintenance of vegetation beneath high voltage electricity lines with extensive livestock farming. This project has been qualified as a nature-based solution according to the IUCN standard.
Life BooGI-BOP[66]	This initiative is part of an EU Life project, in collaboration with Ecocasa and the Polytechnic University of Madrid, which seeks to incorporate green spaces in urban and industrial environments into the network of ecological corridors. The recommendations resulting from the initial assessment have begun to be applied in the gardens of two work centres.
Naturaleza en RED	The aim of the project, in collaboration with the Autonomous University of Barcelona, is to assess the potential of the transmission grid as a corridor and reservoir of biodiversity, by studying the biodiversity associated with the safety corridors and the base of the electricity line towers. The monitoring of 7 sampling points is currently underway: Mediterranean Forest (Fogars de Monclús, Girona), Continental Forest (Seva, Girona), Mediterranean Forest (Mas Llorenç, Tarragona), Alpine Forest (Coll d'Ares, Girona), Continental Forest (Font Rubí, Girona), Agricultural area (Roda de Ter, Barcelona) and the Livestock area (Calahorra, La Rioja). The assessment indicators monitored are: abundance and diversity of diurnal butterflies (bioindicator of the state of natural biodiversity systems), an abundance of pollinators (bioindicator of the state of ecosystems), floral density (close relationship with butterflies/pollinators and fauna), micromammals (bioindicator of environmental changes), macrofauna (bioindicator of open spaces and biodiversity corridors between ecosystems) and the presence of bats and dormice (bioindicator of open spaces and mature forests). As a preliminary finding, a 375% increase in butterfly abundance has been observed beneath the electricity lines sampled.

o Salto de Chira[67] hydroelectric power station: a unique project

In February 2022, construction began on the Salto de Chira pumped-storage hydroelectric power station (Gran Canaria), starting with the desalination plant, which will transform seawater into useful water for use in the power station and for other purposes such as agriculture.

The project involves interaction with the marine environment (seawater intake and outfall), the coast, the bed of the Arguineguín ravine and the surrounding areas of the reservoirs. It is worth mentioning that some of these areas are included in the Natura 2000 network.

For this reason, the project has required a lengthy permitting process, with three public hearings to achieve the necessary consensus for authorisation. The positive environmental impact statement (EIS) was obtained in July 2021, and an Environmental Project Monitoring Commission has been established to facilitate the monitoring of its compliance.

[66] Aligned with the State Green Infrastructure Strategy and Ecological Connectivity and Restoration (EEIV) of the Ministry of Ecological Transition and the Demographic Challenge (MITERD).

[67] The Salto de Chira project is not included in the scope of the EMAS certification.

Main environmental impacts associated with the desalination plant construction process	Main measures adopted
• Impact on historical and cultural heritage.	• Archaeological prospection and excavation.
• Emission of particles and combustion gases, noise pollution and vibrations associated with the movement of machinery and blasting works. • Risk of soil and water contamination. • Generation of waste, mainly tailings. • Landscape impact.	• Continuous damping down to avoid the generation and dispersion of dust. • Control of machinery. • Segregation and appropriate treatment of waste. Construction of a septic tank for the treatment of wastewater generated in the construction worksite. • Recovery and setting aside of topsoil for use in final landscaping works.
• Afección a la flora y biocenosis marina. • Impact on marine flora and biocenosis. • Impact on fauna (protected species).	• Establishment of protocols for the elimination of invasive species in the bottom of the Arguineguín ravine, replacement with native vegetation and taking care of the protected flora species present (Canary Island palm, tamarisk and willow), so as to favour the regeneration of the original riverside woodland in the ravine.
• Afección a la fauna (especies protegidas).	• Specific studies of local fauna, among which the following are noteworthy: ○ Annual cycle of the sand beetle (*Pimelia granulicollis Wollaston*, an endangered species of beetle). It has been verified that it is not found on the plots affected by the project. ○ Presence and nesting sites of the Barbary falcon (*Falco pelegrinoides*). Design of a nesting monitoring plan to verify the effectiveness of the noise and vibration control measures included in the environmental monitoring programme, and a protocol for action in the event of negative effects being detected. ○ Data on the presence of bat populations for future control and monitoring. ○ Verification of the non-existence of the Canarian stick grasshopper (*Acrostira tamarani*) in the areas where the electricity line associated with the project is to be installed.

7.2.7.3.5 Most relevant impacts on birdlife in 2022

With regard to accidents related to birdlife in 2022, 39 deaths of bird species catalogued as vulnerable and/or in danger of extinction according to the regional catalogue, national catalogue and/or IUCN Red List were detected.

Threatened species affected	No. of birds affected
Egyptian vulture (*Neophron percnopterus*)[68]	2
Bonelli's eagle (*Aquila fasciata*)[69]	1
Great bustard (*Otis tarda*)[70]	2
Houbara bustard (*Chlamydotis undulata*)[71]	6
Black vulture (*Aegypius monachus*)[72]	2
Red kite (*Milvus milvus*)[73]	1
Scopoli's shearwater (*Calonectris diomedea*)[74]	17
Black-bellied Sandgrouse (*Pterocles orientalis*)[75]	1
European turtle dove (*Streptopelia turtur*)[76]	1
Black Stork (*Ciconia nigra*)[77]	1
Bearded Vulture (*Gypaetus barbatus*)[78]	2
Iberian grey shrike (*Lanius meridionalis*)[79]	1
Eurasian stone-curlew (*Burhinus oedicnemus distinctus*)[80]	1
Barbary falcon (*Falco pelegrinoides*)[81]	1
Total	**39**

[68] Vulnerable species according to the national catalogue of endangered species. Endangered species according to the IUCN Red List.

[69] Vulnerable species according to the national catalogue of endangered species.

[70] Vulnerable species according to the IUCN Red List.

[71] Vulnerable species according to the IUCN Red List. Species in danger of extinction according to the national catalogue of endangered species.

[72] Vulnerable species according to the national catalogue of endangered species.

[73] Species in danger of extinction according to the national catalogue of endangered species.

[74] Vulnerable species according to the national catalogue of endangered species.

[75] Vulnerable species according to the national catalogue of endangered species.

[76] Vulnerable species according to the IUCN Red List.

[77] Vulnerable species according to the national catalogue of endangered species.

[78] Species in danger of extinction according to the national catalogue of endangered species.

[79] Vulnerable species according to the IUCN Red List.

[80] Vulnerable species according to the national catalogue of endangered species.

[81] Species in danger of extinction according to the national catalogue of endangered species.

7.2.7.3.6 Most relevant impacts on vegetation in 2022

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 significant impacts on flora/vegetation in 2022 were the following:

- 400 kV Morella-La Plana line. Felling and clearing of 31.7 ha, during the construction of 24 towers, of vegetation of habitat of community interest - HCI 5210: Spanish junipers and Kermes oak (*Rhamno lycioidis* and *Quercetum cocciferae*) and HCI 9240 Viola and Portuguese oak (*Violo willkommii* and *Quercetum fagineae*).
- 66 kV El Rosario-Guajara line and 132 kV Playa Blanca-La Oliva line. Transplanting of 5 Canary palm trees (*Phoenix canariensis*), as a result of damage during the digging of an underground section of trench in an urban garden area.
- 220 kV Sant Just-T de Celsa line. Fire in span 357-358 located within the boundaries of the Collserola Park, an area declared a protected area (RN2000), specifically Site of Community Importance: SCI ES5110024 Serra de Collserola. As a result of the breakage and fall of the conductor, a small fire broke out, affecting an area of 40 m² of scrubland, bushes and herbaceous species, requiring the intervention of the fire brigade on the scene to extinguish it.

Additionally, in 2022, a fuel leak (diesel) was recorded at the Andratx substation, located inside the Serra de Tramuntana Natural Area. The leak was limited to an impermeable area inside the site, without affecting the exterior or the bare ground and was cleaned up using absorbent material.

7.2.8 Fire prevention

In order to minimise the risk of fire associated with the presence of transmission grid facilities, strict compliance with rules regarding safety distances between flora and infrastructure is critical. Red Eléctrica ensures this compliance through the proper design and maintenance of the safety corridors of overhead lines and of the perimeter areas around electricity substations located in forested areas.

The Company annually inspects all of its facilities and conducts periodic forestry (felling and pruning) work, applying best practices, respecting shrubs and small, slow-growing tree species, minimising actions on protected species and without using any form of chemical treatment.

In addition to projects aimed at optimising the treatment of vegetation, Red Eléctrica allocates numerous resources to minimising the risk of fires associated with its activities, having created a specific interdisciplinary working group to develop improvements in this area. In this regard, in 2022, various relevant tasks were carried out, such as internal training on forest fire prevention for more than 500 employees, the communication of requirements to contractors that could potentially cause forest fires during works, the preparation of action protocols for carrying out activities in times of high fire risk in the different regions and the purchase of fire prevention and extinguishing equipment for in-field activities, as well as innovation projects in the area of fire prevention.

	Innovation projects aimed at fire prevention
Prodint	A system developed by Redeia for the early detection of forest fires, using the towers of the transmission lines and by means of sensors based on the Internet of Things technology, which captures the radiation emitted by the fire and automatically sends warnings to the system operator, reducing the reaction time of firefighting agents, with a consequent reduction in costs and environmental and personal damage. A laboratory and field-tested prototype is now available (installed on a section of line in Galicia) and is ready for large-scale deployment.
Bseed WATCH®	Bseed WATCH® is a comprehensive forest fire risk management tool capable of calculating the risk of fire and its destructive potential up to 10 days in advance. It also has early detection systems, thanks to its temperature, CO and CO2 sensors, which alert the citizens of the area and local emergency authorities within seconds. In the event of a fire, it provides high-quality information on weather conditions in the area, the location and progress of the fire in real time and control of evacuation routes, which is freely available to the population and those responsible for extinguishing the fire. In 2022, the sensors were tested during controlled burns in the Albufera Natural Park in Majorca, and their correct functioning and detection range were verified.

In addition, active and continuous collaboration is maintained with the public administrations involved in forestry management, formalised through **collaboration agreements for the prevention and fight against forest fires**. Since 2007, work has been carried out on the signing of collaboration agreements for the prevention and fight against forest fires with the various regional administrations with the aim of covering the entire national territory.

In 2022, there were 10 agreements in force for a period of 4 years with an overall budget of 800,000 euros and the agreements with Aragon, Asturias and Tenerife are in the process of renewal. The Company's objective in this regard is to have fire prevention agreements in force with all the competent administrations in this area throughout the country.

In 2022, the Company monitored the agreements in force and promoted the start of research, training and awareness-raising projects on the prevention and fight against forest fires linked to these agreements.

All these efforts have enabled the Company to finish 2022 without **any significant fires**, except for a few isolated minor outbreaks.

Within the framework of these agreements, various relevant actions were carried out during 2022:

Territorial scope	Noteworthy projects in 2022 linked to collaboration agreements
Álava	**Procurement of fire prevention and extinguishing equipment** Procurement of fire prevention and extinguishing equipment for the emergency services of the Provincial Council of Álava. Self-contained breathing apparatus was supplied. **Fire analyst training for firefighters** The agreement provided training in terms of safety, fire behaviour, extinguishing methods and the development of professional skills regarding forest fires. The training was aimed at officers and non-commissioned officers of the Álava Provincial Council fire brigade. The course took place during the first fortnight of June 2022 and was attended by 15 people. The course consisted of an online theoretical part and a practical part that took place at the Nanclares de Oca Fire Station (Álava).
Balearic Islands	**Collaboration regarding environmental education** Collaboration on environmental training in educational centres. **Informative material on forest fire prevention** Drafting of informative materials for raising awareness, promoting consciousness, and preventing forest fires.
Castilla la Mancha	**7th Technical Conference on Forest Fires** Collaboration on the 7th Technical Conference on Forest Fires 2022 held in Toledo on 14 and 15 December and the on-line delivery of the 'International Awards on Forest Fires'.
Castilla y León	**Citizen awareness campaign '*Yo me enchufo a la prevención*' (I am plugged into prevention)** In 2020 we started the citizen awareness campaign '*Yo me enchufo a la prevención de los incendios forestales*' (I am plugged into the prevention of forest fires) with the aim of raising public awareness of the need for their involvement in fire prevention. Promoted by the Castilla y León Fire Control Centre (CDF). This year, as part of the campaign '*Yo me enchufo a la prevención*', the CDF of the Regional Government of Castilla y León has developed awareness-raising material on forest fire prevention and fire fighting for the CDF: an informative audiovisual about forest fires in Castilla y León aimed at society in general; educational videos on the contents of the fire prevention and firefighting course for forest firefighting crews, and the publication of the 'Castilla y León Forest Fire Organisation Manual' as documentation to be used for the reinforcement of training activities at the CDF.
Extremadura	Acquisition and procurement of software and computer equipment for the prevention, support, monitoring and planning of forest fire extinction, as well as for the study of the necessary actions for the prevention and fight against forest fires in Extremadura.

Guipúzcoa	**Procurement of fire prevention and extinguishing equipment** Procurement of fire prevention and extinguishing equipment for the emergency services in Guipúzcoa.
Navarra	**Procurement of fire prevention and extinguishing equipment** Procurement of fire prevention and extinguishing equipment for the emergency services in Navarra. Hydration backpacks. **Preventive clearing of scrubland in the highlands of Navarra** Clearing of 16 ha. scrubland in areas at risk of forest fires. The clearing work consists of the elimination of scrub ground cover in an environment clearly used for grazing of livestock. The shrub species present in the area are mainly gorse (*Ulex ssps.*) and dry heather (*Erica ssps.*), not too developed (maximum 60 cm high in the case of Ulex, and less developed in the case of Erica).
La Palma	**Procurement of fire prevention and extinguishing equipment** Procurement of fire prevention and extinguishing equipment for the emergency services of the Island Council of La Palma (Individual Protective Equipment).
Valencia	Within the framework of the fire prevention agreement with the Regional Government of Valencia, an agreement was signed in 2020 with the *Universidad Politécnica de Valencia* to establish a four-year collaboration framework aimed at executing the project for the modelling and mapping of live fuel moisture in the Community of Valencia. During 2022, the design of models, their testing and validation with field data was undertaken.
Vizcaya	**Training oriented towards safety, fire behaviour, extinction and the development of professional competences in forest fires** The training was aimed at the personnel of the forest fire prevention and extinguishing system of the Forestry Service of the Provincial Council of Vizcaya. 105 technical experts, forest rangers, foremen and operators from the Department of Sustainability and Natural Environment of the Provincial Council of Vizcaya took part. The participants acquired skills in extinguishing tactics and manoeuvres, in addition to training regarding safety in forest fire extinction. **Preventive clearing of scrubland in the highlands of Vizcaya** Clearing of scrubland ground cover in areas at risk of forest fire, in the municipality of Artzentales. The type of scrub to be cleared is Atlantic scrubland dominated by gorse (*Ulex ssps.*) and to a lesser extent dry heather (*Erica ssps.*) with a high density and an average scrub height of 0.8 m.

- 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 2021, 31 hectares of habitat were restored. In addition, a new collaboration agreement was signed with the Provincial Council of Vizcaya and the local councils of Garai and Alonsotegui to carry out a reforestation and restoration project of approximately 100 hectares of the 'Añao' wilderness area and the 'Ganekogorta' beech tree forest to be executed in 2022 for an estimated total of 200,000 euros.

In 2022, 14.23 ha of highland forest were reforested, and a 105-ha beech forest was partly restored through reforestation (7.5 ha), forestry works were undertaken, and protective fencing was installed in the province of Vizcaya.

It should also be noted that during 2022 the implementation of the next cycle of the *Vegeta* project for flora management continued, defining part of the budget, having validated the quality of the forest inventory data and trained personnel in the use of the new tools and methodology to be applied.

7.3 Savings of resources: Water and Paper

Water consumption[82]

	2020	2021	2022
Head Office (m^3)	3,217	7,305	**8,237**
Head Office (m^3/employee)[83]	3.94	6.84	**7.41**
Total work centres[84] (m^3)	12,802	17,045	**21,153**

Withdrawal by source (%)	2020	2021	2022
Rainwater collection tanks[85]	0	0	**0**
Cisterns	3.20	2.68	**247**
Wells	5.20	16.20	**14.34**
Municipal water mains	91.60	81.12	**83.19**

Paper consumption (office)

	2020	2021	2022
kg	5,056	4,192	**5,290**
kg/employee[86]	2.58	2.14	**2.64**

	2020	2021	2022
kg[87]	6,039	1,100	**809**
% FSC[88]	0.00	0.00	**0.00**
% FSC 100% Recycled	0.00	0.00	**100.00**[89]
% FSC 60% Recycled	0.00	0.00	**0.00**
% FSC Mixed	100.00	100.00	**0.00**
% Ecological paper used in publications	0	0	0

[82] In the case of water consumption in those months of 2022 for which actual data was not available at the closing date of this Statement, the value has been estimated.

[83] As of 2021, the calculation takes into account all personnel (employees, interns, temporary workers and collaborators – for a total of 1,068 people in 2021 and 1,111 in 2022) working in the Head Offices (Moraleja and Albatros buildings). In previous years, only the Head Office Building in the Moraleja was included.

[84] The data provided has a coverage of 99.3%, 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/leased).

[85] 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.

[86] Includes REE employees, interns and collaborators, as well as personnel contracted from temporary employment agencies: 2,002 people.

[87] Evolution of paper consumption in publications for the period 2020-2022.

[88] Ecological paper certified to Forest Stewardship Council standards.

[89] All publications have used exclusively FSC Recycled paper.

7.4 Socio-Economic Scope

7.4.1 Protection of Archaeological and Ethnological Heritage

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 2022, **archaeological supervision was carried out in the construction of 19 new lines or for the adaptation of existing lines** (89.5% 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) and in **6 substations or for enlargement works of existing substations** (83% were carried out with the continuous presence of an archaeologist during the earthworks).

Among the various works carried out, noteworthy were the archaeological excavations conducted for the marking off of a Roman site during the construction of the new San Fernando substation and several archaeological surveys carried out for the new Anchuelo substation in the Community of Madrid.

On the other hand, it is worth mentioning that artefacts from the civil war were detected during the archaeological supervision works for the Morella-La Plana line. The archaeological supervision works related to the Lanzarote-Fuerteventura and Ibiza-Formentera submarine cables were also of special interest.

In 2021, the second phase of the *ArqueoRED* project was completed, 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 was compiled, corrected and contrasted in the field for the 17 Spanish regions (autonomous communities). During 2022, the Company continued to collaborate actively with the public administration regarding heritage conservation. The new archaeological charts of the Autonomous Community of Galicia, one of the communities with the most catalogued cultural assets in Spain, were added to the map viewer of the *ArqueoRED* project.

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.
- Minimum distance of electricity lines from population nuclei and isolated houses

In order to verify compliance with the recommendation, Red Eléctrica has a tool that uses specific line parameters to precisely calculate the maximum EMF levels that said facilities could generate, meaning that it is not necessary to carry out on-site measurements except when the values of the parameters necessary for the calculation are not available (as is the case of very old facilities for which a specific EMF measurement plan has already been carried out).

In 2022, this tool was used to assess different situations linked to the facilities that form part of the proposed 2021-2026 Transmission Grid Planning. Some of these analyses have been part of the specific

Health Impact Assessment (HIA) procedure, as in the case of the transmission capacity increase of the 220 kV Benahadux-Orgiva line, requested by the Andalusian Regional Government.

Red Eléctrica carries out one-off measurements at the request of interested parties.

In 2022, it performed measurements on three lines, results obtained were below the electromagnetic values recommended by the European Union, except for the following line: On the 400 kV Lastras-Galapagar line in Collado Mediano (Madrid), the measurement requested by the local police due to nuisance to cyclists passing under a point on the line showed electric field values higher than those recommended. As a corrective measure, the tower was raised by four metres.

With the exception of this case, in 2022 there were no incidents arising from non-compliance with the regulations in this field.

It is worth noting the progress made in the project to increase the height of the towers to reduce the electric field values that are above the recommended values as identified in December 2021 in the 400 kV Almaraz-Morata line, in Yuncler (Toledo), which will be extended until 2023 due to its technical difficulty.

Adicionalmente, conscientes de que los campos electromagnéticos son un aspecto que suscita mucho interés en los territorios en los que se encuentran las instalaciones eléctricas, la compañía aborda este tema con especial relevancia siendo las principales líneas de actuación:

- Participation in national and international forums and working groups (ENTSO-e, CIGRE and EPRI) and collaboration with the public administration (MITERD) and prestigious entities such as the Salvador Velayos Institute of Applied Magnetism. In this regard, it is worth highlighting the project launched in 2022, financed by Red Eléctrica and led by the Ministry of Health in which various scientific groups and Universities are participating to determine the distribution and intensity of extremely low frequency (ELF) magnetic fields in various geographical locations. Knowing the values to which the population in Spain is exposed in different environments (urban, residential and rural) allows the degree of compliance with Recommendation 1999/519/EC to be verified and to have rigorous and recent data available to assess a possible legislative proposal to reduce the social controversy regarding electromagnetic fields.
- Information is conveyed to stakeholders, by means of:
    - The corporate website: *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 2022, the publication on the effects of electromagnetic fields on human health was updated.
    - Responding to enquiries received through the Corporate Dígame Service

7.4.3 Noise Pollution

On occasions, electricity substations can be an annoyance for the 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 onsite, using a combination of direct measurements and the use of predictive software, fed with data from the ACURED innovation project (2016-2018).

Following the analysis of the noise produced by the 134 substations with power transformers, a programme of direct measurements was established in the 55 facilities with population in their vicinity, which was completed in 2022 with the measurement of 9 substations.

Despite adjustments made to some transformers to reduce their noise emission levels, there are still four substations that exceed the desired limits for land designated for residential use. In 2022, acoustic imaging cameras were used to identify the specific sources of noise in each case in order to establish the corresponding action plan in 2023.

In 2022, acoustic shielding was also installed at the Arkale substation and its installation in La Eliana substation will be completed in 2023.

7.5 Circular economy

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, the group has been a member of the **Pact for a Circular Economy**.

In order to become a leading company in circular economy by 2030, Red Eléctrica has a **Circular Economy Roadmap**, which establishes the objectives to be achieved and the actions to be carried out in order to progress towards their fulfilment. This means working to achieve 100% circular supplies, i.e., that the equipment and materials used are manufactured from recycled or reused materials and 100% resource recovery, which means reducing, reusing, recycling or energy recovery of all waste generated, extending the useful life of materials and equipment and reducing water consumption as much as possible.

The most relevant dimensions are highlighted below:

OBJECTIVES OF THE CIRCULAR ECONOMY ROADMAP

CONSUMPTION OF RAW MATERIALS

2025	2030
• 10 supplies with the greatest impact on the transmission grid with circular criteria of climate change, security, diversity and biodiversity. • 0% single-use plastics. • 100% eco-friendly packaging, recycled, recyclable or reusable packaging in the supply of equipment and materials.	• Creation of a network of circular supplies. • Identification of the environmental impacts of equipment and materials from their origin (LCA of supplies). • Integration of sustainability criteria in purchasing decisions. • Sustainable transformers (use of vegetable esters instead of mineral oils). • Innovation and technological development (eco-friendly designed equipment and materials

ZERO WASTE

2025	2030
• 0% of Red Eléctrica's waste to landfill. • Definition of an action plan for zero waste to landfill in Redinter and Hispasat. • Implementation of the SF_6 reuse procedure. • Reduction of hazardous land waste with the strategy of zero accidents and zero contaminated sites.	• 0% waste to landfill. • 100% SF_6 waste reduction. • 100% reduction of soil waste.

SOILS

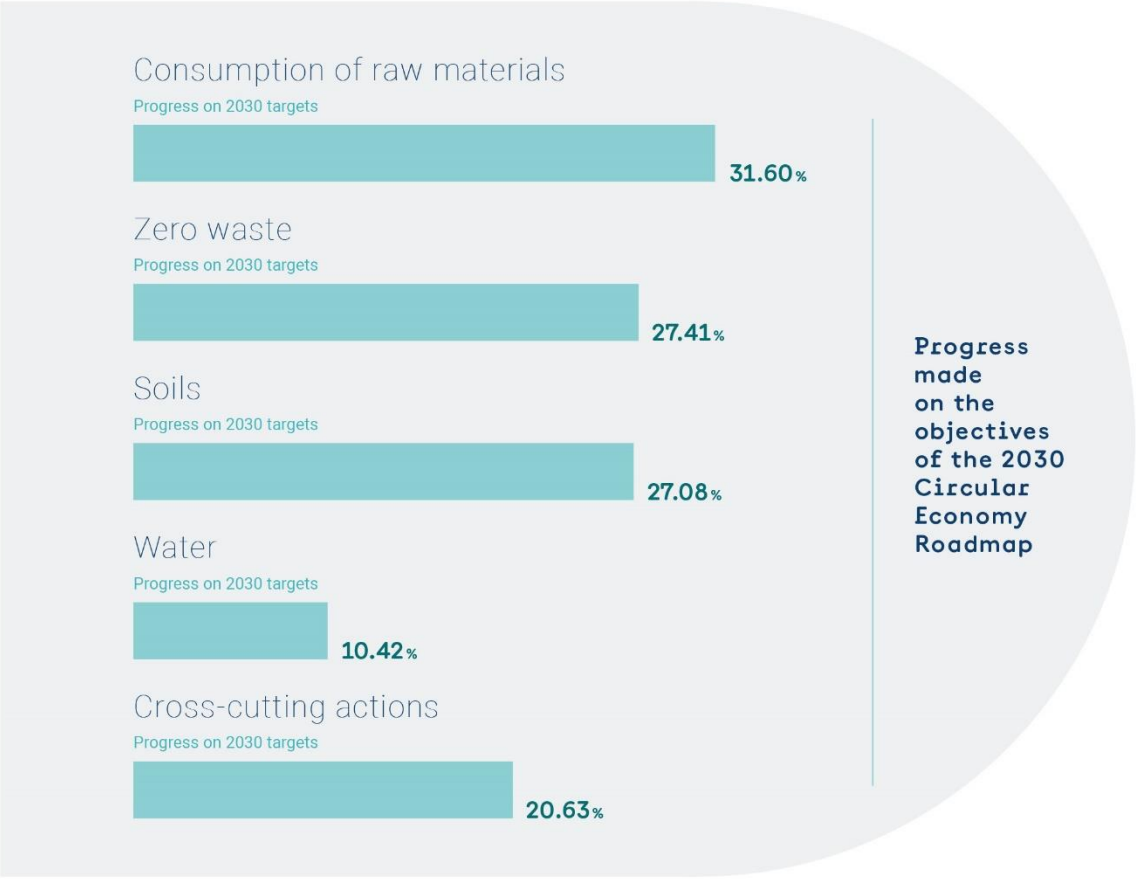
2025	2030
• Zero serious environmental accidents at the facilities. • Zero contaminated sites. • Identification of alternatives to plant protection products.	• Action plan for the prevention of hydrocarbon leaks and mitigation of their impacts. • Decontamination of 100% of the soils affected by accidental hydrocarbon spills. • 100% reduction in the use of phytosanitary products in substations.

WATER

2025	2030
• Reduction of water consumption in all work centres of Red Eléctrica and Redinter to 6.5 m³/employee/year. • 100% of the water from the Salto de Chira construction process to be reused.	• Reduction of water consumption in all workplaces to 6.5 m³/employee/year.

CROSS-CUTTING ACTIONS

2025	2030
	• Integration of circular criteria in all activities, incorporation in 100% of the internal regulations. • Management of 100% of projects with digital tools.



7.5.1 Zero waste to landfill

The generation of waste in the Company is related to the number of construction and maintenance activities carried out each year, so it is difficult to predict the evolution of the quantities produced and they vary greatly from one year to the next. Furthermore, the development of these activities is essential for the security of the electricity system or facilities and, in many cases, is also linked to the reduction of environmental risks, which is why they cannot be limited. For this reason, the group's objectives are mainly focused on completely reducing waste whose final destination is a landfill site, promoting alternative ways of preventing waste from ending up as landfill.

In order to find economically and environmentally viable technological solutions, it is necessary to have a thorough knowledge of the nature and sources of waste generation, aspects on which the Company has been working since 2018. During 2021, an Action Plan was defined for the assessment of 100% of the waste from all group companies and some measures were implemented, such as the incorporation of recycling/waste-to-energy recovery requirements in tenders regarding waste management and the provision of service, the installation of composters for organic waste in four work centres and the launch of awareness-raising campaigns.

The development of these measures has made it possible to increase the waste generated (hazardous and non-hazardous) to **92.7%** whose final destination has been recycling (this generic category includes reuse, recycling, composting, anaerobic digestion and regeneration treatments).

7.5.2 Waste Management in 2022

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 2022 increased by 204 tonnes regarding hazardous waste compared to 2021 and 230 tonnes in the case of non-hazardous waste. The increase is due to the return to normality of maintenance activities and renovation and improvement projects; thus, the Company’s waste generation volumes are returning to pre-pandemic values (2019).

With regard to the final destination of waste, it is also worth noting the slight increase in 2022 in the percentage of non-hazardous waste sent for elimination compared to 2021, going from 4.36% to 7.62%. In the case of hazardous waste, those wastes that, due to current regulations, must be taken to landfill sites (PCB waste) have been excluded.

Also excluded from the target are asbestos waste, soil contaminated with hazardous substances and hazardous absorbent materials in those locations where there is no optimal waste management.

The final destination of waste in 2022 is similar to that of the previous year, with increases in the percentage of hazardous waste destined for recycling (11%) and regeneration (3.32%) compared to 2021.

The fall in the percentage destined for elimination is linked to the implementation of some of the measures under the ‘Zero-waste to landfill’ project.

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

Non-hazardous waste[90]	2020	2021	2022
Total (t)	564.1	520.6	**750.6**

Hazardous waste	2020	2021	2022
Total (t)	224.8	576.2	**780.1**

Total waste Non-hazardous + hazardous	2020	2021	2022
Total (t)	788.9	1,096.8	**1,530.7**

- Total amounts (tonnes) managed in 2022 by type of management.

Waste management method (%)[91]	Non-hazardous (%)	Hazardous (%)
Reuse	**0.00**	**0.00**
Recycling, Composting, Anaerobic Digestion	**92.06**	**89.78**
Regeneration	**0.31**	**3.43**
Energy recovery (Waste-to-Energy)	**0.00**	**0.00**
Elimination (by any method)	**7.62**	**6.79**

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

[90] Vegetable waste is not included as it cannot be quantified: most of it is incorporated into the land, or delivered back to the landowners, as this is the most appropriate form of management.

[91] The management of the waste corresponds to that contained in the legal documentation of the same.

7.5.3 Reduction in the Consumption of Raw Materials

In order to reduce the consumption of raw materials and prioritise the use of recycled, recyclable or reusable products, it is necessary to make progress on issues related to establishing eco-friendly designs and the consideration of environmental impacts throughout the life cycle of equipment and materials. This progress will only be possible through advances in the relations with suppliers and through collaborations with other key actors while promoting innovation and technological development.

In this regard, it should be noted that in 2022, the Company developed a methodology for analysing the life cycle of supplies, taking three relevant supplies as a reference. This methodology, developed with the main suppliers, assesses aspects such as the use of recycled and recyclable materials, their origin, carbon footprint and water footprint, enabling quantification of the main environmental impacts and facilitating decision-making aimed at the acquisition of more efficient and sustainable supplies and, therefore, progress towards the group's objective of having a circular procurement network by 2030.

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

The electricity transmission activity performed by Red Eléctrica is carried out using equipment containing significant amounts of dielectric oil, including power machines (transformers and reactors), current/voltage/capacitor transformers and Oil-Filled cables. Despite the design of facilities, established measures and preventive maintenance work, it is difficult to completely eliminate the risk of incidents regarding oil leaks or spills.

When an oil leak or spill occurs, both the soil and groundwater can be affected, and it is necessary to act quickly and effectively in order to help reduce the impact as much as possible and to correct its impact, and to look for those actions that will ensure the sustainable recovery of the affected area.

Red Eléctrica has set, within the scope of the Circular Economy Roadmap, the objective that 100% of the soil affected by leaks and spills that occur in the facilities in 2030 will be treated in some way, in order to avoid the final destination of these affected soils going to landfills and as such contribute to the ambition of the group to become a leading company in the circular economy in 2030.

For this reason, an innovation project has been developed, included within the scope of the framework agreement signed between Red Eléctrica, TAUW IBERIA and the University of Barcelona, whose final objective is to provide new specific treatment methods for the soils affected by the pollutants most used in Red Eléctrica's facilities, which allow them to be cleaned up firstly where the leak occurred ‘in situ’, or in those cases where this is not possible, it is managed ‘on site’, and this replaces the alternatives used in the past. The alternatives used to date of excavation and the management as waste in landfill sites will be replaced in order to obtain a greater degree of sustainability from an environmental and economic point of view. This will allow the sustainable management of soils affected by oils and fuels.

Tests have been carried out with different types of mineral oil, as this can vary depending on the facilities and their application (insulating/cooling oils). The priority treatment tested was that of bioremediation, as a green technology, which in addition to detoxifying the soil, restores its ecological properties (soil as natural capital), by developing microbial consortiums whose specific degrading capacity is optimum for the oils used by Red Eléctrica in its equipment, with a view to possible future uses in real conditions.

In addition, alternative tests have also been carried out for the application of surfactants to increase oil extraction rates in recovery actions based on pumping out and treating the product and the affected groundwater, as well as chemical oxidation tests for the reduction/elimination of contaminants by injecting oxidants.

After the analyses carried out, the applicability of the techniques tested (biodegradation, application of surfactants and chemical oxidation) for the remediation of sites affected by the specific oils used has been confirmed. The tested techniques can be applied both ‘in situ’ in the field and ‘on site’, i.e., excavated and treated on site.

The final phase of the project carried out during 2022 contemplated, based on the results obtained in the previous phases, the design of a pilot test for its possible implementation in the future (in principle in 2023), in a real situation of a spill or leak occurring in the immediate vicinity of Red Electrica's facilities.

This design consists of a pilot field test of the possible recovery techniques to be applied, in order to increase the knowledge of the behaviour on a real scale of the oils included in the study.

In general, the scope of the designed pilot test can be summarised in an initial phase of preliminary works, in which the land perforations required for the test will be drilled and installed, and the prior laboratory treatability tests will be carried out. After this preliminary phase, the actual pilot field tests will be conducted. The pilot test will be implemented between 2023 and 2024.

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.

The activity of Red Eléctrica within the context of Royal Decree 9/2005 and through Order PRA/1080/2017, of 14 January, is set out in Annex I as 'Potentially soil contaminating activity', encompassed within the 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'.

Red Eléctrica has put in place numerous preventive and corrective measures to prevent contamination of soil or groundwater by leaks or spills of oils, fuels and substances.

Red Eléctrica continues to work on the soil concept at various levels:

- Purchase of new land or the execution of works to be carried out on existing facilities (substations) or adjacent areas.

Prior to the formalisation of the purchase of new land for the construction of a new substation, and in conjunction with the geotechnical studies, a soil and groundwater characterisation study is carried out in order to ascertain the state of the soil and groundwater and to be able to detect any possible impacts beforehand. It has also been established that whenever a geotechnical study is carried out on an existing facility, it should be accompanied by soil and/or water sampling in order to find out, easily and at a relatively low cost, the possible state of the land on which the substation or possible extension areas are located, in order to confirm or rule out the presence of contaminants in the subsoil, identify possible sources of contamination, and assess the possibility of anthropogenic effects resulting from activities that may have been carried out on the site previously.

32 characterisation reports were drawn up. None of said reports recorded any pollutant values that pose 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 2022, seven PSR/SR of transmission grid substations (SE Mudarra, SE Herrera, SE La Oliva, SE Barranco de Tirajana, SE Jinamar, SE Granadilla and SE Candelaria) have been submitted.

- Preventive and mitigating measures in the event of leaks or spills

The following table lists the specific soil characterisations carried out in 2022:

- ✓ Tarifa substation: accident in 2022 that required the involvement of the Emergency Intervention Service. A detailed investigation of the soil and a risk assessment has been carried out.
- ✓ Puentes García Rodriguez substation: A detailed investigation was carried out due to the results of a follow-up study.
- ✓ La Jonquera substation: control and monitoring of groundwater regarding in-service substations.
- ✓ Sentmenat substation: control and monitoring of groundwater regarding in-service substations.

- ✓ Aguayo substation: rupture of power transformer, involvement of the Emergency Intervention Service and remediation actions carried out.
- ✓ Carmonita substation: breakage of a voltage transformer, remediation actions and sampling of surplus soil.
- ✓ Tordesillas substation: breakage of a switchgear unit, remediation actions carried out on the affected soil and the sampling of surplus soil sent to the relevant department of the Castilla y León Regional Council.
- ✓ Onuba substation: soil investigation carried out due to an accident caused by the breakage of an intensity transformer.
- ✓ 220 kV Villaviciosa substation (Renovation): soil investigation carried out due to an accident caused by the breakage of an intensity transformer during the dismantling of the equipment, which required being dug out for cleaning purposes.

The definite **implementation** in 2022 of an **Emergency Intervention Service** for land-based environments allows a prompt and effective response to accidental spillages and the urgent recovery of any potential environmental damage at the site of the incident, thus minimising possible risks and damage to the environment.

The following measures were carried out in 2022:

- Mock drill of a power transformer spill at the La Cereal and Catadau substations, together with the carrying out of training sessions at several work centres.
- Intensification of inspections at high-risk facilities as a result of the environmental risk assessment update carried out in 2021.
- Blue Filtering Project: installation of hydrocarbon separator filters at the outlet of oil collection tanks. This additional containment measure guarantees the quality of the discharge and will be applied in both new substations and existing substations. In relation to the latter, 18 separators were installed in a total of 11 facilities by the end of 2022.
- Definition of an internal procedure for the removal of insulating fluid from out-of-service fibre optic cables to reduce the environmental risk completely. A pilot project was developed in 2022, in order to validate and obtain the effectiveness curve of the aforementioned process.

- Actions related to soil/groundwater as a result of accidents occurred 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. REE 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 m2 of soil, while the area of groundwater affected is estimated at about 2,200-2,600 m2. The fault is located in an urban area near the sea where residential and tourist activities usually take place. Since it began operation in 2016, the remedial system put in place (treatment plant and the use of skimmers) has extracted a total of 37,201 litres of free phase oil.

The pumping of groundwater and free phase oil, 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 m3 of groundwater has been treated. On the site there is still free phase oil of a few millimetres thick in the site's piezometers (residual phase) and there is also oil in a water-soluble state.

The General Directorate for Environmental Education, Environmental Quality and Waste approved the Cala'n Bosch Recovery Plan in 2022. The Recovery Plan incorporates the decontamination techniques to be used and the definitive pollutant reduction targets. Remediation works will start in 2023. Periodic characterisation and monitoring of groundwater were carried out in 2022 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.

7.7 Stakeholders

The aim of Redeia's Stakeholder Management Model is to achieve a relationship based on trust with a focus on the creation of shared value.

The design of this Model has taken into account the indications of the main reference norms and standards in stakeholder management, such as AA1000, ISO 26000, IQNet SR10 or the Global Reporting Initiative (GRI), in order to ensure that the Company analyses the main impacts on its stakeholders derived from its business activities, as well as the influence that these stakeholders have, or could have, on the Company. In this way, Redeia focuses its relationship on the creation of shared value, strengthening the positive impacts and quickly identifying the negative impacts that could affect the relationship, in order to minimise them.

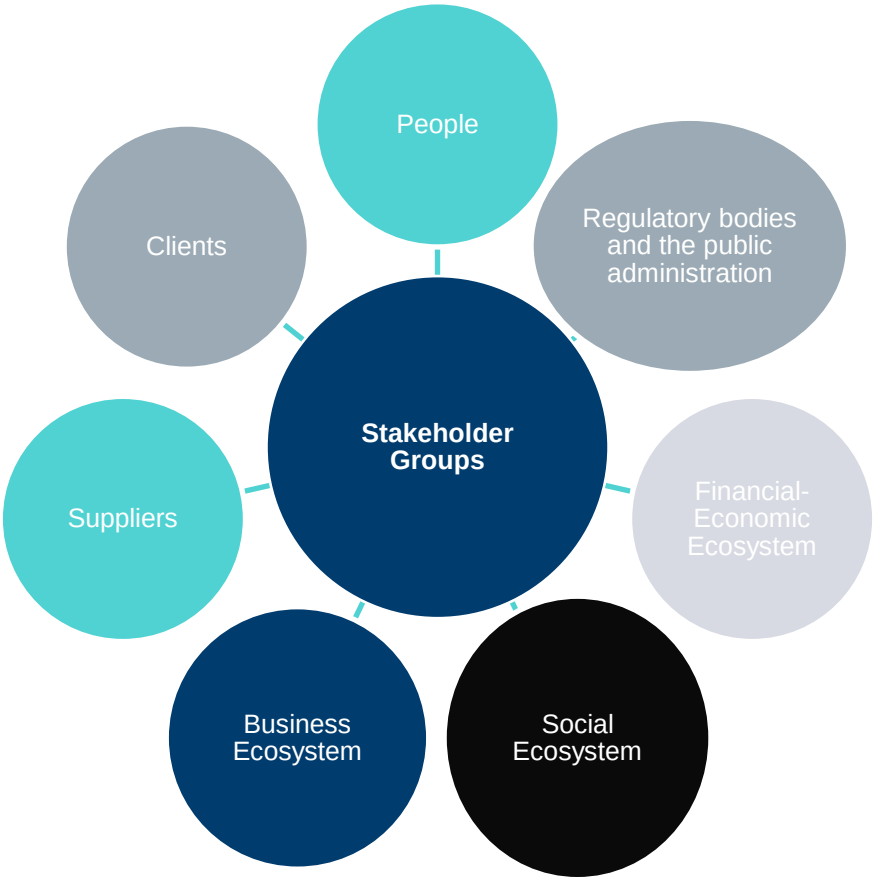
In 2020, Redeia initiated the review of the group's Stakeholder Management Model. In 2022, the update included the electricity business in Spain (Red Eléctrica).

This model encompasses the following phases:

- Phase 1. Identify and segment. Identify the groups that constitute stakeholders, based on the analysis of the interrelationships between the Company's processes and activities with the socio-economic environment, and segment them according to the reason why they are of interest. The groups that share the reason for the relationship are grouped together, using a bottom-up approach, to form stakeholder categories.
- Phase 2. Prioritise stakeholders. Once the stakeholder groups have been identified, their relevance is determined based on the three prioritisation factors: impact of the Company on the stakeholder, influence of the stakeholder on the Company, and lastly, tension, understood as the need for special attention at specific moments in the relationship, derived from the fact that this relationship is not linear and that variations in impact and influence may occur.
- Phase 3. Define relationship framework (relationship levels, channels, commitments). The definition and deployment of the optimal stakeholder relationship framework will depend, firstly, on the commitments assumed by the Company with the stakeholder and, furthermore, on its level of priority and the level of engagement considered appropriate.
- Phase 4. Evaluate stakeholder Management. The evaluation of stakeholder management is based on the systematic and periodic identification of stakeholder requirements and expectations through different methodologies based on the framework of the relationship with each stakeholder group. From this assessment, action plans emerge, aimed at responding to the relevant issues, and to the needs and expectations identified.
- Phase 5. Evaluate and review the management model. The Stakeholder Management Model itself is reviewed periodically, in principle every three years, in line with the Materiality Study. This review may also arise in connection with relevant changes in the Company's external or internal context, thus ensuring that the Model is a useful management tool and is in line with the business reality.

The stakeholder inventory[92] has been updated, which is now composed of the following categories: regulatory bodies and the public administration, the financial and economic ecosystem, the business ecosystem, suppliers, clients, employees and the social ecosystem.

[92] Inventory corresponding to the update carried out in Red Eléctrica Corporación, S.A. and Red Eléctrica de España, S.A.U.


People
Clients
Regulatory bodies and the public administration
Stakeholder Groups
Suppliers
Financial-Economic Ecosystem
Business Ecosystem
Social Ecosystem

7.7.1 Management of enquiries and claims

The *Dígame* service has guaranteed, since 2008, the professional management of enquiries related to Red Eléctrica's services regarding the operation of the national electricity system and the management of the transmission grid submitted by external stakeholders through the group's various communication channels available (phone, e-mail, online web form and post or registered fax). This service is staffed by personnel from the Juan XXIII Roncalli Foundation, a non-profit organisation that facilitates the professional integration of people with some type of disability.

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

In 2022, a total of **46** enquiries regarding environmental issues were received, **7** of them were classified as applicable claims.

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

	Evolution of enquiries[93]			Evolution of applicable claims[94]		
	2020	2021	2022	2020	2021	2022
Birdlife	4	6	9	0	1	0
Electromagnetic fields	6	9	9	0	1	0
Consumption/Energy efficiency	0	0	0	0	0	0
Environmental costs	0	0	0	0	0	0
Emissions/Climate change	0	1	0	0	0	0
Impact on the landscape	0	1	1	0	0	0
Facilities/Infrastructure	3	1	0	0	0	0
General environmental information	1	1	0	0	0	0
Waste	0	0	2	0	0	1
Noise	8	12	12	2	1	6
Environmental management system	0	1	1	0	0	0
Flora/Vegetation	25	15	12	12	6	0
Total	47	47	**46**	14	9	**7**

All of the claims registered in 2022 have been closed.

[93] The data shown includes all requests received (enquiries + claims). All enquiries that are not classified as a claim are classified in the same group called Enquiry. The different types of enquiries are: complaint, query, suggestion, request for information and recognition.

[94] The cases that may involve sanctions are detailed in another section of this Environmental Statement. Includes only claims classified as **applicable** according to procedure IQ002.

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.

Red Eléctrica voluntarily participates in various initiatives and professional associations that strengthen the extension of its commitment to sustainability to suppliers, among which it is worth highlighting the commitment to the principles of the United Nations Global Compact.

The Supplier Code of Conduct, derived from Red Eléctrica's Code of Conduct and Ethics, establishes the minimum ethical, social and environmental requirements (such as cybersecurity, data protection, disability and diversity, climate change, circular economy and corporate reputation) that all suppliers must accept and comply with in order to work with Red Eléctrica, assuming the commitment to extend the Code to their own supply chain.

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 Southern Europe), **68%** have a management system certified by a third party (ISO 14001 or EMAS).

Among the initiatives that Red Eléctrica addresses within the framework of its responsible management of the supply chain, noteworthy is the identification of impacts on sustainability matters with regard to the provision of supplies and that enables the Company to establish the requirements that shall be met by suppliers to monitor and reduce such impacts.

Red Eléctrica has an impact matrix for the supply of equipment and/or materials, as well as for the supply of construction works and services. In total, twenty types of sustainability impacts have been identified: seven in the area of ethics and working conditions, four in the area of occupational health and safety and **nine in the environmental scope**.

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
- Air quality.
- Generation of non-hazardous
- Generation of hazardous waste.
- Legal/regulatory non-compliance.
- Energy consumption
- Water consumption

The main risks are dealt with through the management systems in place and via regular audits and after which recommendations and improvement areas are identified, analysed and implemented with a view to continually improving processes. In the case of identification of a high impact, the Company can establish an action plan with the supplier, closely monitoring its implementation and reserving the right to take action if necessary.

The identification and prioritisation of risks and impacts of the supply chain have allowed the Company to establish adequate controls to minimise them. In this regard, for each of the risks identified, the Company works on the qualification, monitoring, training and development of suppliers.

The Company has identified the impacts and effects on sustainability (ethics, occupational health & safety and the environment) associated with each of the incidents managed in order to have more information and the ability to gauge this type of incident.

Noteworthy is that, for the contracting of some services, the requirements, in terms of environmental training and specifications linked to the execution of the works, are part of the contractual documentation. In the case of the activities with the greatest potential impact, such as construction, enlargement and 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 a thorough monitoring of the established environmental requirements.

The company carries out a continuous review of the requirements established in sustainability (ESG Scoring), which makes it possible to identify the degree of maturity of a supplier in environmental, social and governance aspects, as well as to make a comparison with the average obtained by the suppliers that are members of the Repro community.

In 2022, the company once again organised Sustainability Conference sessions, this time under the title 'Accelerating recovery through ESG', and during which various topics were addressed from the perspective of governance and risk management, the natural environment and the new economy, and people as protagonists of change, with the participation of suppliers (as in previous years).

In the **fight against climate change**, in 2022, Red Eléctrica continued to carry out its **collaboration programme** with its suppliers. The actions included in the programme are aimed at making progress in meeting the targets that Redeia has set itself regarding Scope 3 emissions:

Once the first phase (2019-2021) was completed, a second phase was initiated in 2022, aimed at ensuring that suppliers responsible for two-thirds of the emissions (Scope 3) associated with the supply chain have targets approved by SBTi. To this end, in addition to identifying and promoting common initiatives and projects to reduce emissions, accompanying actions to establish these targets will be strengthened through actions aimed at improving the collection of quantitative information.

During 2022, 26 suppliers, which account for 47% of the emissions of the supply chain, were contacted and they agreed to participate. A diagnosis of the situation and a first proposal for development measures were made, which will be agreed on and implemented in 2023.

As a result of the programme carried out between 2019 and 2021, there was a positive evolution in the number of suppliers with a third-party verified emissions inventory and, more importantly, of suppliers with SBTi approved targets. The final assessment carried out showed that 35% of participating suppliers improved their climate performance level and 50% were at high maturity levels.

The Company was recognised by CDP as a **Supplier Engagement Leader in 2022**, a seal that highlights the Company's performance in transferring its commitment to climate action to its supply chain.

Similarly, the Company continues to work on all the initiatives included in Redeia's **2030 Circular Economy Roadmap** which establishes measures to reduce the consumption of raw materials in the manufacturing of the goods and equipment it demands by substituting them for recycled, renewable or biodegradable materials and the reuse of these at the end of their useful life.

In 2022, a pilot project was carried out to identify potential criteria/requirements in terms of circularity and climate change to be included in tenders, for which information was requested in order to ascertain the degree of maturity of suppliers and to be able to analyse the results obtained and the criteria to be included in future purchasing processes.

Sustainable purchasing criteria have been seamlessly integrated into the General Conditions of Contract, encompassing aspects such as circularity and carbon footprint. These criteria have been incorporated into the General Conditions of Contract and bidding documents for the procurement of large equipment (such as power machines, switch disconnectors, and transformers) to ensure their inclusion in purchasing strategies. By factoring in these criteria during procurement decisions, the aim is to promote the acquisition of more sustainable and efficient services, equipment, and materials, thereby progressing towards the Redeia's Circular Economy Roadmap's key objective of establishing a circular procurement network by 2030.

The development of a **methodology for life cycle analysis (LCA)** and the preparation of a matrix for assessing the LCA of supplies for taking three relevant supplies as a reference was also carried out. This methodology, developed with the main suppliers, assesses aspects such as the use of recycled and recyclable materials, their origin, carbon footprint and water footprint, enabling quantification of the main environmental impacts and facilitating decision-making aimed at the acquisition of more efficient and sustainable supplies and, therefore, progress towards the group's objective of having a circular procurement network by 2030.

Additionally, equipment and materials that reach the end of their useful life in the Company are dealt with 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.

Lastly, in 2021, a new supplier evaluation model regarding sustainability, incorporating an updated ESG scoring system was introduced. This model revolves around three core pillars of sustainability, represented by the acronym ESG (Environmental, Social, and Governance). The scoring process entails a comprehensive 58-point questionnaire, some of which will require the mandatory submission of supporting documentation or evidence, which will enable suppliers to be evaluated in terms of sustainability. This model will enable the identification of a supplier's degree of maturity in ESG aspects, as well as a comparison with the average obtained by suppliers belonging to the Repro community.

7.7.3 Internal Training and Awareness

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 2022 was **15.8%** (compared to 28.4% in 2020), corresponding to 294 people and a total of 3,857 hours of training (compared to 6,204 in 2021).

Training represents **6.14%** of the total training provided in 2022.

7.7.4 Stakeholder Relations

Participation in Working Groups

Working Groups	Organiser
WG C3-9 (A) Sustainable Corridor management	CIGRE (International Council on Large Electric Systems)
WG C3.12 Methodologies for Greenhouse gas inventory and reporting for electricity transmission and distribution companies	
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 TSOs/DSOs under environmental transition	
JWG B1-C3.85 Environmental impact of decommissioning underground and submarine cables	
CIGRE: Technical Council (Chairpersonship SC3 - Chair of the Environmental Study Committee)	
Strategic Advisory Group (SAG-C3)	
National CIGRE committee (Environment committee member)	
Environment Community. Committee member and participation in WGs	AEC (Spanish Association for Quality)
WG Assets Implementation and Management (AIM), RDIC WG-1 (various SF_6 topics)	ENTSO-E
Working Group: SF_6, Common position, emissions and alternatives gases in HV equipment	ESAM
Whitepaper on reduction of GHG emissions	CEOS Group
Biodiversity Management Observatory Consultation Committee Energy Efficiency Observatory Sustainable Mobility Observatory	CES (Excellence in Sustainability Club)
Spanish Green Growth Group. Various working groups: Natural Capital WG, Climate Policies WG	Spanish Green Growth Group
Climate Change Cluster and Circular Economy Action Working Group	Forética
Natural Capital and Energy Working Group of the Spanish Energy Sector	Natural Capital Factory
Workshop for the analysis and renewal of the corporate commitment for a new IEEB (Spanish Business and Biodiversity Initiative).	Biodiversity Foundation
ISO Committee. CTN 328 'Biodiversity'.	UNE

Congresses, forums and informative sessions

Congresses, forums and informative sessions	Organizer
CIGRE Session 2022	CIGRE
Technical Sessions - CIGRE España 2022	CIGRE España
Climate Change Report	Climate Change Communication Observatory
Public Leadership Programme. Breakfast for parliamentarians and Senators. Lecture: Sustainability in the Red Eléctrica group.	CEOE (Spanish Confederation of Business Organisations)
Prodigious Encounters. Challenges of large companies in terms of green transition and digital transformation, addressing changes in companies from their ESG strategies.	Volcán Prodigioso
Connecting offshore wind and nature protection in the Mediterranean.	WindEurope 2022
Round Table: Sustainability in the energy sector	Enagás-Exolum
'Ecosystem Now' seminars. Round table 'In search of energy security and the future'.	El País
Sustainability in business	CEN (Navarra Confederation of Business Organisations)
Dialogue speaker: 'Nature and economic development in the Mediterranean'.	International Union for Conservation of Nature (UICN-Med)
Conference: Climate Change mitigation plans through the promotion of Renewable Energies.	COIICO (Official Association of Industrial Engineers of the Eastern Canary Islands)
The role of grids in the energy transition	Spanish Energy Club and sponsored by NATURGY

7.7.5 Communication and Dissemination of Environmental Information

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 (*https:www.ree.es/en*):

- The Map of projects section includes, among other things, includes the projects 'The Red Eléctrica Forest' and 'Pastoreo en RED': 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 2022, the total number of users who visited the environment section of the corporate website was 19,924 (down 23% compared to 2021 (25,748) with a total of 27,149 pages viewed, which represents a decrease of 19% compared to the previous year. (*https://www.ree.es/en*).

Additionally, a total of 21 press releases with environmental content and 63 environmental news related to the Company were written and published on the corporate website, and 69 articles through the 'red 2030' blog. Furthermore, 60 related tweets have been published.

Lastly, noteworthy is that the Company has published 12 videos related to biodiversity, 6 to climate change/energy efficiency and 2 to the circular economy and the 2030 agenda.

Internal communication

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

- News of an environmental nature (includes environmental management, biodiversity, climate change, energy efficiency, sustainable mobility, etc.) published in *NuestraRed* and #SAF:
- 37 news items published in the 'Carousel' (compared to 33 published in 2021).

7.8 Innovation

During 2022, expenditure on innovation of an environmental nature increased to €31.3 million. With the collaboration of all the areas involved, the following innovation projects stand out from a sustainability and environmental point of view (some have already been mentioned in other sections of this report):

Projects of an environmental nature	
Prodint	A system developed by Redeia for the early detection of forest fires, using the towers of the transmission lines and by means of sensors based on the Internet of Things technology, which captures the radiation emitted by the fire and automatically sends warnings to the system operator, reducing the reaction time of firefighting agents, with a consequent reduction in costs and environmental and personal damage. A laboratory and field-tested prototype is now available (installed on a section of line in Galicia) and is ready for large-scale deployment.
Bseed WATCH®	Bseed WATCH® is a comprehensive forest fire risk management tool capable of calculating the risk of fire and its destructive potential up to 10 days in advance. It also has early detection systems, thanks to its temperature, CO and CO_2 sensors, which alert the citizens of the area and local emergency authorities within seconds. In the event of a fire, it provides high-quality information on weather conditions in the area, the location and progress of the fire in real-time and control of evacuation routes, which is freely available to the population and those responsible for extinguishing the fire. In 2022, the sensors were tested during controlled burns in the Albufera Natural Park in Majorca, and their correct functioning and detection range were verified.
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. An algorithm was implemented throughout the national territory and was incorporated into the corporate maintenance management tools. During 2022, significant progress was made in the implementation of Phase I of the next cycle of the *Vegeta* project for vegetation management. As part of this initiative, a portion of the 2023 budget was prepared in accordance with the *Vegeta* methodology, covering various aspects such as execution, supervision, and inspections. Moreover, the accuracy and reliability of the forest inventory data was thoroughly validated to ensure its quality. Additionally, staff members underwent training to effectively utilise the new tools and methodology available.
SF_6 gas recovery system in indoor GIS	Development that allows the identification of different compounds with high affinity for SF_6 whose behaviour and efficacy have been tested in a pilot developed in 2021.
Monitoring of SF_6 Gas	System for the remote inspection of installations, utilising SF_6 gas monitoring technology. that enables the identification of greenhouse gas leaks in various critical areas, including electricity substations and the insulation gas ducts contained within them.
Alternative SF_6 gas for GIS switchgear	Two highly relevant pilot projects were launched, in which the use of an alternative gas has been planned for use in 400 KV insulation gas ducts and substation busbars. Additionally, it should be noted that Redeia has two 66 kV cells that use alternative insulating gas installed in the Canary Islands for their use as mobile generating units and is assessing the application of SF_6-free switches for this voltage level.
Automatic identification of tree and shrub species	An initiative that uses artificial intelligence to recognise vegetation growing beneath electricity lines.

Sustainable treatment methods for soils and groundwater affected by dielectric oils or hydrocarbons	The treatment of soils affected by leaks and spills at the accident site avoids sending contaminated soil to landfill. Work is focusing primarily on bioremediation, as a green technology, which in addition to detoxifying the soil, restores its ecological properties (soil as natural capital), by developing microbial consortiums whose specific degrading capacity is optimum for the oils used by Red Eléctrica in its equipment. In addition, other tests based on the application of surfactants and chemical oxidation have been carried out. The next phase of the project will focus on conducting a field pilot test.
ALERION	Bird collision detection system installed on electricity lines using fibre optic cable. Technological innovation contract signed in 2020 between Elewit, the University of Zaragoza and Aragón Photonics, with the support of Basoinsa, S.L. and the Migres Foundation in the control and monitoring of the natural environment.
Sustainable water	Pursues the collection of atmospheric water by airflow cooling condensation techniques to provide water supply in electricity substations.

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8 Environmental Risks

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 (revised and updated in 2021) and a 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.

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.

The Company has a taxonomy or classification of risks in order to facilitate a more complete identification of the same and to allow a more detailed analysis. This structure allows the risks identified to be classified into three levels of aggregation (Operational, Financial and Strategic). Within the operational risks, environmental risks associated with in-service assets are include. These risks are mainly related to the environment in which activities are carried out.

The Risk Management System establishes a methodology for determining the level of risk. In this way, all risks identified are classified individually into three categories: high-level, medium-level and low-level.

In 2022, the assessment of risks related to the environment and climate change was updated in collaboration with the Risk Control, Compliance and Quality Department.

The main **environmental impact risks** identified for the Company are those shown in the tables below; there are no relevant changes in their evaluation and classification with respect to 2021. The risks associated with climate change are treated separately from the rest of the risks associated with the environment.

Relevant risks derived from climate change with an impact on a time horizon of one year are included in the **Corporate Risk Map**, and therefore the same governance model applies to them as to all the risks included therein. This is the case of risk 1ESTR09 Climate Change: Legal Requirements Fluorinated Gases. The process of identifying and assessing risks associated with climate change is carried out annually.

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

	Risks arising from climate change	Main actions applied in the management of risks
1ESTR09	**Climate change: Legal requirements related to Fluorinated Gases (F-Gases)** [95]	• Commitment and action plan for the fight against climate change. • Voluntary agreement for comprehensive management of SF_6 gas in the electricity industry, between the Ministry of Agriculture, Food and Environment, equipment manufacturers (AFBEL), UNESA, REE and waste management companies. • Development of leak repair methodology. • Renewal of equipment. • Training and accreditation of personnel. • R&D in the search for alternatives to SF_6 gas. • Participation in working groups. • Monitoring and participation in regulatory development processes.

	Environmental impact risks	Main actions applied in the management of risks
1OPE06	Risk of fires due to lines and in substations	• Application of strict environmental criteria in all phases of planning, development and maintenance of facilities. • Environmental supervision of construction works. • Biodiversity strategy and actions. • Development of research projects and fire prevention plans. • Projects for birdlife conservation. • Training courses in environmental matters for field personnel. • Environmental awareness of suppliers. • Implementation of the Environmental Work Certification. • Establishment of collaboration agreements on environmental protection with the various autonomous communities. • Fire protection plans. • Contingency plans. • Environmental Management System certified in accordance with ISO 14001. • Implementation of the *Vegeta* project, for the optimisation of vegetation treatment tasks. • Start of the DALIA Project, which will facilitate inspection work through image processing using artificial intelligence.
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.	

[95] Monetised risks. 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).

During 2022, the Company continued to work on the identification and analysis of potential emerging risks, understood as those new risks whose origin differs from those traditionally managed, resulting from economic, social, technological, political and environmental transformation and with possible impacts of a special relevance for the organisation, which given their nature are difficult to predict, estimate and assess and their time horizon is uncertain.

This category of risks also refers to those that already exist and have been identified but which may undergo significant changes in the medium and/or long term, either due to their scope or to a considerable change in the consequences they generate.

In addition, a project has been carried out to identify and analyse long-term trends and scenarios (with a 2050 horizon), in order to, among other applications, try to identify the possible risks and opportunities that Redeia could face and try to anticipate action measures that could help prepare the Company for such future scenarios.

Risks associated with climate change

The Company follows the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) in its management of climate risks and has a methodology for its identification, prioritisation and economic quantification, which it began to apply for the electricity business in 2019 and transferred it to its business activities in Latin America and the telecommunications business in 2021.

The Company has identified a total of **47 potential risks related to the electricity business** in Spain which are evaluated considering the criteria of exposure, sensitivity and adaptability. It should be noted that the procedure takes into account both economic variables and other business indicators (impact on electricity supply, impact on the telecommunications service or impact on reputation). Furthermore, as included in the TCFD recommendations, different physical and transition scenarios are considered in the analysis.

As a result, risks are classified into 4 categories (low, medium-low, medium-high and high) with high and medium-high risks being considered relevant for the business, which will be monetised to quantify their financial impact. Given Red Eléctrica's status as a regulated activity, not all priority risks for Redeia necessarily imply a financial impact for the organisation. Physical & transitional risks **are set out below**.

Scenarios and horizons considered for the assessment of climate risks

- **Physical risks:**
  - The projections developed by the Spain's National Meteorological Agency (AEMET) for the most important scenarios of the fifth report of the Intergovernmental Panel on Climate Change (RCP 4.5 y RCP 8.5) have been considered.[96]
  - *Horizon: 2030-2050-2070*
- **Transition risks:**
  - The scenarios proposed by the International Energy Agency in its Word Energy Outlook 2020 report have been considered as a benchmark, which are completed with additional information on the relevant variables depending on the business and geographical area. In the case of the electricity business in Spain, the scenarios proposed in Spain's National Energy and Climate Plan (NECP) have been considered. Said scenarios are aligned with the NZE 2050 scenario and IPCC 2.6, and therefore in line with the objective of limiting the temperature increase to below 1.5º C.
  - *Horizon:2030-2050*

[96] 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	• Fires beneath the lines and in the vicinity of electricity substations. * • Impact on outdoor facilities (electricity lines) due to extreme events (wind). *	- Damage to infrastructure. - Increase in maintenance costs. - Impact on the electricity supply. - Reputational impacts (associated with power outages). - Impacts on third parties or the environment (in the case of fire).	- MANINT project, to optimise the management of transmission grid assets. - Projects for the improvement and strengthening of transmission grid facilities. - Tree-felling and pruning back (forestry) plans. Vegeta project. - Innovation. Prodint Project and Bseed Watch. - Contingency plans. - Insurance policies.
Transition risks	• Claims/grievances due to limitations to renewable production and incidents that may impact the security of supply in the Canary Islands, associated with the noteworthy increase in the share of renewables in the energy mix foreseen in the coming years. It is foreseen that it will increase from 17% to over 50% in the 2030 horizon.* • Loss of staple generation sources associated with the closure of coal-fired, combined cycle and nuclear power stations.[97].	- Increased difficulty in system operation (volatility of production, lack of monitoring...). - Increased risk of incidents in system operation that may affect the supply. - Increased production constraints and restrictions. - Increase in the number of claims/grievances. - Impact on reputation.	- 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. - Development of prediction models regarding renewable generation. - Construction of new transmission lines to evacuate renewable energy. - Strengthening of international cross-border connections. - Promotion of demand-side management initiatives and smart grids. - 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). - Insurance policies

[97] No financial risk for the organisation

	Relevant risks associated with climate change	Potential impact on the business	Mitigating actions
Transition risks	• 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). *	- 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. - Increase in the number of claims/grievances. - Impact on the Company's reputation - in the case of delays in the development of infrastructure required for Spain's National Energy and Climate Plan (NECP).	- Communication plan regarding the transmission gird planning process. - Feasibility study regarding the infrastructure proposed for the transmission grid planning process. - Stakeholder management model related to transmission grid investment projects. - Development of public participation/consultation processes. - INTEGRA project, to facilitate the adequate planning for the supply of services and material needs.
	• Increased legal requirements associated with the use of fluorinated gases (SF_6). *	- Increased costs associated with taxes related to the use of SF_6. - Operational costs associated with increased requirements related to leakage monitoring and control. - Technical difficulties and costs associated with potential restrictions on the use of SF_6.	- Voluntary agreement for the comprehensive management of SF_6 in the electricity industry, between the Ministry of Ecological Transition, equipment manufacturers (AFBEL), UNESA, REE and waste management companies. - Development of leakage repair methodology. - Renewal of equipment. - Training and accreditation of personnel. - R&D in the search for alternatives to SF_6 gas. - Participation in working groups. - Monitoring and participation in regulatory development processes.

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).

Risks arising from legal requirements and other requirements

The anti-bribery and crime prevention compliance system of the Redeia in Spain complies with the provisions of article 31 bis of the Criminal Code and the Circular of the State Attorney General's Office 1/2016 on the criminal liability of legal persons, as well as the UNE 19601 and ISO 37001 standards on criminal and anti-bribery compliance management systems.

In accordance with the provisions of UNE 19601 on crime prevention and ISO 37001 on anti-bribery management systems, respectively, during 2022 the requirement has been met for the organisation's personnel who are particularly exposed (management team), in addition to its governing body, to submit a statement at reasonable intervals confirming compliance with the Anti-bribery and Crime Prevention Policy that is incorporated in Redeia's Compliance Policy.

Throughout 2022 an internal audit was conducted to monitor the criminal and anti-bribery compliance system of Redeia's parent company, Red Eléctrica Corporación and for Red Eléctrica, in order to verify its compliance with the UNE 19601 and ISO 37001 standards of reference.

Additionally, an external audit was carried out by AENOR for the renewal of the certification of these companies in these standards, verifying the conformity and effectiveness of the system.

One of the regulatory areas that underpins the compliance system 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.

9 Objectives. Annual Environmental Plan

In order to ensure the continuous improvement of its environmental performance and processes, Redeia 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 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 2022 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 2022 Environmental Plan included 76 tasks to be carried out in 2022 under 12 strategic courses of action with priority objectives linked to each strategic line.

Overall compliance with the activities included in the **2022 Environmental Plan**, which develops the different environmental objectives and goals to be carried out during the year, was **80.3%.**

Some of the most relevant tasks carried out in 2022 by Red Eléctrica in each of the vectors are highlighted in the table shown on the following page.

Vector	Tasks/activities	Results obtained
A. Environmental management of the facilities	Identification and development of key documentation for the future integration of the Salto de Chira project in Red Eléctrica's Environmental Management System.	100% executed. Diagnosis of regulations and key documentation prepared. Technical verification completed. The project is expected to be environmentally certified in 2023.
	Blue-filtering Project: installation of an effluent filtering system at 11 facilities.	A total of 18 filters were installed during 2022 in 11 transformation facilities in order to reduce the risk of effluents containing contaminants (oil) escaping outside the facility in the event of an accident. By 2025, all installations with power transformers are expected to be equipped with a blue filtering system.
	Implementation of an Emergency Intervention Service 24/7: Implementation of the service, definition of an action protocol and dissemination. Mock drill regarding a spill.	An action protocol was defined in the event of an accidental spill and two mock drills were carried out at the La Cereal substation (Central Regional Area) and the Catadau substation (East Regional Area).
	Working Group with the Ministry of Health: Electromagnetic field dosimetry study at industrial frequencies.	During 2022, a collaboration agreement was drawn up and signed to carry out the project entitled 'Knowledge of the electromagnetic field values to which the general population in Spain is subjected'. Collaboration was established with the Universities of Extremadura and Castilla La Mancha as well as with the Carlos III Health Institute. The protocol on the basis of which the measurements will be taken was also drawn up and the first measurements were taken in Madrid, Albacete and Cáceres.
	Environmental risk reduction: Dissemination of contingency plans for 'Oil Filled' cables (OF).	The 9 contingency plans prepared for each of the OF cables in service have been disclosed, as well as the procedure for removing insulating fluid from OF cables by purging through hydrogel injection (procedure for eliminating environmental risk in OF cables).
B. Biodiversity	Natural capital and biodiversity: Definition of the scope of the biodiversity baseline, in terms of natural capital.	Definition of the scope of the biodiversity baseline that will allow significant progress in the integration of the most important materiality aspects of nature in decision-making processes. Environmental liabilities will be correctly located, identifying the type and degree of interaction with the activities, the impacts and dependencies where interaction is located will be defined, assessed and weighted, and finally it will allow the material risks and emerging opportunities to be analysed resulting from the response to risks given through the application of the mitigation hierarchy in the projects and the offsetting or restoration of all impacts.
	Definition of a Zero Net Deforestation Commitment	The Company has set a target of net positive impact on the natural capital surrounding its facilities for 2030, as well as ambitious emission reduction targets by 2030 encompassed in a path towards climate neutrality in 2050, the achievement of which is directly related to the maintenance of a commitment of zero net deforestation in the execution of its activities and those of its supply chain.

	Multi-year line marking plan 2017-2023 (marking corresponding to 2021): 50 km on critical spans.	In order to avoid and reduce the impact on birdlife, 70.1% of the line in critical priority areas is already marked. During 2021, 106 km of line circuit /71 km of critical spans were marked.
	Contribute to the training, collaboration, development and transformation of society through biodiversity conservation.	Knowledge sharing and search for solutions with stakeholders for the transformation of society: • Biodibal Platform (Balearic Islands University). • Signing of an agreement for the continuity of the '*Aula de la Mar*' project - an environmental education venture with the Balearic Islands Regional Government. • Canary Islands Birds Education Project (SEO BirdLife)
C. Climate change	SF_6 leakage resolution in GIS (Gas Insulated Switchgear): Resolution of active (corrective) leakage and preventive actions to avoid SF_6 emissions.	100% of the repairable leaks detected were fixed (23). Of special relevance are the repairs of the active leaks in the Can Jardi and Lourizán substations.
	Quantification of electrical energy consumption reduction target and percentage of renewable energy.	The following quantified objectives[98] have been incorporated into the 2023-2025 Sustainability Plan: -10% reduction in electricity consumption (compared to 2019). -100% of electrical energy contracted with guarantees of green origin.

The **degree of fulfilment of the goals in 2022** was analysed and resulted in a fulfilment of **68.6%.** Furthermore, the **overall degree of fulfilment of the Plan** for the 2017-2021 period was **70.2%**. It can be seen that most of the goals have been met or show a positive trend with respect to their situation in previous years.

As of 2023, the **2023-2025 Sustainability Plan** replaces the annual Environmental Plan in place until 2022. This change will make it possible to bring together, through a single plan, the fulfilment of all issues related to sustainability in the company, in addition to a single, centralised monitoring of the same.

The company has identified among its material issues, the following with a more significant environmental component for the achievement of the company's long-term objectives:

- **Climate change**
- **Biodiversity**
- **Circular economy**
- **Landscape integration of facilities**
- **Social Licence to Operate (SLO)**

These issues form the basis of the 7 environmental courses of action that are instrumental to articulating the 2023-2025 Sustainability Plan in its environmental aspect. The courses of action are broken down into **37 environmental objectives** and in turn are carried out through **65 actions**.

[98] Both objectives have a group-wide scope.

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:

	2020		2021		2022	
Incidents reported	**Accidents**	**Incidents**	**Accidents**	**Incidents**	**Accidents**	**Incidents**
Construction work activities	**2**	**19**	**3**	**20**	**4**	**15**
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	2	0	0	0	0
Leaks and spills of oil and hydrocarbons due to minor breakdowns during the use of machinery in construction works	1	15	3	19	1	12
Leaks and spills of hazardous substance due to explosion of equipment	0	0	0	0	3	2
Leaks and spills of hazardous substance	0	2	0	1	0	0
SF_6 leaks	0	0	0	0	0	0
Impacts on vegetation/fauna (not birdlife)	1	0	0	0	0	1
Maintenance activities[99]	**13**	**18**	**10**	**10**	**11**	**28**
Fires due to fault in lines	2	0	2	0	2	0
Fires due to fault in substations	0	0	0	0	1	0
Towers brought down due to severe weather conditions	1	0	0	0	0	0
Leaks and spills of oil and hydrocarbons during the use and maintenance of substation equipment	7	17	4	9	7	26
Oil **leaks** in lines	1	0	1	0	0	0
Floods	0	0	0	0	0	0
SF_6 leaks due to explosion of equipment or other accidents	2	0	3	0	1	0
Leaks and spills of hazardous substances	0	0	0	1	0	0
Impacts on vegetation/fauna (not birdlife)	**0**	**1**	**0**	**0**	**0**	**2**

[99] Bird collisions with electricity lines in service and under construction are dealt with in a separate table.

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". In 2022, no near accidents were registered.

Construction

In the construction phase, there were 4[100] accidents with environmental consequences during 2022 and 15 incidents, representing 34% of the total environmental incidents (construction + maintenance) during the year.

A significant incident took place during the enlargement of the Onuba substation, resulting in the rupture of phase 4 of the TI-5 (intensity transformer) and the subsequent spill of 145 litres of dielectric oil from the equipment. The spilled oil spread over an area of 20 m^2, affecting both the ground and adjacent elements. The accident was attributed to the improper handling of the crane equipment.

The minor accidents occurred during renovation projects at various substations. In the Villaviciosa substation renovation, an incident happened when an intensity transformer broke during the dismantling manoeuvre of the equipment. Similarly, during the renovation of the Penagos substation, another accident occurred when an intensity transformer being stockpiled for later removal by the Authorised Waste Manager fell, resulting in the breakage of the ceramic tank and 20 litres of oil spilled onto the internal road of the substation. At the Cacicedo substation, an oil spill incident took place when the arm of the boom crane on a truck, which was being used to move a construction site hut, broke.

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 11 accidents and 28 incidents (representing 66% of the total).

The accidents were the following: one due to SF_6 leaks (9%), seven due to leaks and spills of oils and hydrocarbons in substations (63%), two dye to fires as a result of line failure or incidents associated with the line (19%) and one due to a fire in a substation (9%).

One of the accidents was rated as major, three as significant, four as low relevance (20%) and three as minor (10%).

The accident classified as major was the following:

- Fire under span 357-358 of the 220 kV Sant Just-T de Celsa line. As a consequence of the breakage and fall of the conductor, a small fire was generated affecting an area of 40 m^2 of scrubland, bushes and herbaceous species. Firefighters had to intervene at the scene to extinguish the fire. Spans 357-358 are located within the boundaries of the Collserola Natural Park, an area declared as a protected area (RN2000), specifically it is a Site of Community Importance: *ES5110024 Serra de Collserola*.

[100] One of them not included in the total was caused by extreme weather conditions (flood) in the Chira Soria Project.

The three accidents classified as significant are the following:

- Spill of 550 litres of dielectric oil due to breakage of the terminal bottle of a cable affecting a surface area of 200 m^2. The necessary tasks are being carried out to clean up and restore the affected soil (Tarifa substation).

- Spill of 150 litres of diesel oil from a generator unit due to a failure in a hose, affecting a concrete and asphalted surface area of 2 m^2, the cleaning tasks of the affected area have been completed (Andratx substation).

- Spill of 1,200 litres of dielectric oil from a power transformer due to the breakage of a relay after a lightning strike. The oil was completely contained in the collection tank without affecting the substation floor. The tasks of emptying and cleaning the tank have been completed (Aguayo substation).

The four minor accidents were caused due to the leakage of oil in several outdoor terminals in the substations of Tordesillas, Gatica and Ciudadela and in La Plana during the oil recirculation actions of a power transformer. The minor accidents were caused by the leakage of SF_6 at the Villaverde Bajo substation and by a fire at the 66 kV Llucmayor-Santanyi line and at the Magallón substation due to a fire in a relay hut.

In the case of incidents related to maintenance, the situation is very similar to that of construction. Of the 28 incidents, 26 correspond to oil and hydrocarbon leaks and spills during the use and maintenance of substation equipment.

No serious accidents occurred in 2021.

11 Legal Compliance Assessment

In the case of legal, regulatory and other mandatory requirements, the Company assumes as a commitment, as part of Redeia's Environmental Policy, 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 **already settled** with a sanction) in the period **2017-2022** (the figures shown in red correspond to administrative proceedings resolved in 2022).

	2017		2018		2019		2020		2021		2022	
Type of infringement[101]	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[102]					2[103]	370.46			1[104]	90.15		
Unauthorised felling and pruning			2	1,451	2	1,667.04	1	10,800				
Felling, pruning and clearing without preventive measures												
Fire due to line discharge												
Waterway obstruction/works in areas without authorisation												
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					1[105]	240,401*						

[101] This data is reviewed annually to include resolved cases that were initiated in previous years. Therefore, the data affected by claims/cases resolved in 2022 are marked in red.

[102] Risk of fire due to the lack of maintenance of vegetation or the abandonment of material.

[103] PA-2020/35: 100€

[104] PA-2021/41

[105] PA-2019/76

Opening up of a forest trail without authorisation											
Use of a helicopter in a critical birdlife area without authorisation											
Electricity line crossing livestock trail without authorisation											
Incorrect waste management											
Environmental liability							1[106]	56,110.90[3]			
Non-compliance with waste permit										1[107]	1,020.00
Total No. of claims/cases/€	**2**	**1,451**	**6**	**247,238.50***	**1**	**10,800**	**1**	**90.15**	**1**	**1,020.00**	

[106] PA-2020/111. Claim/Case appealed in Contentious-Administrative Proceedings.

[107] Substation San Sebastian de los Reyes 220 kV

12 Environmental Expenditure/Cost

In 2022, Red Eléctrica has made environmental investments totalling **4,268,491.16 euros** in new facilities, equating to **0.8%** of the total amount invested in the transmission grid (534 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 2022 expenditure totalling **22,598,459.06** euros was made in the improvement and protection of the environment, representing **2.49%** of the total operating costs.

The following table shows the evolution of environmental expenditure over the last three years:

	2020	2021	2022
INVESTMENTS	**4,912,976.00**	**3,338,603.91**	**4,268,491.16**
Engineering and construction of facilities[108]	4,912,976.00	3,338,603.00	4,268,4916
EXPENDITURE[109]	**23,287,059.71**	**22,686,787.68**	**22,598,459.06**
Development of methodology and Systems[110]	199,109.00	180,677.00	265,239.00
Environmental studies and analyses[111]	78,621.94	143,965.15	12,459.00
Environmental actions in in-service facilities	19,916,317.10	19,153,184.58	19,230,121.38
Prevention of contamination[112]	1,302,741.16	1,353,148.04	1,662,210.15
Protection of biodiversity, landscape[113]	17,647,216.56	16,692,115.53	16,217,446.50
Climate change[114]	600,407.47	644,723.84	802,401.76

[108] Corresponds to the cost of engineering and construction of facilities. Environmental documentation of projects (Environmental Impact Studies, Environmental Studies, Landscape Simulations, Archaeological Studies...), processing of Environmental Impact Statements (EIS), environmental supervision of works and environmental monitoring programmes.

[109] Corresponds to the sum of the costs of 'Development of methodologies and systems'; 'Environmental studies and analysis'; 'Environmental actions in in-service facilities'; 'Research and Development'; 'Training and Communication'; Environmental taxes and levies' and 'Cost of personnel dedicated to activities of an environmental nature'.

[110] Management system certification audits (ISO 14001 and EMAS); Maintenance and evolution of the environmental management software tool (SACORP). Support for corporate management systems and self-managed global team.

[111] Development and maintenance of the Company's Geographic Information Systems and Environmental Planning Reports.

[112] Environmental management of maintenance, environmental supervision of substations and buildings.

[113] Projects associated with Biodiversity agreements, projects linked to specific agreements, Natural Capital Conference, projects associated with forest fire prevention agreements, regulatory maintenance of safety corridors/accesses (opening up of corridors) and inspections of electricity lines, marking of electricity lines, environmental conditioning of facilities and making good of access roads.

[114] The Redeia Forest, offsetting of emissions, support for calculating the CO_2 footprint, verification of the Carbon Footprint, energy efficiency measures, climate change action plan and sustainable mobility (fleet of electric vehicles).

Waste reduction and management[115]	365,951.91	463,197.17	548,062.97
Research and development[116]	1,531,876.50	1,144,538.64	1,779,647.47[117]
Training and communication	99,221.73	352,437.06	353,109.70
Environmental training and awareness programmes	16,064.73	30,361.06	30,790.70
Communication[118]	83,157.00	322,076.00	322,319.00
Environmental taxes and levies[119]	62,802.43	109,153.28	797,022.18
Cost of personnel dedicated to activities of an environmental nature	1,399,111.01	1,602,831.97	1,940,507.65
	28,200,035.71	**26,025,391.59**	**26,866,950.22**

In Red Eléctrica, environmental investment has decreased considerably due to the fact that in 2020 marine campaigns were carried out by the Environment Department at a cost of 1,913,379.51 euros, this year no such actions have been carried out.

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		2020	2021	2022
Percentage of investment on the environment	Environmental investment / total investment in the transmission grid	1.28	0.85	**0.80**
Percentage of expenditure on the environment	Environmental expenditure / total operating costs	2.80	2.68	**2.49**

[115] Waste management of facilities and an office waste management service.

[116] R&D projects of an environmental nature; examples: sustainable transformer, PRODINT, VEGETA, towers unique designs, sustainable water, SF_6 sensors, SF_6 leakage repair methodology in substations with Gas Insulated Switchgear, etc.

[117] Elewit

[118] Publications, videos and dissemination of other informative materials of an environmental nature.

[119] Municipal taxes on waste, water, occupation of public utility woodland and felling works, ...

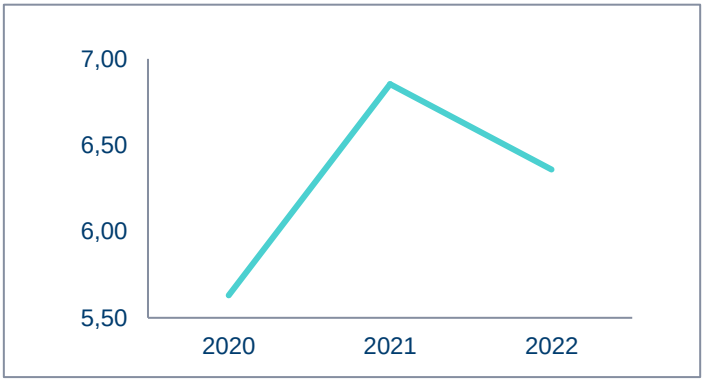
13 Performance Indicators

Main indicators

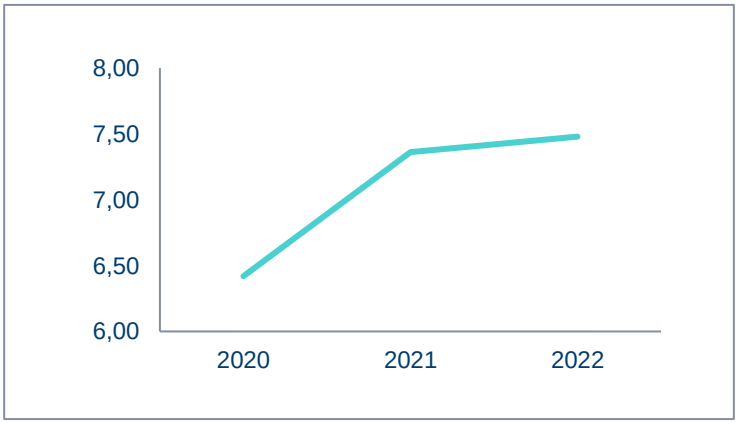
In the case of electricity and water consumption in those months of 2022 for which actual data was not available at the closing date of this Statement, the value of the electricity and water consumption has been estimated.[120]

Energy

Electricity consumption at the Head Office			
A			MWh consumed
B			No. employees at Head Office[121]
Indicator			A/B
Year	**2020**	**2021**	**2022**
A	6,323	7,320	7,065
B	1,123	1,068	1,011
Indicator	5.63	6.85	**6.36**



Red Eléctrica electricity consumption			
A			MWh consumed[122][123]
B			No. employees Red Eléctrica[124]
Indicator			A/B
Year	**2020**	**2021**	**2022**
A	12,569.77	14,195.71	14,97433
B	1,958	1,928	2,002
Indicator	6.42	7.36	**7.48**



[120] In those cases where there was no value in the first place, the real data for that month of the previous year was used. In the event that there was no real data for the previous year, the direct value of the invoice was taken. If there was no real data or invoice data, the average for the year was calculated by selecting the months that had real data.

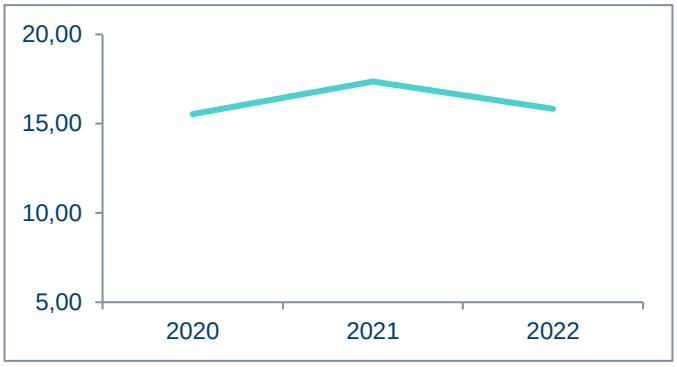
[121] La Moraleja and Albatros buildings. Includes interns and collaborators, as well as personnel contracted from temporary employment agencies, as they also consume electricity.

[122] 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. (14,055.399.2 MWh for work centres and 140,313 MWh for electric vehicles).

[123] 80.6% of the energy consumed comes from renewable sources (Renewable Energy Guarantee of Origin (REGO) certificates).

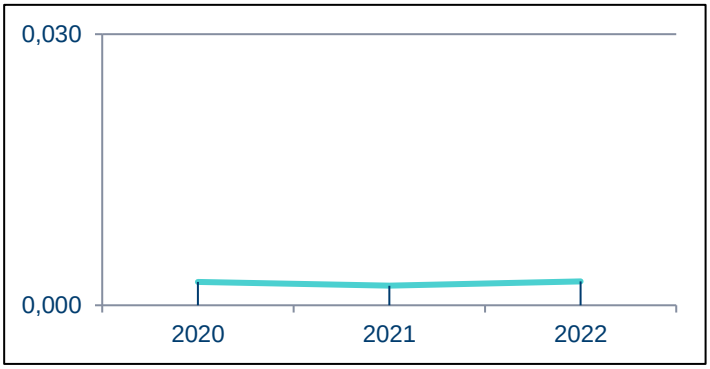
[124] For the calculation, all personnel working in the work centres and corporate buildings (employees, interns and collaborators, as well as personnel contracted from temporary employment agencies) are taken into account.

Fuel consumption[125]			
A	GJ (Gigajoules) consumed [126]		
B	Total No. of employees [127]		
Indicator[128]			A/B
Year	**2020**	**2021**	**2022**
A	27,272	31,276	29,427
B	1,755	1,801	1,858
Indicator	15.54	17.37	**15.84**



Materials

Paper consumption			
A	Tonnes (t) consumed		
B	Total No. of employees[129]		
Indicator			A/B
Year	**2020**	**2021**	**2022**
A	5.056	4.192	5.290
B	1,958	1,928	2,002
Indicator	0.003	0.002	**0.003**



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.

[125] Fuel consumed by Red Eléctrica vehicles (fleet, shared leasing and management/executive vehicles and the total amount of fuel consumed by mobile off-grid generator units).

[126] 1 kWh = 36 * 10^6 joules; 1 litre of diesel = 37 * 10^6 joules; 1litre of gasoline = 34 * 10^6, 1 litre of gas oil = 37 * 10^6 joules; 1 litre of biodiesel = 32.79 * 10^6 joules; 1 litre of LPG = 25.7 * 10^6 joules

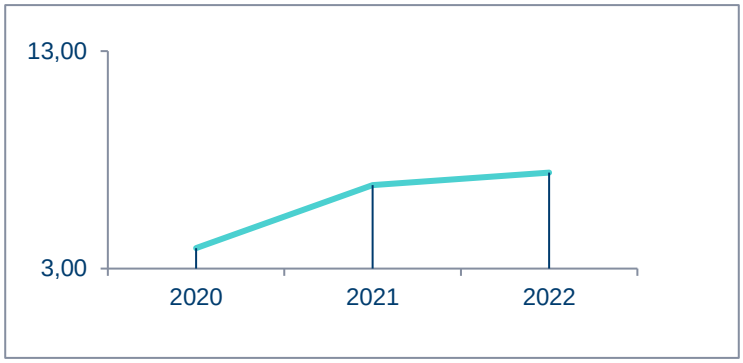
[127] Number of employees on the workforce that can use vehicles (without taking into account interns or collaborators).

[128] Red Eléctrica value

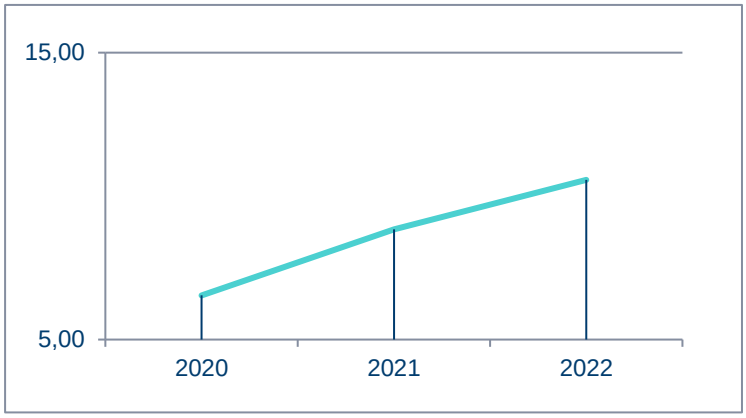
[129] Includes interns and collaborators, as well as personnel contracted from temporary employment agencies, as they may also consume paper.

Water

Total water consumption			
A			m^3 consumed
B			Total No. of employees[130]
Indicator			A/B
Year	**2020**	**2021**	**2022**
A	12,802	17,045	21,153[131]
B	1,958	1,928	2,002
Indicator	6.54	8.84	**10.57**[132]



Water consumption at the Head Office			
A			m^3 consumed
B			Total employees at Head office [133]
Indicator			A/B
Year	**2020**	**2021**	**2022**
A	3,217	7,305	8,237[134]
B	816	1,680	1,111
Indicator	3.94	6.84	**7.41**



[130] Taking into account all the personnel that work in the various work centres: employees, interns and collaborators, as well as personnel contracted from temporary employment agencies.

[131] With a degree of coverage of **99.3%** in terms of personnel (taking into account all personnel working in the various work centres: consumption without 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).

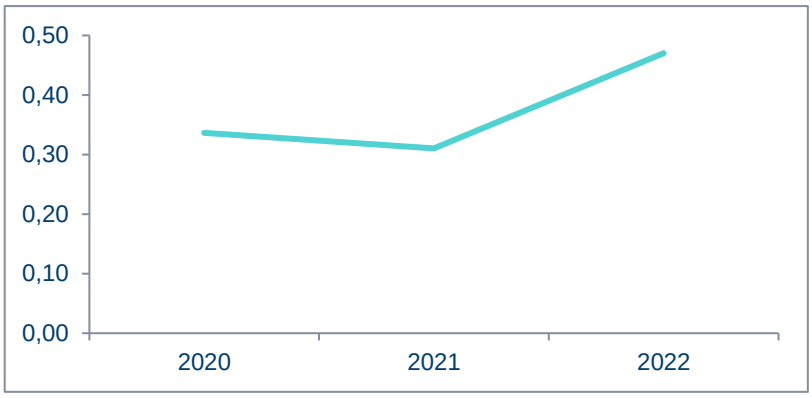
[132] Water consumption per employee is **10.63** m3/ for all water consumers, taking into account only the sum of consumption in buildings/centres where there are staff. The figure shown (10.57 m3/person) shows the consumption counting buildings with persons and counting persons in buildings where there is no data recorded regarding consumption.

[133] 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.

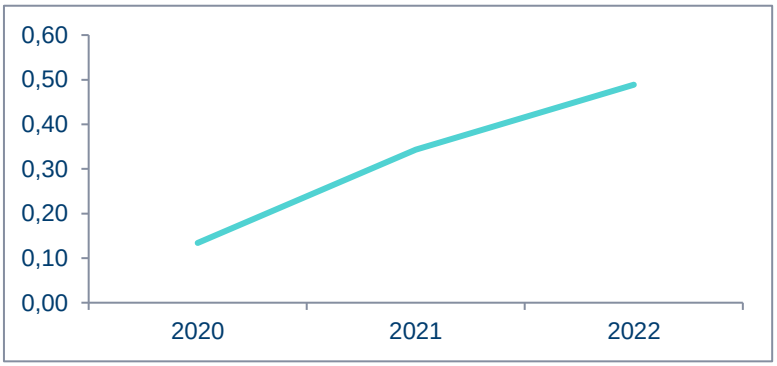
[134] Consumption of the La Moraleja and Albatros buildings is included as of 2021. In previous years, consumption only included the La Moraleja building.

Waste

Non-hazardous waste			
A	Tonnes (t) of non-hazardous waste generated		
B	Revenue (millions of euros)		
Indicator			A/B
Year	**2020**	**2021**	**2022**
A	564.118	520.567	750.552
B	1,668.3	1,677.5	1,596.3
Indicator	0.34	0.31	**0.47**



Hazardous waste			
A	Tonnes (t) of hazardous waste generated		
B	Revenue (millions of euros)		
Indicator			A/B
Year	**2020**	**2021**	**2021**
A	224.843	576.166	780.150[135]
B	1,678.0	1,677.5	1,596.3[136]
Indicator	0.13	0.34	**0.49**



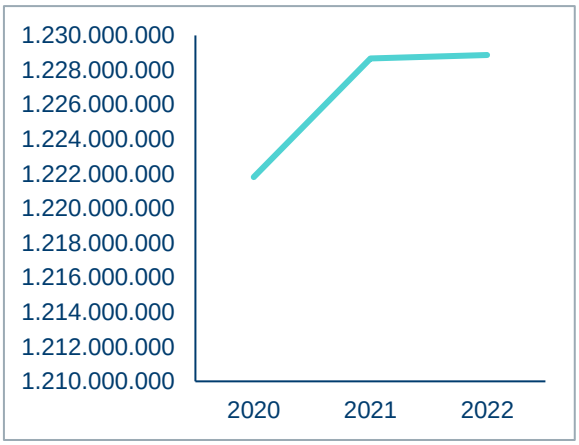
[135] The amount of waste generated has risen compared to the amount recorded in previous years: an increase 204 tonnes of hazardous waste compared to 2021 and 230 tonnes in the case of non-hazardous waste. The increase is due to the return to normal/regular maintenance actions and renovation and improvement projects, thus reflecting waste generation figures similar to those registered in the pre-pandemic period (2019).

[136] Non-adjusted data. The value for 2020 was amended to the non-adjusted figure and the indicator was recalculated.

Land occupation in relation to biodiversity

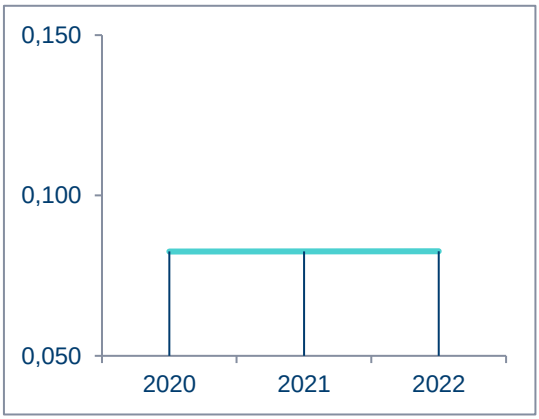
Biodiversity Total land occupation[137]	
A	Surface area occupied by LINES[138] (m^2)
B	Surface area occupied by SUBSTATIONS[139] (m^2)
Indicator [140]	Total land occupation (m^2)

Facilities			
Year	**2020**	**2021**	**2022**
A	1,211,410,000	1,218,105,873	1,218,302,352
B	10,400,000	10,566,635	10,566,635
Total	1,221,810,000	1,228,672,508	**1,228,868,987**



Biodiversity: % occupation of Red Natura land[141]	
A	Surface area in Natura 2000 Network occupied by facilities[142] (m^2)
B	Total surface area of Natura 2000 Network[143] (m^2)
Indicator	A/B x 100

Facilities			
Year	**2020**	**2021**	**2022**
A	$184.580*10^6$	$184.580*10^6$	$184.580*10^6$
B	$223.682*10^7$	$223.682*10^7$	$223.682*10^7$
Indicator	0.083	0.083	**0.083**



[137] 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.

[138] 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 (approximately 8 to 10 m^2). The surface area occupied by submarine cables has been estimated at 0.5 metres on each side of the line (total of 1 metre).

[139] Actual area occupied by the complete set of electricity transmission substations calculated to include the safety perimeter around each one of the substations.

[140] The land occupied by corporate office buildings 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 building is not entirely owned by Red Eléctrica.

[141] 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.

[142] Surface area occupied by electricity lines and substations: 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 (approximately 8 to 10 m^2). The surface area occupied by submarine cables has been estimated at 0.5 metres on each side of the line (total of 1 metre).

[143] Natura 2000 Network includes: SCIs (Sites of Community Importance) and SPAs (Special Protection Areas).

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

- **Total sealed area**

In the case of transmission lines (43,991 kilometres of circuit line with a total of 82,824 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 m2 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 (708 substations in service in 2022), 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.

- **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 participate 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. 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 was carried out and during 2022 the measures were implemented in the gardened areas of both work centres.

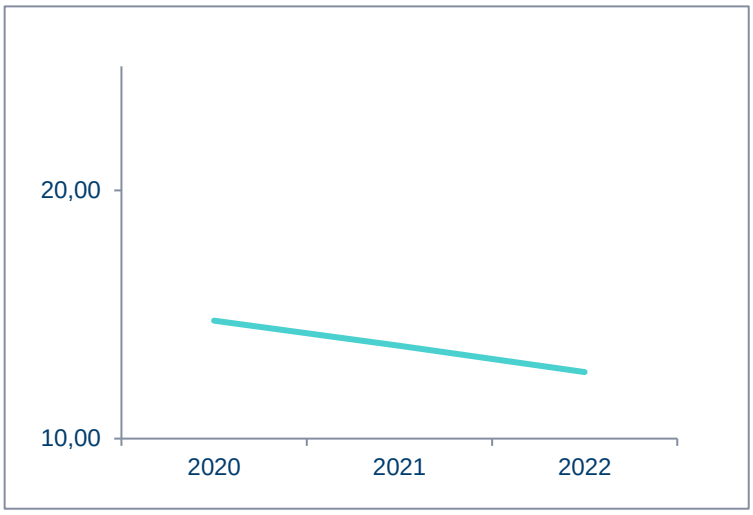
In addition, Red Eléctrica participated in a pilot experience carried out jointly with the CSIC and the regional government of Andalusia through the project called *Biotransporte* which considered power lines and their supports as biological corridors or biodiversity islands. This project analysed the 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 micromammals 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 (www.mdpi.com/journal/diversity). In 2022, the project was awarded the Good Practice of the Year prize by the Renewables Grid Initiative (RGI) in the environmental protection category.

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. 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 (areas under electricity power lines that has forestry management) and as a refuge for fauna where the adjacent habitat is impacted by anthropogenic actions. A biodiversity monitoring protocol has been designed for transmission grid facilities and a guide has been designed to evaluate the ecosystems generated beneath overhead electricity lines.

Emissions

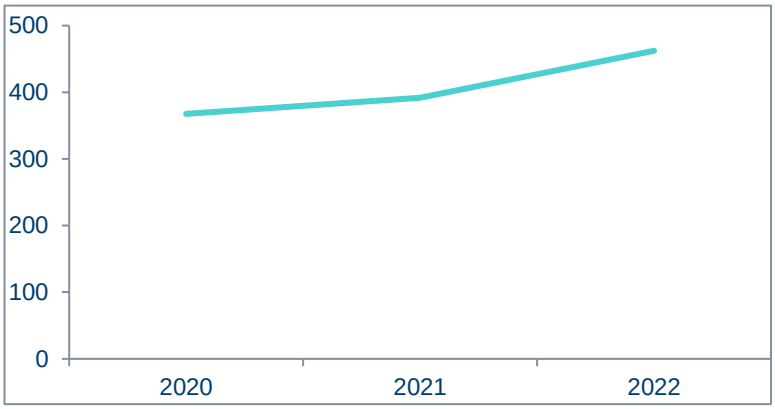
Direct emissions of greenhouse gases (SCOPE 1) + Emissions from electricity consumption (SCOPE 2 without losses)[144]

A	tCO_2eq. SCOPE 1 + Emissions from electricity consumption		
B	Revenue (millions of euros)		
Indicator			A/B
Year	**2020**	**2021**	**2022**
A	24,752.78	23,054.54	20,243.43
B	1,678.0	1,677.5	1,596.3[145]
Indicator	14.75	13.74	**12.68**



Emissions SCOPE 1 + SCOPE 2 including transmission grid losses[146]

A	tCO_2eq (SCOPE 1+SCOPE 2)		
B	Revenue (millions of euros)		
Indicator			A/B
Year	**2020**	**2021**	**2022**
A	616,831	657,275	737,950
B	1,678.0	1,677.5	1,596.3[147]
Indicator	368	392	**462**



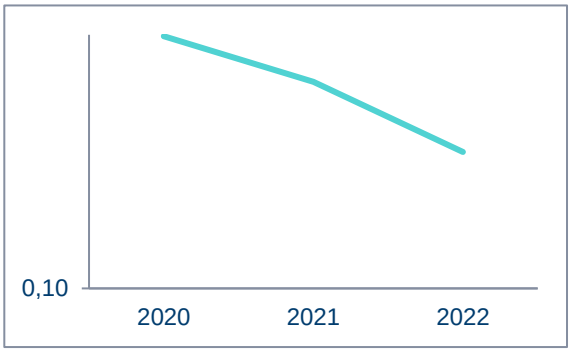
[144] Scope 1 and 2 Emissions (not including transmission grid losses). Red Eléctrica considers it relevant to monitor this indicator, without including transmission grid losses (as it is not possible to act on them).

[145] Non-adjusted revenue data. The value for 2020 was amended to the non-adjusted revenue figure and the indicator recalculated

[146] 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. The increase in emissions in 2022 is mainly due to the recovery of the demand and increased transmission grid losses.

[147] Non-adjusted revenue data. The value for 2020 was amended to the non-adjusted revenue figure and the indicator was recalculated.

% SF_6 emissions[148]			
A			t SF_6 emitted
B			t SF_6 installed[149]
Indicator			A/B*100
Year	**2020**	**2021**	**2022**
A	0.97	0.89	0.75
B	489.070	506.301	518.425
Indicator	0.20	0.18	**0.15**[150]



Concerning the indicator '**Total annual air pollution emissions**', **with regard to SO_2, NO_x and PM emissions**, it is necessary to indicate:

Emissions of this type of pollutants (SO2, NOx 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 (off-grid).

  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 as back-up generators 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 order to carry out maintenance work.
  - Shared leasing vehicles: used by technical staff in the various regional areas in the necessary travel required to perform 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).

[148] The most representative emissions of REE's activity are SF_6 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_6 gas emissions in relation to the total SF_6 gas installed, it is considered more appropriate to use tonnes of SF_6 emitted as the unit of measure, rather than calculate it in tonnes of CO_2 equivalent.

[148] The increase in installed gas is mainly due to the commissioning of new facilities and the replacement of old equipment for SF_6 insulated equipment.

[148] 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_6 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_6 emissions, in particular, the decrease over the last few years reflects the repair work that has been carried out since 2018.

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 optimise 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). 80.6% of the Company's vehicles (including passenger cars, SUVs, vans, trucks, shared leasing, executive vehicles and the pool of electric vehicles) have an energy rating of 'A'.

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_2eq. the impact of the aforementioned gases (SO_2, NOx and PM) on the possible greenhouse effect is included.

Emissions from Fleet Vehicles			
			Kg of CO_2/Km[151]
Year	**2020**	**2021**	**2022**
	0.15	0.15	**0.17**

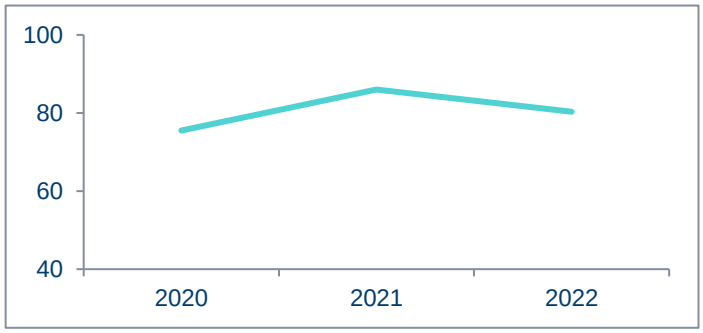
[151] Fleet vehicles + shared leasing (excludes directors' vehicles).

Specific environmental performance indicators related to the activity

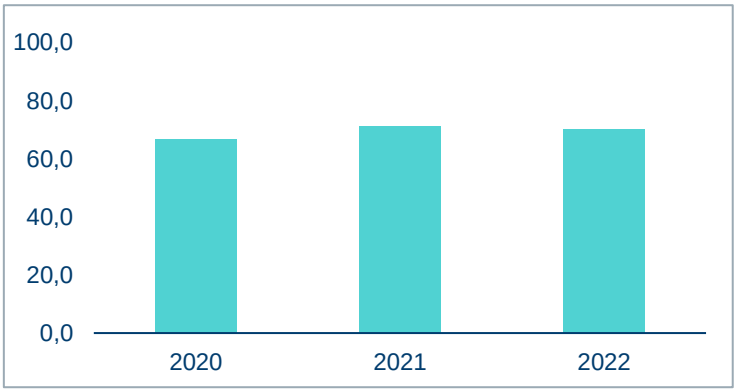
Shown below are specific environmental performance indicators related to Red Eléctrica's activity not already included as part of the key indicators. As there is no specific EMAS sector document of reference available for the High-Voltage Transmission and Electricity System Operation activity, the choice 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	**2020**	**2021**	**2022**
A	75.5	86.0	80.3
B	100	100	100
Indicator	75.5	86.0	**80.3**



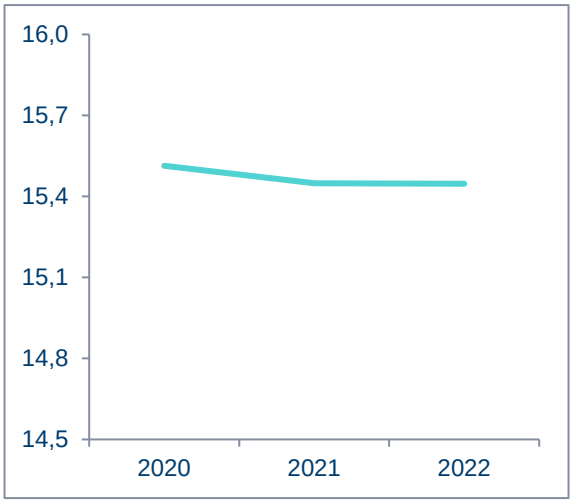
	Biodiversity: % critical lines marked		
A	Km of line marked in critical areas[152]		
B	Km of line in critical areas[153]		
Indicator	A/B x 100 (% of line in critical area marked)		
Year	**2020**	**2021**	**2021**
A	508.4	562.5	681.2
B	764,6	791	972,1
Indicator	66.5	71.1	**70.1**

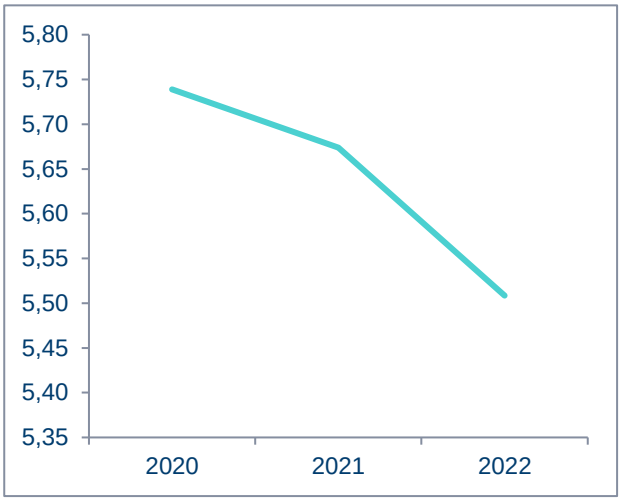


[152] Cumulative data at the end of each year. This data refers to the route, i.e., the length of the lines irrespective of the number of circuits they have.

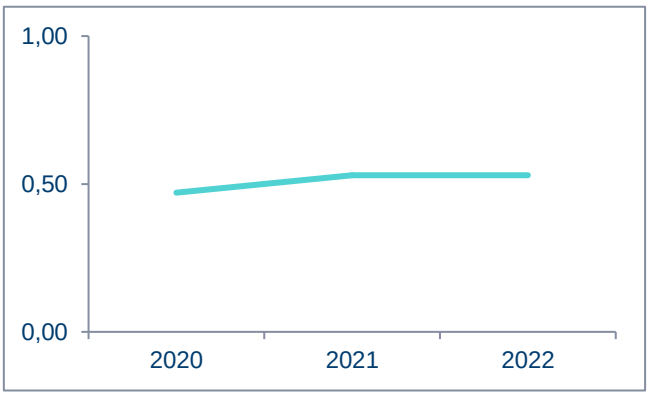
[153] The target value fluctuates slightly each year, depending on the variations in the transmission grid facilities (new lines and changes to existing lines) and the updating of birdlife accident data. The percentage of line marking refers to the target value defined in each of the years.

Biodiversity: Impact of facilities						
A	Km of line in Natura 2000 Network[154]			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	**2020**	**2021**	**2022**	**2020**	**2021**	**2021**
A	4,904.09	4,908.95	4,909.19	40	40	39
B	31,611.31	31,775.97	31,781.09	697	705	708
Indicator	15.5	15.4	**15.4**	5.74	5.67	**5.51**





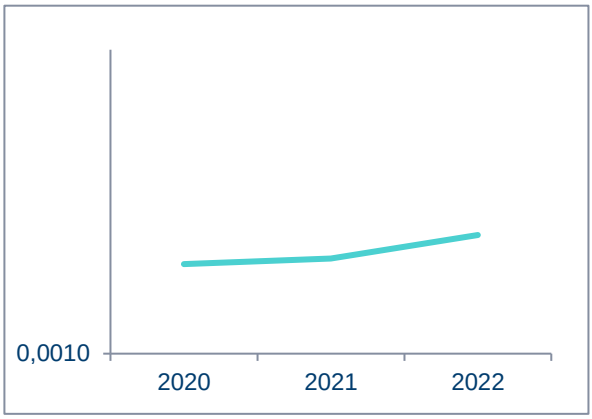
Biodiversity/Relationship with stakeholders			
A	No. of autonomous communities with biodiversity projects		
B	Total No. of autonomous communities		
Indicator			A/B
Year	**2020**	**2021**	**2022**
A	8	9	9[155]
B	17	17	17
Indicator	0.47	0.53	**0.53**



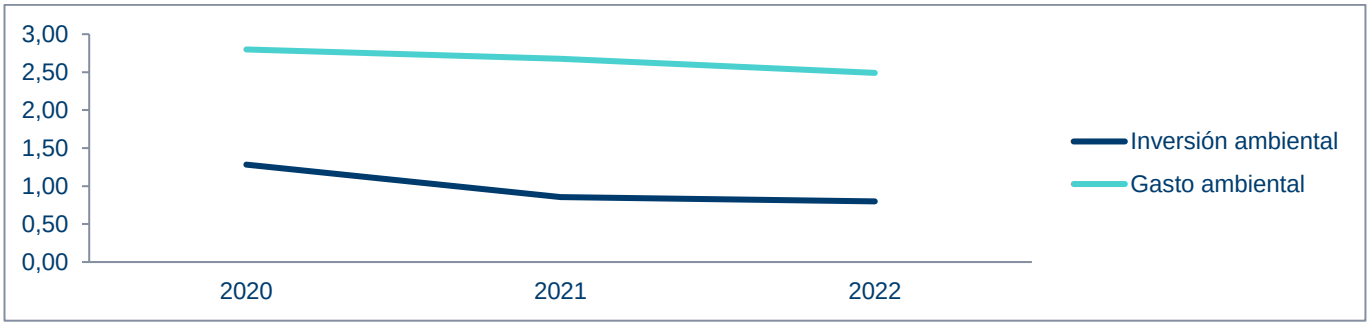
[154] Includes the total number of kilometres of submarine cable and those in Red Natura.

[155] Conservation projects have been carried out in a total of 9 autonomous communities: Andalusia, Balearic Islands, Canary Islands, Castilla y León, Catalonia, Extremadura, Navarra, Valencia and the Basque Country.

Emissions			
A	Indirect emissions derived from transmission grid losses ($tCO_2eq.$)		
B	MWh transported		
Indicator	A/B		
	Emissions derived from transmission grid losses[156]		
Year	**2020**	**2021**	**2022**
A	592,078	634,211	718,015
B	249,411,925	256,387,046	250,029,768
Total	0.00237	0.00247	**0.00295**

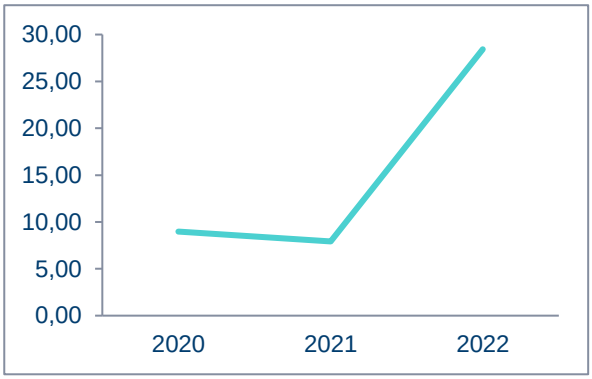


Environmental investment and expenditure						
A	Environmental investment			Environmental expenditure		
B	Total investment			Total expenditure		
Indicator	A/B x 100			A/B x 100		
	Environmental investment			**Environmental expenditure**		
Year	**2019**	**2020**	**2021**	**2019**	**2020**	**2021**
A	1,740,988.77	4,912,976.00	3,338,603.91	25,806,074.68	23,287,059.71	22,686,787.68
B	396,400,000	383,102,000	390,980,000	924,913,000	832,061,000	847,302,000
Indicator	0.44	1.28	**0.85**	2.79	2.80	**2.68**

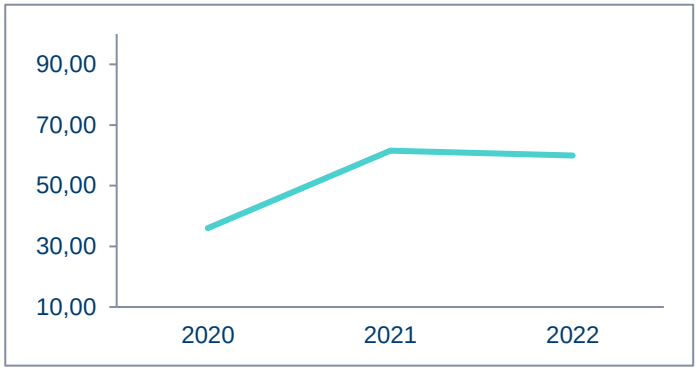


[156] The emissions associated with the transmission grid losses, in the same way as for the emissions associated with the consumption of electricity, do not occur during the activities of Red Eléctrica de España as they take place at the various electricity generation points. For the calculation of these emissions, the emission factors corresponding to each system (Spanish mainland, Balearic Islands and Canary Islands) are calculated by Red Eléctrica de España based on the annual generation balance. The increase in emissions in 2022 is mainly due to the recovery of the demand and increased transmission grid losses.

Training and awareness-raising actions			
A	No. of employees who received environmental training		
B	No. of employees[157]		
Indicator	A/B x 100		
Year	**2020**	**2021**	**2021**
A	139	512	294
B	1,755	1,801	1,958
Indicator	7.92	28.43	**15.82**



Accidental spill of hydrocarbons			
A	No. of accidents involving oil or fuel spills from in-service transformers and equipment		
B	Total No. of accidents[158]		
Indicator	A/B x 100		
Year	**2020**	**2021**	**2022**
A	9	8	9
B	15	13	15
Indicator	60.00	61.54	**60.00**



[157] Only Red Eléctrica personnel

[158] Accidents not involving birdlife.

14 Frequency of the Environmental Statement

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 2022.

The Spanish Association of Standardisation and Certification (AENOR INTERNACIONAL, S.A.U.), 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 2024.**

Glossary of terms

Bird saving devices or 'spirals'	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. *(Own definition. Red Eléctrica).*
Electrical field	In a point in space, the force exerted on a static load located at that point. Expressed in volts per metre (V/m). *(50 Hz. Electrical and Magnetic fields Red Eléctrica and UNESA, 1998)*
Environmental aspect	An element of the activities, products or services of an organisation which has, or which may have, an impact on the environment. *(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)).*
Environmental behaviour indicator	Specific performance indicators providing information on an organisation's environmental behaviour. *(Standard UNE-EN ISO 14031 Environmental management. General Guidelines).*
Environmental impact	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. *(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)).*
Environmental management system	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. *(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)).*
Environmental objective	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. *(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)).*

Environmental policy	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. *(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)).*
Magnetic field	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 (μT). *(50 Hz. Electrical and Magnetic fields. Red Eléctrica and UNESA, 1998).*
Nesting deterrent	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. *(Own definition. Red Eléctrica).*
Red Natura 2000 (Natura 2000 Network)	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. *(Law 42/2007 of 13 December, on Natural Heritage and Biodiversity).*
Significant environmental aspect	An environmental aspect that has, or which may have, a significant impact on the environment. *(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)).*
Special Area of Conservation (SAC)	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. *(Directive 92/43/EC, of May 21, on the Conservation of Natural Habitats and Wild Fauna and Flora).*
Special protection Area (SPA) for Birdlife	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.
Visual simulation	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. *(Own definition. Red Eléctrica).*

Waste	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). *(Law 22/2011, 28 July, on Waste and Contaminated Soils).*

Statement from the Verification Agency

Annex: Environmental Actions 2022

The most **significant preventive and corrective measures** carried out during 2022 for the construction or modification of facilities are described below.

Avoidance and reduction measures for habitat protection and conservation

- Modification of the design of the Güeñes-Itxaso line project (modification of access routes to use existing tracks and change to the siting of towers 8 and 9 due to the presence of caverns).
- Surveying, marking off and the protection of habitats of community interest in the projects of increase in transmission capacity of 220 Benahadux-Orgiva line, 400 kV Ayora-Corfrente line, Bunyola-Inca line and the Ibiza-Formentera interconnection.
- On the 220 kV Lousame-Tibo line, marking off the area of hardwoods taller than 30 cm, and the protection of the Valga River tributary (trout river).
- Execution of selective pruning avoiding felling of hardwoods and plant formations of interest, for the incoming and outgoing feeder lines for the 220 kV O Incio substation and for the 400 kV Güeñes-Itxaso line.
- Erecting with a boom crane of the entire 220 kV Lousame-Tibo electricity line, 19 towers of the 400 kV Ayora-Cofrentes line, 36 towers of the 400 kV Morella-La Plana line, and all the towers of the Bunyola-Inca line located in the Serra de Tramuntana National Park.
- Erecting with a boom crane of sections (8 towers) on the 400 kV Morella-La Plana line.
- Hanging by hand in areas with sensitive vegetation on the 400 kV Baza-Caparacena line, the 400 kV Güeñes-Itxaso line and the 400 kV Ayora-Cofrentes line.
- Hanging by helicopter of several sections of the 400 kV Güeñes-Itxaso line and the 400 kV Morella-La Plana line.

Avoidance and reduction measures for the protection and conservation of fauna

- Biological stoppages in 11 actions, during breeding periods, which in many cases lasted up to 7 months.
- Prior surveys for the presence of nests along the 132 kV Puerto del Rosario-Gran Tarajal line and the 132 kV Playa Blanca - La Oliva line circuit.
- Installation of bird-saving devices on several spans of the electricity lines: the 220 kV Sanabria-Mudarra line, the 400 kV Güeñes-Itxaso line and the 400 kV Aldeadávila-Arañuelo line.
- Monitoring of birdlife during the execution of the works for the 220-400 kV San Fernando substation project and the E/S 400 kV San Fernando-L/ Morata 1- Morata terminal station.

Biodiversity Action Plan

Scope of action	Objectives for 2025	Actions taken in 2022	Fulfilment
Biodiversity impact measurement and assessment.	• Implementation of a system for accounting and valuation of natural capital in biodiversity in Red Eléctrica. • Implementation of a baseline of the impact on biodiversity of 100% of the electricity business companies (Red Eléctrica and Redinter)	• Development of a methodology for quantitative valuation of impacts (negative and positive) on biodiversity. • Definition of the scope of the biodiversity baseline, in terms of natural capital for Red Eléctrica.	100%
Biodiversity-related risks and opportunities	• Identification of risks and opportunities regarding natural capital and biodiversity in Red Eléctrica.	• ALERION Project: early detection system for bird collisions with high voltage lines. Development of test phase in two lines – one of 220 kV and one of 400 kV. • *Naturaleza en RED* project with the Autonomous University of Barcelona: biodiversity monitoring protocol for transmission grid facilities. Design of a guide for the evaluation of ecosystems generated beneath overhead electricity lines.	100%
	• 100% of the critical spans are marked (Red Eléctrica).	• Marking of 119 km of line with bird-saving devices in critical priority zones.	100%
Habitat protection and restoration: protected areas or areas of high biodiversity value.	• Development of offsetting projects associated with the commitment to protect vegetation and combat deforestation for 100% of the investment projects.	• Formalisation and publication of the Commitment to protect vegetation and combat deforestation. • Forest restoration in Vizcaya: 14.23 ha reforested and recovery of 105 ha of beech forest (planting, forestry works and fencing off actions). • The Navarra Forest: 47.37 ha recovered. • The Àvila Forest: 30.22 ha recovered. • Redeia Marine Forest: 2 ha recovered under scientific control and monitoring. • Restoration of the Mareta del Río coastal wetland (Tenerife): beginning of the consultation and information phase for the local population.	100%

Scope of action	Objectives for 2025	Actions taken in 2022	Fulfilment
Recovery and conservation of endangered and vulnerable species	• Recovery projects for 10% of the faunal groups with marine and terrestrial focal species	• 14 ongoing projects on the conservation of focal species. • Monitoring the occupation of common kestrel and little bat in nesting boxes in substations and on electricity lines.	75%
Eradication of invasive species associated with electricity transmission infrastructure	• Prevention and control plans for invasive species for at least 30% of the identified area.	• Pampas grass (*Cortaderia seollana*) eradication plan with SEO BirdLife: monitoring along the Astilleros high-voltage line and integration of criteria in internal regulations. • Elephant Grass (*Arundo donax*) eradication plan: agreement signed with Fundación Limne. • Signing of an agreement with the Research Foundation of the University of Seville for research on the invasive macroalga (*Rugulopteryx okamurae*. A type of seaweed)	67%
Electricity infrastructure as a biodiversity reservoir	• 20% of the km of electricity lines in Spain, identified as 'Biodiversity Islands', consolidated as a reservoir and corridor of biodiversity and a tool for adaptation to the effects of climate change.	• *Pastoreo en RED* (Livestock grazing project): Calahorra (La Rioja), Alto Bernesga Biosphere Reserve (León) and Galicia. • *Pastoreo en RED* (Livestock grazing project) evaluated and validated as a Nature-Based Solution (NBS) according to the IUCN standard. • Life BooGi-BOP project at the La Moraleja Head Office and Tres Cantos buildings: monitoring and the implementation of new actions.	100%

Waste Management in 2022

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

	HAZARDOUS WASTE					
	2020	2021	2022	2020	2021	2022
Treatment method	kg	kg	kg	%	%	%
Elimination	13,250.00	39,048.00	52,964.00	5.89	6.78	**6.79**
Recycling	208,791.15	450,802.28	700,389.00	92.86	78.24	**89.78**
Regeneration	2,802.00	636.00	26,797.00	1.25	0.11	**3.43**
Reuse	0.00	0.00	0.00	0.00	0.00	**0.00**
Waste-to-Energy (Energy recovery)	0.00	85,680.00	0.00	0.00	14.87	**0.00**
Total	224,843.15	576,166.28	**780,150.00**	100.00	100.00	100.00

	NON-HAZARDOUS WASTE					
	2020	2021	2022	2020	2021	2021
Treatment method	kg	kg	kg	%	%	%
Elimination	167,576.00	22,700	57,200	29.71	4.36	**7.62**
Recycling	396,342.00	497,866	690,991	70.26	95.64	**92.06**
Regeneration	0.00	0.00	2,360	0.00	0.00	**0.31**
Reuse	0.00	0.00	0.00	0.00	0.00	**0.00**
Waste-to-Energy (Energy recovery)	200.00	0.00	0.00	0.04	0.00	**0.00**
Total	564,118.00	520,567.00	**750,551.00**	100.00	100.00	100.00

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