

**RED**  
**ELÉCTRICA**  
DE ESPAÑA

*Grupo Red Eléctrica*

## **Sustainability and Green Finance at Red Eléctrica de España**

October 2019

# Overview

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- Red Eléctrica at a glance
- Sustainability at Red Eléctrica de España: a leader in the sector
- Green Finance at Red Eléctrica: enabling the energy transition in Spain
- Examples of Eligible Green Projects
- Portfolio and debt structure

Disclaimer



# Red Eléctrica at a glance

# Red Eléctrica de España at a glance

- Red Eléctrica de España is the owner and transmission system operator of the high voltage electrical grid in Spain. Founded in 1985, REE operates 44,000 km of transmission lines and in 2018 managed over 253 TWh of energy



Established in 1985, it was the first electricity company in the world specialised in HV power transmission and electricity system operation



Third largest TSO in Europe in terms of volume of assets



One of the main TSOs in Europe in terms of market capitalisation



Recognised experience in large-scale projects of great technical complexity



Sustained stable growth and a sound financial position



A reference in the monitoring and control of renewable energies (CECRE)

## Key indicators<sup>(\*)</sup> (2018)

**1.799** employees

**41.7%** of women in the Board of Directors

**44.069** km of circuit

**1.949M€** revenue

**15.572M€** gross property, plant and equipment

**4.575M€** CAPEX 2014/2019

**10.548,4M€** market capitalisation

**DJSI & FTSE4Good** sustainability indexes

**EFQM 500+** seal of excellence

**A- rating** S&P and Fitch Ratings

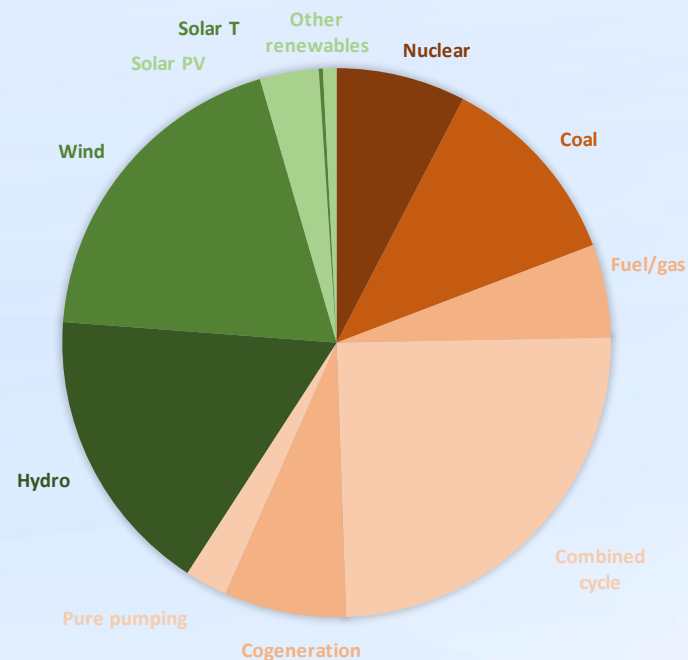
(\*) Red Eléctrica Group data

**Our mission is to guarantee the correct functioning of the electricity system and to ensure the continuity and security of the electricity supply at all times**

# The Spanish electricity sector

2009 Installed capacity ~ 97.8 GW

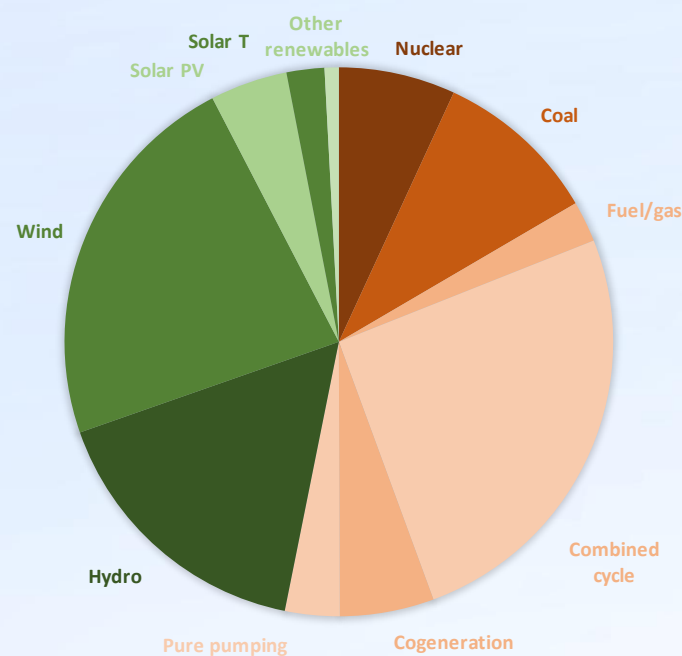
Energy from RES: 73,959 GWh – 26.4% of total energy generation  
Total energy exports (net): 8,086 GWh



40.8% RES

2018 Installed capacity ~ 104.1 GW

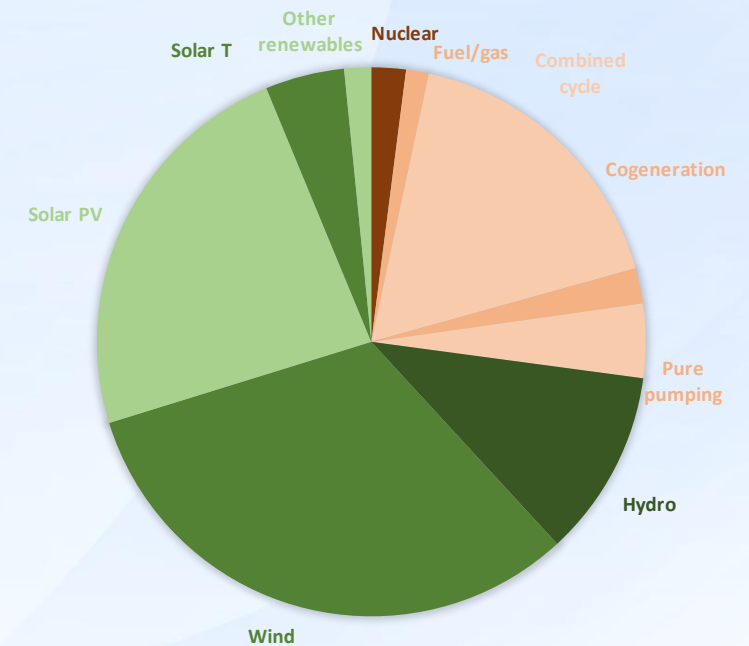
Energy from RES: 100,340 GWh – 38.4% of total energy generation  
Total energy imports (net): 11,102 GWh



46.7% RES

2030 Installed capacity. PNIEC forecast ~ 157.0 GW

Energy from RES: 249,380 GWh – 74.0% of total energy generation  
Total energy exports (net): 42,000 GWh

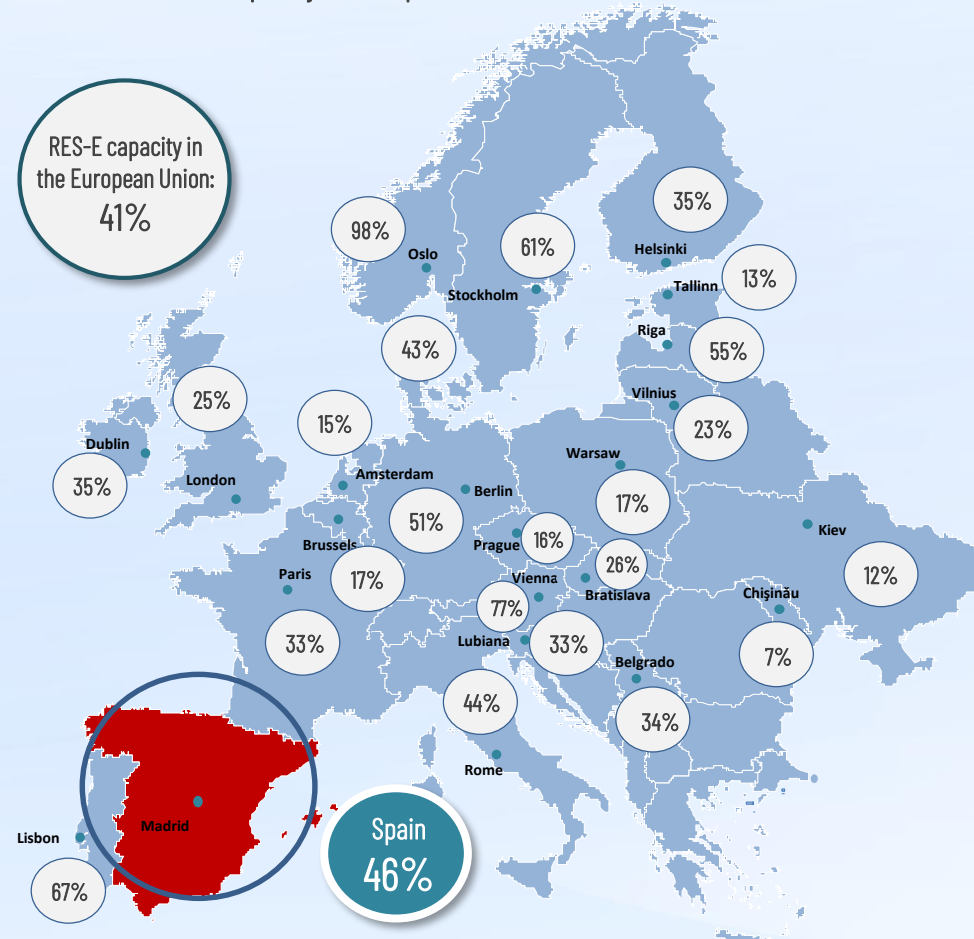


72.8% RES



# Integration of renewables in Europe

## Overview of RES-E capacity in Europe in 2017

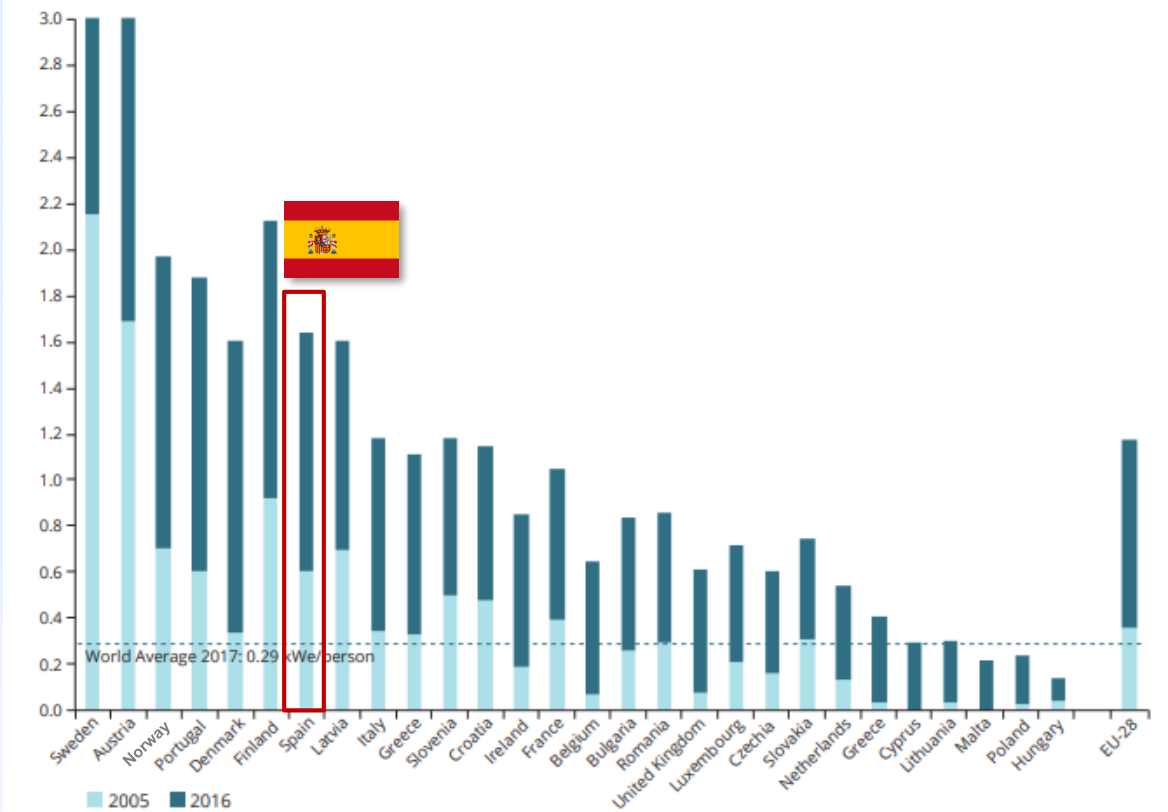


**Source:** Eurostat. RE capacity sources include: pure and mixed hydro power, geothermal, wind, solar thermal and photovoltaic, tide, wave and ocean energy

RES-E capacities, per capita in the EU and its Member States (2005 and 2016)

Excluded pump storage hydro

kWe per person



**Sources:** EEA; Eurostat, 2018c, 2018d; IRENA 2018a.

**Spain has one of the highest percentage of renewable energy capacity versus total electricity production capacity in Europe**



# Sustainability at Red Eléctrica de España: a leader in the sector

# A long track – record of sustainability projects...

## 1) Projects aimed at supporting the connection of renewable energy generation

- Connections to:
  - ❖ 17.0 GW Hydro
  - ❖ 7.0 GW Solar
  - ❖ 23.5 GW Wind
- International interconnections
- Connections among islands and with mainland



## REE's clean transportation investments

- High speed rail lines and electrical connections



Renewables  
40.2 %

of energy transmitted  
in mainland Spain



Renewables  
48.5 %  
of installed capacity  
in mainland Spain

## 2) Projects aimed at improving the grid's ability to integrate renewable energy




















- Technology, modernization, digitalization: new substations and smarter grids
- Communication and operation systems – pioneering renewables control center
- Less congestions to allow for higher renewable flows

**Red Eléctrica, as the cornerstone of the Spanish electricity system, is a key player in the transition towards the new energy model, whose key elements shall be: efficiency, electrification of the economy, maximum integration of renewables into the energy mix all while guaranteeing security of supply at all times**

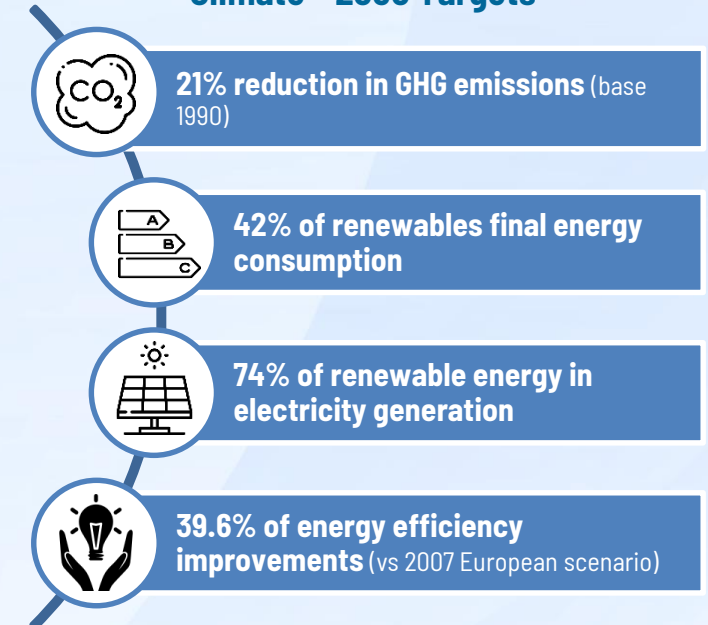


# ... and a challenging future to make the energy transition possible...

## Red Electrica's activities are key to achieving Spain's energy objectives

		2020	2030	2050
<b>GHG Emissions</b> 	Not ETS sectors	Over 1990   -20% +30%	Over 1990  -40%	Over 1990   Between 80% and 95% -90%
	ETS Sectors	Over 2005   -9% -10%  -21%	Over 2005  -30%  -43%	
<b>Share of renewable energy over final energy</b> 		  <b>20%</b> (10% Renewable in Transport)	 <b>32%</b> (14% Renewable in Transport)	N/A
<b>Energy Efficiency</b> 		  <b>-20%</b> savings over 1990	 <b>-32.5%</b> savings over 1990	N/A

## Integrated National Plan Energy and Climate - 2030 Targets



Request for access

28.9 GW

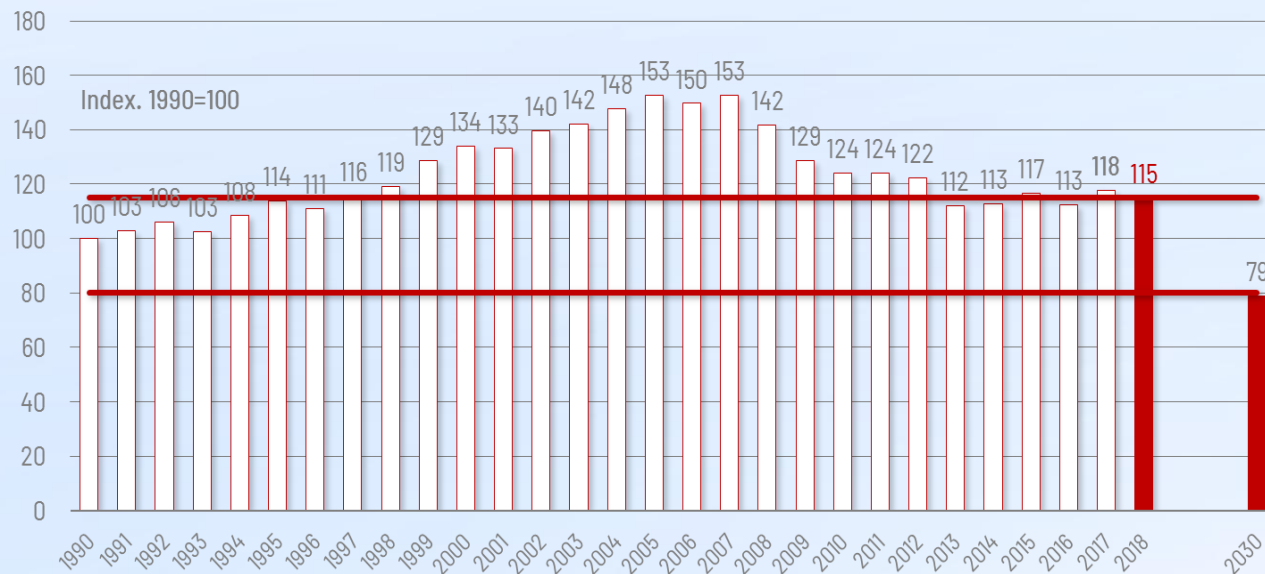
Wind and photovoltaic generation in service

81.7 GW

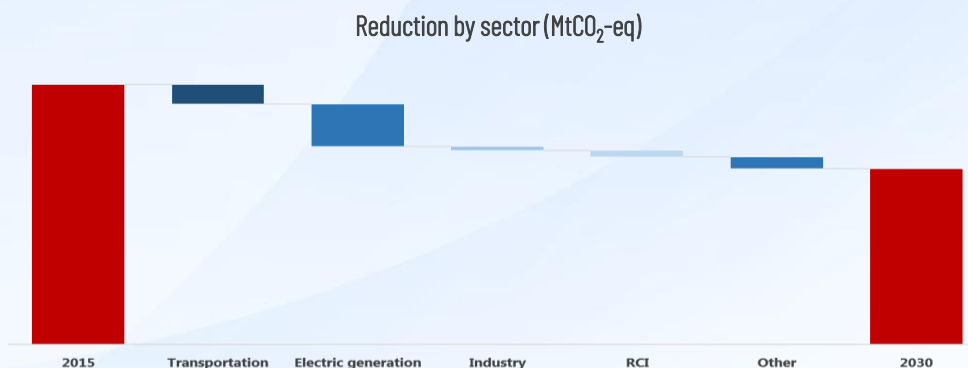
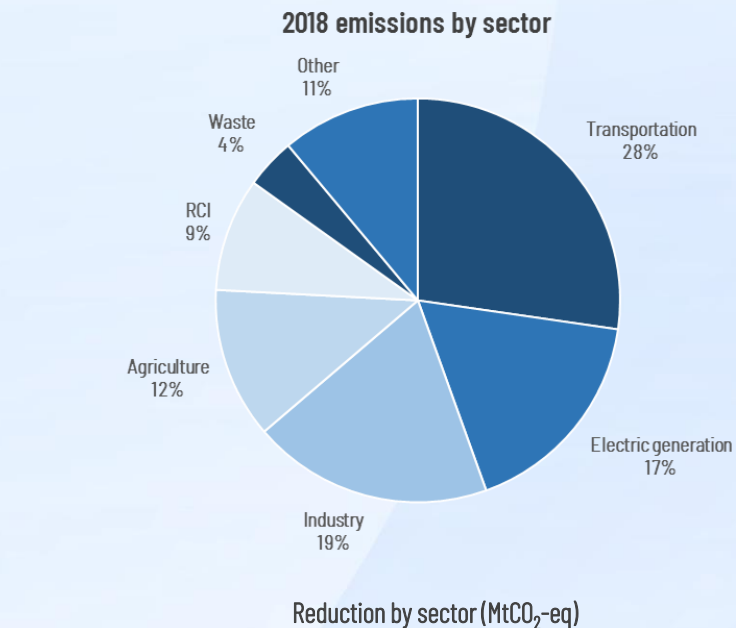
Wind and photovoltaic generation with access permit

Red Electrica shares the energy targets 2020 , 2030 and 2050 set by the EU (EU Energy Policy) and by the Spanish Government within the Integrated National Plan Energy and Climate

# ...and reduce emissions of CO<sub>2</sub> equivalent in Spain



Kioto's Spain objective for 2008-2012: increase of 15 % compared to 1990. Spain fulfilled its Kioto's objective in 2013. Spain should reduce emissions in a 36% to meet its 2030 goal. Emissions coming from electric generation will carry the bulk of the effort.



# Contribution to the UN Sustainable Development Goals

- Red Eléctrica carried out a **process for the identification and prioritisation of the most relevant SDGs for the Red Eléctrica Group** in the countries and sectors of activity in which it carries out its activities, both for the direct operations of the Company and for the indirect ones associated with its value chain. High Relevance UN SDGs for Red Eléctrica:



High relevant UN SDGs		
<b>Goal 7:</b> Affordable and clean energy		We aim to transition towards a new energy model as it is a key that the development of the transmission grid and interconnections, the efficient integration of renewable energy and the management of electricity demand are carried out successfully in the Spanish electricity system
<b>Goal 8:</b> Decent work and economic growth		The development of the activities of Red Eléctrica, as a Spanish company in the IBEX 35, primarily acting as the transmission grid operator of the Spanish electricity system, contributes to the economic growth of the country, generating quality employment and creating jobs, as well as providing shared value for the society
<b>Goal 9:</b> Industry, innovation and infrastructure		We contribute to the construction of reliable, sustainable, resilient and high-quality infrastructure, to maximise its integration into the environment and ensuring its comprehensive security. Similarly, we are developing a digital transformation strategy, which will signify a step towards the digitalisation of its activities and services
<b>Goal 13:</b> Climate action		Since 2011, we have declared our voluntary commitment to the fight against climate change, defining our climate change strategy and establishing an action plan. We also share the goals of the EU and Spanish Regulator, and we are taking all the necessary steps to transition towards a new energy model in order to combat climate change
<b>Goal 14:</b> Life below water		We generate an impact on the marine ecosystems in which submarine interconnection facilities are built. With the objective of minimising this impact, we have criteria in place for the preservation and protection of marine ecosystems when carrying out interconnection projects
<b>Goal 15:</b> Life on land		We work intensively to reduce our environmental impact. We fully integrate our facilities into the environment and into the territories in which its facilities are located, taking into consideration the full life cycle of facilities and paying special attention to the conservation of biodiversity

**Red Eléctrica aims to be an active agent in contributing to the achievement of the Sustainable Development Goals and to strengthen its commitment to this area**

# Leadership in sustainability

## Sustainability signatories



## External Recognition: Indexes, Awards and Ratings

In 2018, Red Eléctrica:

- has been recognized by the Dow Jones Sustainability Index (DJSI) as one of the **best companies in the world in the field of sustainability** in the Electric Utilities sector
- maintains its presence in the **FTSE4Good Index**

In 2017, Red Eléctrica:

- has been ranked by Vigeo-Eiris as a **leading company in Human Rights**
- has been reconfirmed for inclusion in ECPI
- has been reconfirmed as a constituent of the Ethibel Sustainability Index (ESI) Excellence Europe
- has been awarded '**Good Practice of the Year**' award in the **Environmental Protection category** by the Renewables Grid Initiative (RGI)



**We are committed to Sustainability and a Leader in the field: our continued presence in various world indexes and the awards and recognitions we receive supports this**



# Green Finance at Red Eléctrica: enabling the energy transition in Spain



# Introduction to Red Eléctrica Green Finance Framework

## Rationale: Enhancing REE's sustainability strategy

By issuing Green Finance Instruments, REE intends:

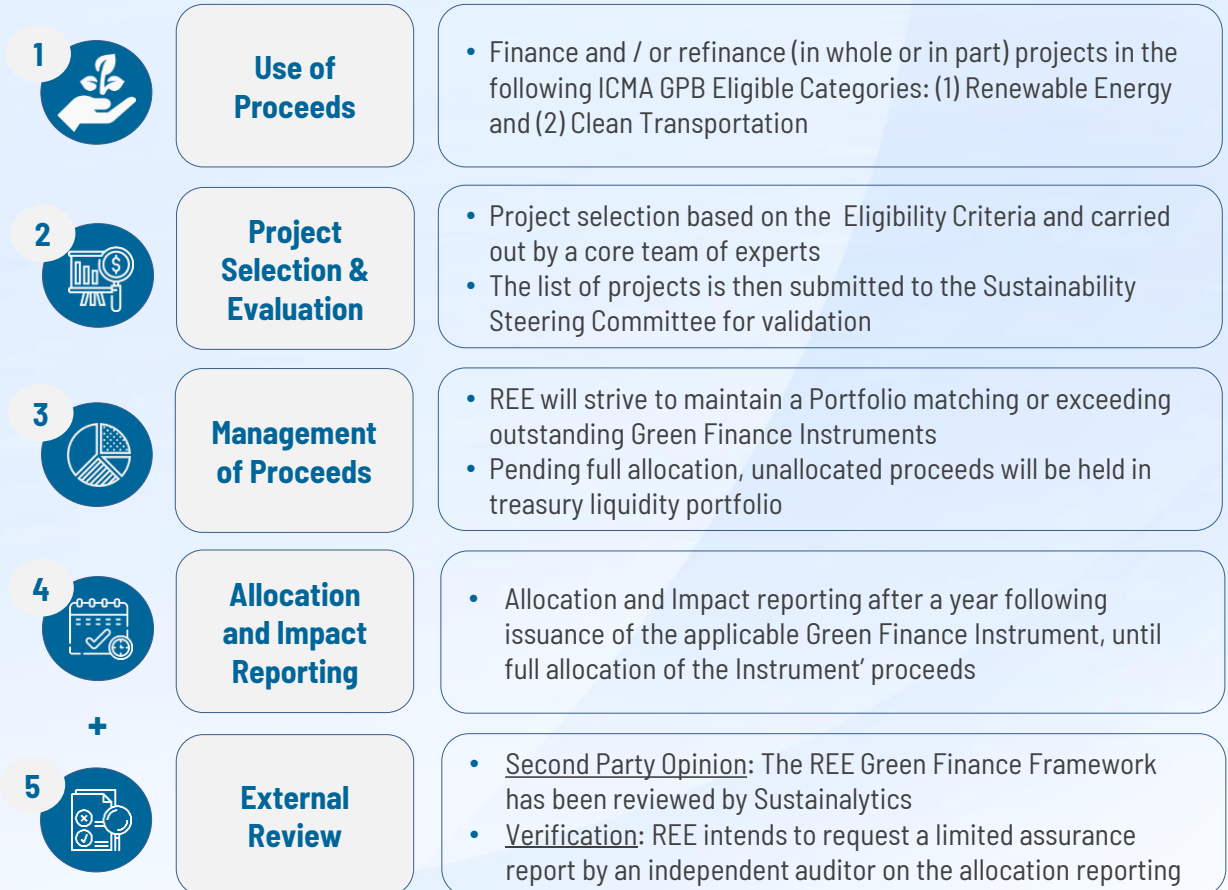
- **Align its funding strategy with its sustainability strategy** and its commitment to decarbonisation of the economy
- Align itself with the **Spanish National Integrated Energy and Climate Plan (2021-2030) by investing heavily in the network** to increase the share of renewable energy in the system and contribute to the **transformation of the Spanish economy**
- Contribute to the **development of the Green Bond market** and to the growth of impact investing linked to the **UN Sustainable Development Goals (UN SDGs)**
- Diversify investor base **targeting SRI and dark green investors** and broaden dialogue to existing investors

## Aligned with best practices and market developments



- Green Finance Framework aligned with the **ICMA Green Bond Principles 2018** and the **LMA Green Bond Principles 2018**
- Eligible Green Projects aligned with **draft EU Taxonomy**
- REE intends to align its Green Finance Framework with **emerging good practices**, such as future regulatory requirements and guidelines






## Overview: Red Eléctrica Green Finance Framework structure



**REE Green Finance Framework is aligned with ICMA Green Bond Principles 2018 and LMA Green Loan Principles 2018. Eligible Projects are aligned with draft EU Taxonomy**

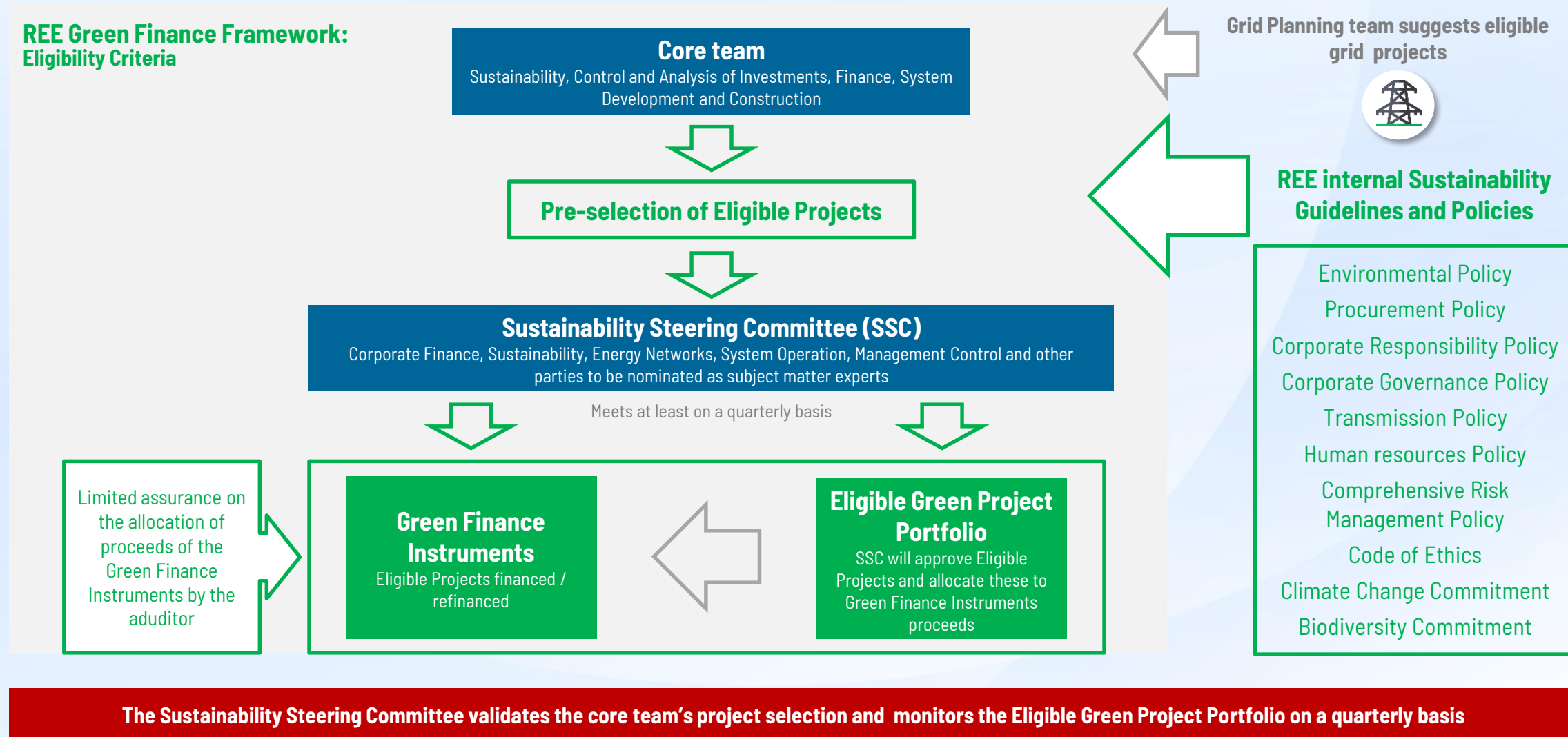
# Use of Proceeds: focus on the decarbonisation of the economy

The net proceeds of Green Finance Instruments will be **exclusively used to finance and/or refinance** in whole or in part **eligible projects ("Eligible Green Projects")**, including related partnerships and joint ventures, in the eligible categories, together forming the **"Eligible Green Project Portfolio"**:

ICMA GBP / GLP Category	Eligible Green Projects	Eligibility to Green Finance Instruments	Contribution to UN SDG	Alignment with EU Taxonomy Environmental Objectives
<b>Renewable Energy</b> 	<ul style="list-style-type: none"> <li><b>Projects aimed at directly increasing the production of renewable energies:</b> <ul style="list-style-type: none"> <li>Capex aimed at directly integrating renewable energy generation to the grid (including international interconnections, converters and connections, among islands and with mainland)</li> <li>Capex in decarbonisation projects enabling renewable energy integration (such as resolving congestions in a given portion of the grid)</li> </ul> </li> </ul>	100%	 <b>Target 7.2:</b> By 2030, substantially increase the share of renewable energy in the global energy mix	<ul style="list-style-type: none"> <li><u>Environmental Objective 1: Climate Change Mitigation</u></li> <li><u>Substantial Contribution to Climate Change Mitigation:</u> Generating, storing, distributing or using renewable energy in line with the Renewable Energy Directive, including through innovative technology with a potential for significant future savings or through necessary reinforcement of the grid (1.a)</li> </ul>
	<ul style="list-style-type: none"> <li><b>Projects aimed at integration renewable energies:</b> Capital Investments aimed at integrating and enhancing the transmission capacity for renewable energy in the grid</li> </ul>	Apply renewable power generation capacity ratio in each respective investment year to the correspondent investment value	 <b>Target 13.1:</b> Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	
<b>Clean Transportation</b> 	<ul style="list-style-type: none"> <li><b>Projects aimed at improving the efficiency of the rail system:</b> Investments in high speed rail lines and electrical connections, which ensure energy efficiency improvements, carbon emission reduction, air quality improvements and modal shift to rail for long distance transport</li> </ul>	100%	 <b>Target 11.2:</b> By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	<ul style="list-style-type: none"> <li><u>Environmental Objective 1: Climate Change Mitigation</u></li> <li><u>Substantial Contribution to Climate Change Mitigation:</u> Increasing clean or climate neutral mobility (1.c)</li> </ul>

Based on the process for identifying these projects, as well as their demonstrable environmental benefit, Sustainalytics sees REE's investments as valuable and credible

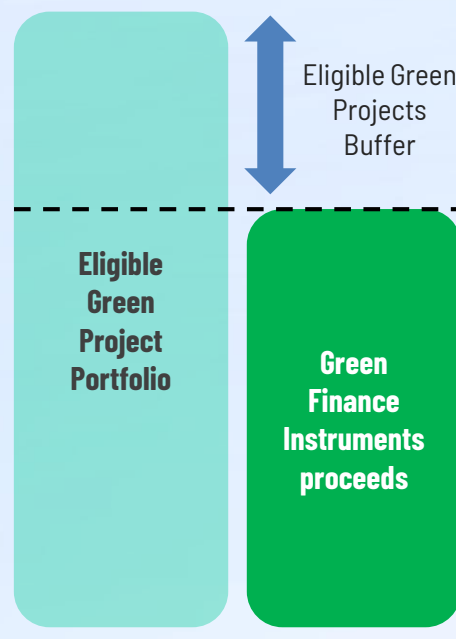
# Process for project selection and evaluation at a glance



# Management of proceeds and Eligible Green Project Portfolio

## Management of Proceeds

- **Eligible Green Project Portfolio:**
  - Green Finance Instruments proceeds are allocated to an Eligible Green Project Portfolio
  - Includes all approved Eligible Green Projects
  - Monitored and reviewed on a quarterly basis
  - Projects that no longer comply are excluded and replaced *on a best effort basis*
  - As Green Finance Instruments mature, the oldest projects are removed for an equivalent investment amount
- **Green Finance Instruments proceeds are managed in accordance with the portfolio approach:** REE will strive to maintain a level of allocation for the Eligible Green Project Portfolio which matches or exceeds the balance of net proceeds from its outstanding Green Finance Instruments
- **Unallocated Green Finance Instruments proceeds:** REE will hold and / or invest the balance of net proceeds not yet allocated, at its own discretion, in its treasury liquidity portfolio



## Eligible Green Project Portfolio overview

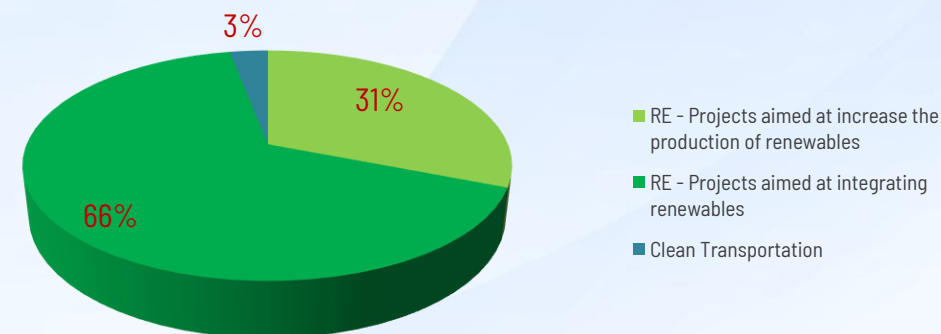
### Eligible Project Portfolio – Split by Eligible Category

Date: October 2019

GBP / GLP Category	N. projects	Amount (€m)
RE - increase the production of renewables	15	~771
RE - integrate renewables in the grid	renewable power generation capacity ratio in t * grid capex in t	~1,519.1
Clean Transportation	6	~68.9
<b>Total</b>	<b>21</b>	<b>~2,299</b>

### Snapshot of the Eligible Green Project Portfolio

Date: October 2019



**REE intends to manage the proceeds of the Green Finance Instruments in accordance with the portfolio approach. REE is targeting full allocation at issuance. Given the portfolio approach, REE is planning to replenish its portfolio ahead of every new Green Finance Instrument issuance**

# Green Finance Instruments Reporting

REE will make and keep readily available reporting on the allocation of net proceeds to the Eligible Green Project Portfolio and, wherever feasible, reporting on the impact of the Eligible Green Project Portfolio, at least at category level, after a year from the issuance of the applicable Green Finance Instruments and **until full allocation**:

## Allocation Reporting

- Allocation reporting will provide:



- The total amount of investments and expenditures in the Eligible Green Projects Portfolio



- The amount and/or percentage of new and existing projects (share of financing and refinancing)



- The year of investment / disbursement



- The balance of unallocated proceeds



- The geographical distribution of the assets (at country level)

## Impact Reporting

- Impact Reporting will provide **environmental impact metrics** and might include qualitative and/or case-study reports on outcomes and impacts of the green projects

### Potential impact indicators per Eligible Category



- Increase of renewable energy capacity (MW)
- Expected increase of production of renewable energy (MWh)
- Energy efficiency: estimated energy savings achieved (MWh saved)
- Estimated annual CO2 emissions avoided (in tCO2 and in TCO2eq.)
- MW of interconnection (increase of interconnection capacity (%))



- Transformer capacity assigned to connect high speed train facilities (MVA)

## Availability of Green Finance Instruments Reporting

- REE intends to provide aggregated reporting for all of REE's Green Finance Instruments, by way of its existing Sustainability Report, and /or specific impact reports. Reports will be available at: <https://www.ree.es/es/sostenibilidad>

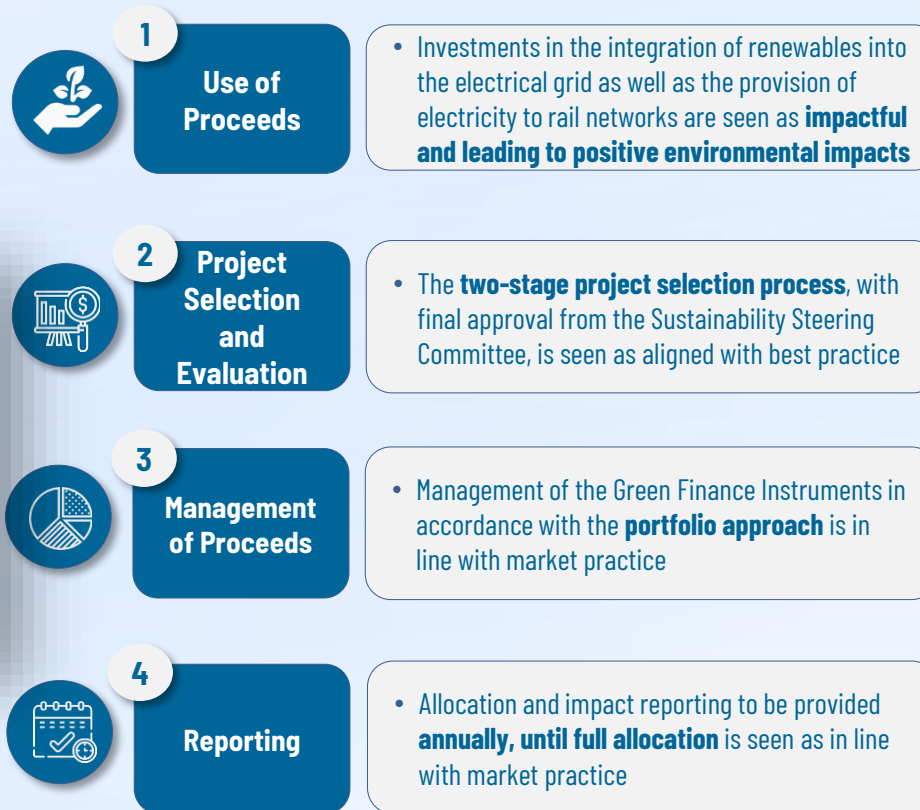


**When reporting on the environmental impact of the Eligible Green Project Portfolio, Red Eléctrica intends to align, on a best effort, with the 'Harmonized Framework for Impact Reporting'**



# External Review

## Pre-issuance verification: Second Party Opinion (SPO)



*"Sustainalytics views positively investments in Projects aimed at directly **increasing the production of renewable energies**...Sustainalytics considers that grid-wide investments are a **necessary component to allow high penetration of renewable energy** and is of the opinion that the prorating approach described in the Framework is a **robust mechanism to determine the value of the green asset**...Sustainalytics views positively projects which **support rail electrification as well as the growth of rail transport to encourage modal shift**. "*

Red Eléctrica Green Finance Framework SPO , 24<sup>th</sup> September 2019 (Sustainalytics)

## Post-issuance verification: auditor's report

- Red Eléctrica intends to request a **limited assurance report by an independent auditor** regarding the allocation of the proceeds for any Instruments issued under this Green Finance Framework. Such report will be issued annually until all the proceeds of the Green Finance Instruments have been allocated, confirming that an amount equal to the net proceeds of the Green Finance Instruments have been allocated in compliance with the Eligibility Criteria set out in this Green Finance Framework

**Sustainalytics is of the opinion that the Red Eléctrica Green Finance Framework is credible and impactful and aligns with the four core components of the ICMA Green Bond Principles 2018 and the LMA Green Loan Principles 2018**



# Examples of Eligible Green Projects

# Aragón – Valencia corridor

## Electricity balance:

### Aragón:

- 15,207 GWh generation
- 10,709 GWh demand
- 56.4% RES

### Comunidad Valenciana:

- 19,122 GWh generation
- 27,257 GWh demand
- 18.5% RES

410 kilometers

40

Cables length

Substation positions

+115 M€

Total investment

The **Mezquita – Morella** and the **Mudéjar – Morella** axes:

- ✓ avoid overloads in the Morella-La Plana and Vandellós - La Plana lines
- ✓ avoid additional thermal generation in Castellón and Sagunto
- ✓ allow integrating wind and solar capacity in the Aragón region



# Canary Islands electric system

## Isolated system:

- Low tension levels: 66 kV simple circuit axis
- Low meshing
- Grid incidents
- Difficulty for repairs
- Difficulty for RES integration

21.2% of Energy Not Supplied in Spain



## Lanzarote – Fuerteventura axis

280 km

Strong CO<sub>2</sub> ton eq reduction

Cables length

+90 M€

+ 80 MW

Total investment

Wind in Matas Blancas

**Gran Tarajal-Matas Blancas:** This project allows the connection and evacuation of wind installed capacity in the substation of Matas Blancas that will produce a significant amount of renewable energy and CO<sub>2</sub> reduction by substituting gasoil and fuel oil consumption in the thermal energy plants with wind energy in the islands of Lanzarote and Fuerteventura.

**Tías-Playa Blanca-La Oliva-Puerto del Rosario:** This project, further interconnecting the islands of Lanzarote and Fuerteventura, allows further use of the RES generation allowing the possibility of this generation to supply the Lanzarote and Fuerteventura consumers and substituting gasoil and fuel oil consumption in the thermal energy plants. It also decreases the needs for thermal reserves due to the support of the system from the other island in case of contingency.

# The transformation of the Balearic Islands energy mix

## Rómulo I

- The Rómulo I project represented an electricity interconnection challenge that proved to be successful in paving the way to eliminating the electrical isolation of the Balearic Islands and enabled the integration of renewable generation from the mainland into the archipelago
- With an investment of 420 million euros, the electricity interconnection between the Balearic Islands and the Peninsula was the first effort made in Spain to reduce the isolation of insular systems and increase their security of supply, pursuant to European recommendations

237 km

Cables length

15%

Energy consumed produced zero CO<sub>2</sub> emissions

- EUR 50 M per year

20.4%

Less generation cost

Peninsular contribution to covering Balearic islands demand

## Rómulo II

### Mallorca – Ibiza interconnection

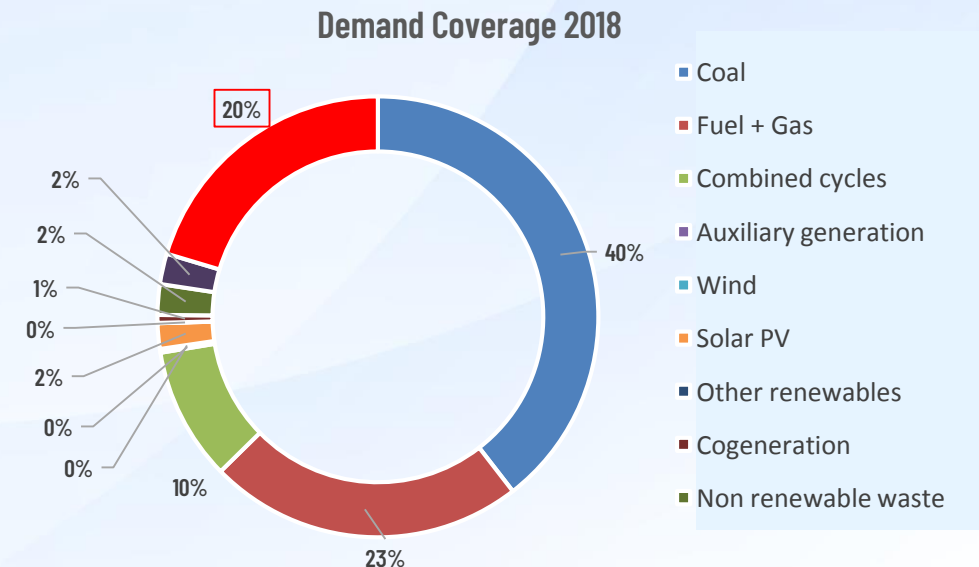
118 km

Strong CO<sub>2</sub> ton eq reduction

Undersea cable

+215 M€

Investment





# Spain-France submarine interconnection

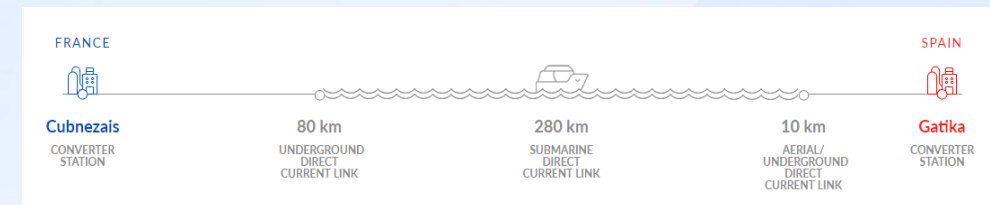
- The electricity interconnection between Gatika (Spain) and Cubnezais (France) will be the first fundamentally submarine interconnection between Spain and France
- The new electricity link through the Bay of Biscay will improve security and guarantee of supply, increasing the efficiency of both electricity systems and allowing a greater integration of renewable energies
- This interconnection, designated as a Project of Common Interest (PCI) in 2013, poses a major challenge for France, Spain and Europe in the achievement of the goals set out regarding energy transition in Europe
- This new interconnection represents a new challenge for Red Eléctrica after having successfully completed and commissioned the Baixas-Santa Llogaia underground interconnection in the eastern Pyrenees

Increase exchange capacity up to:

**5,000 MW**

Length of the interconnection:

**370 kilometers**





# Portfolio and Debt Structure

# Portfolio and Debt Structure

## Debt Structure at 30/06/2019

Gross debt: €5.340bn

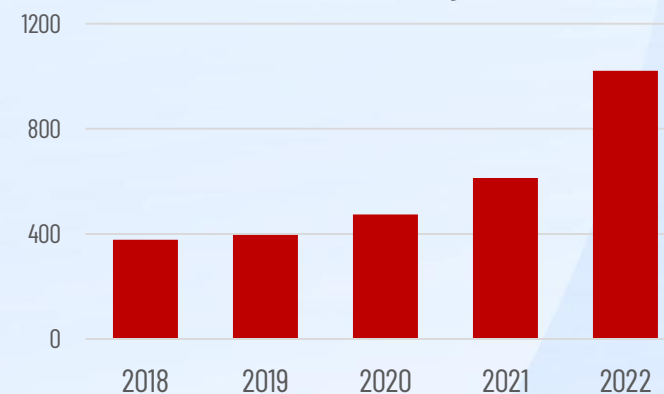


~ EUR 2.3 billion

Eligible Green Project Portfolio

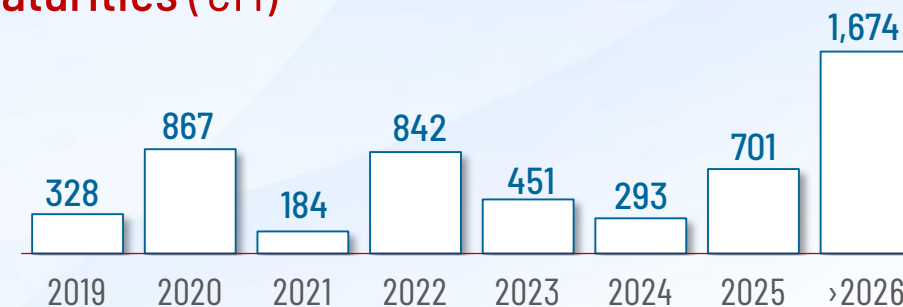
## Investments

As forecasted in the Strategic Plan 2018 - 2022



Total investments €3,228 M, mainly broken down as follows: Transmission Grid €2,880 M, Storage in the Canary Islands €185 M and System Operation €54 M

## Maturities (€M)



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**Thanks for your attention**

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