

FUTURE CHALLENGES

The electricity sector is going through a **transitional phase** towards a new energy model characterised by a **greater complexity** in its management due to the high level of **renewable energies** and the need to guarantee an electricity supply with the appropriate levels of **quality and safety** at the lowest possible cost, in order to ensure the **sustainability** of the system. In this regard, balancing the low manageability of renewable generation, **strengthening interconnections**, promoting technological innovation and fostering **continual improvement** of its activities as **TSO**, under the criteria of **efficiency and quality**, represent some of the **challenges** Red Eléctrica is responding to with a view to contribute to an **efficient and sustainable management of the energy model**.

1 GREATER GUARANTEE AND SECURITY OF SUPPLY

Amongst the most relevant facilities that Red Eléctrica is developing for the structural strengthening of the transmission grid, noteworthy are the works regarding the new interconnections with France and Portugal, the Almaraz-Guillena axis between Extremadura and Andalusia, and the Majorca-Ibiza link. Red Eléctrica will exceed 1 billion euros in investments in 2013-2014 for the improvement of the transmission grid. These investments are essential both to strengthen the security and quality of the electricity supply and to help integrate renewable energies and provide a more efficient functioning of the electricity system.



2 STRENGTHENING INTERCONNECTIONS

The European Union recommended in 2002 that all Members States should reach a minimum 10% ratio of interconnection with respect to its installed capacity, in order to eliminate isolated systems and promote the single electricity market. Taking into account the current interconnection with France, Portugal and Morocco, Spain's interconnection rate is 4.3%. In addition, if one considers that the real support to the Iberian Peninsula can only come via the border with France, the interconnection rate stands at 1.2%, which means Spain can practically be considered as an electrical island.

With the planned interconnections with Portugal (via Galicia and Andalusia) and the new interconnection with France via the Eastern Pyrenees, this rate will rise to 6-7% which is still insufficient. Therefore, consideration is being given for a new submarine interconnection via the Bay of Biscay in the medium/long term. The optimal development of the interconnections between electricity systems enables the creation of large electricity highways (supergrid), enabling greater integration of existing renewable resources into these systems.



3 SAFE INTEGRATION OF RENEWABLE ENERGIES

The safe integration of renewable energies remains one of the great challenges to the security of the electricity supply. This integration is more complex in the Spanish electricity system, due to the limited interconnection capacity with Europe. In this context, year after year, the important work of Red Eléctrica's Control Centre of Renewable Energies (CECRE) is made more apparent due to the fact that the

activity it performs is enabling the production of renewable energies to have an increasingly more important role in demand coverage (42% in 2013). This fact favours not only the reduction of emissions derived from electricity generation, but also reduces the high dependence on foreign energy that Spain has.

4 ENERGY EFFICIENCY AND SMART GRIDS

In the future the applications of the so-called smart grids will play an important role in achieving a more sustainable and efficient management of the electricity system, and with greater levels of quality and security of supply. Smart grids will provide greater flexibility to the electricity supply process as it will allow the efficient integration of the behavioural patterns and actions of all users connected to it.

For some years now, Red Eléctrica has had 'intelligence' associated to its devices and elements which are part of the high-voltage transmission grid that it manages and operates. This fact has not deterred the company from continuing to make progress in order to achieve greater automation, integration and adaptation of the equipment and systems that operate the grid. The objective is the security, quality and efficiency of the electricity supply. To achieve this, Red Eléctrica carries out numerous initiatives in the areas of real-time energy control systems, system security and reliability, coverage and prediction systems, demand-side management and the development of unique facilities.



5 TECHNOLOGICAL INNOVATION

Making progress in the creation of a culture of innovation and technological development as a driver for growth and efficiency is one of the Red Eléctrica's challenges. Efforts in this field focus on the search for resources, tools and technical solutions oriented towards a more efficient operation of the electricity system.

The development of a transmission grid integrated in the Europe arena, the incorporation of more efficient technologies into the transmission grid, the promotion of new operating resources, such as energy storage and the electric vehicle which make the system more sustainable are some of the axes through which technological innovation in the Company is channelled.



6 GREATER OPERATIONAL EFFICIENCY

Red Eléctrica maintains an ongoing focus regarding the continual improvement of key operating processes through which it carries out its functions as TSO, following criteria of efficiency, quality, innovation and environmental protection. In this regard, one of its most important commitments is to develop the grid and manage the system in the most efficient and sustainable way possible, in order

to contribute to the sustainability of the entire electricity system. This continual improvement is reflected in the excellent levels of service quality provided, as well as the positive trend in performance that, year after year, is shown in their key financial figures and in the confidence its shareholders, investors and other stakeholder groups have in the Company.

