



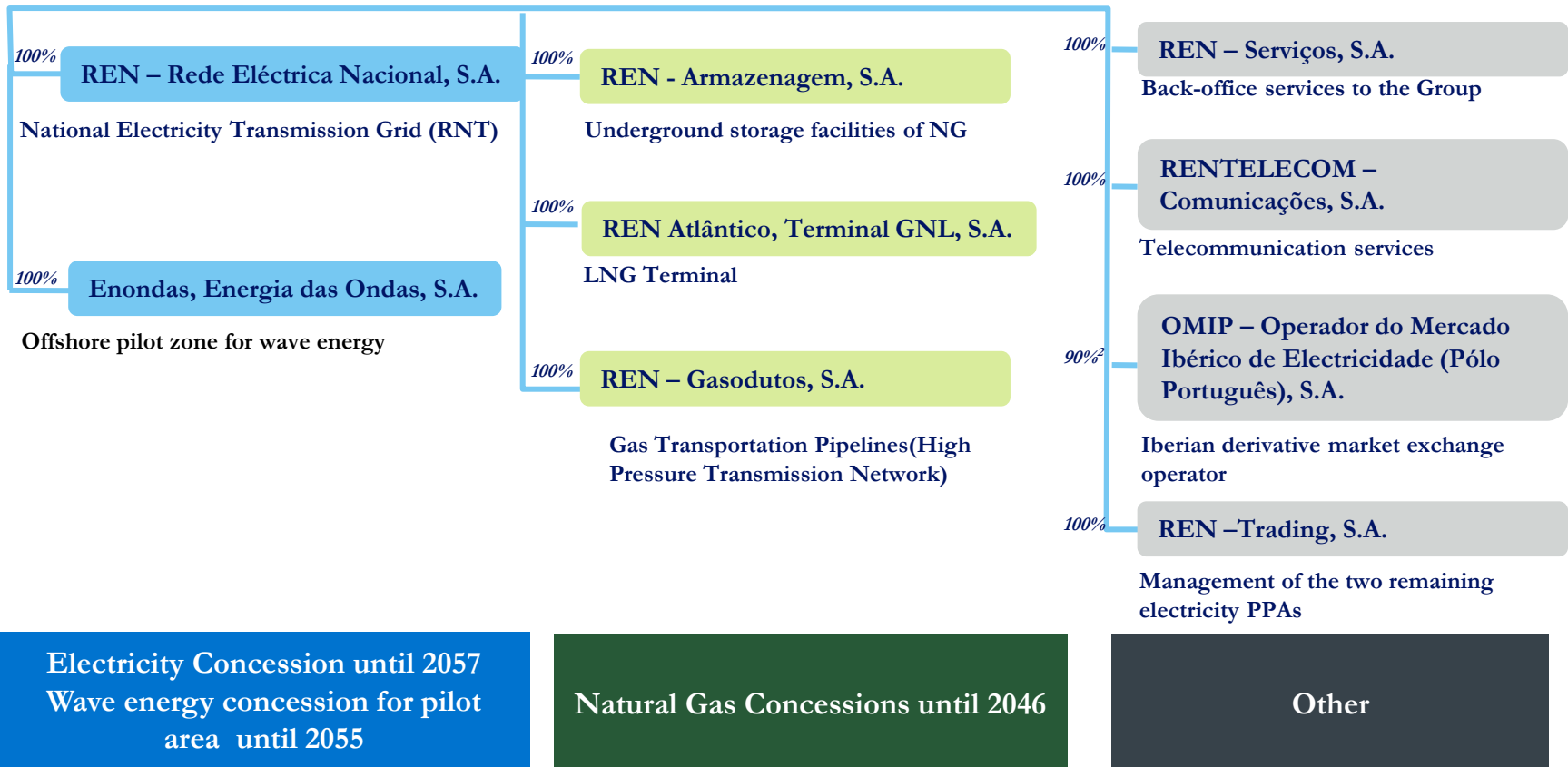
Lunch Debate
European
Parliament

March 2rd, 2011

REN is an integrated energy infrastructures company

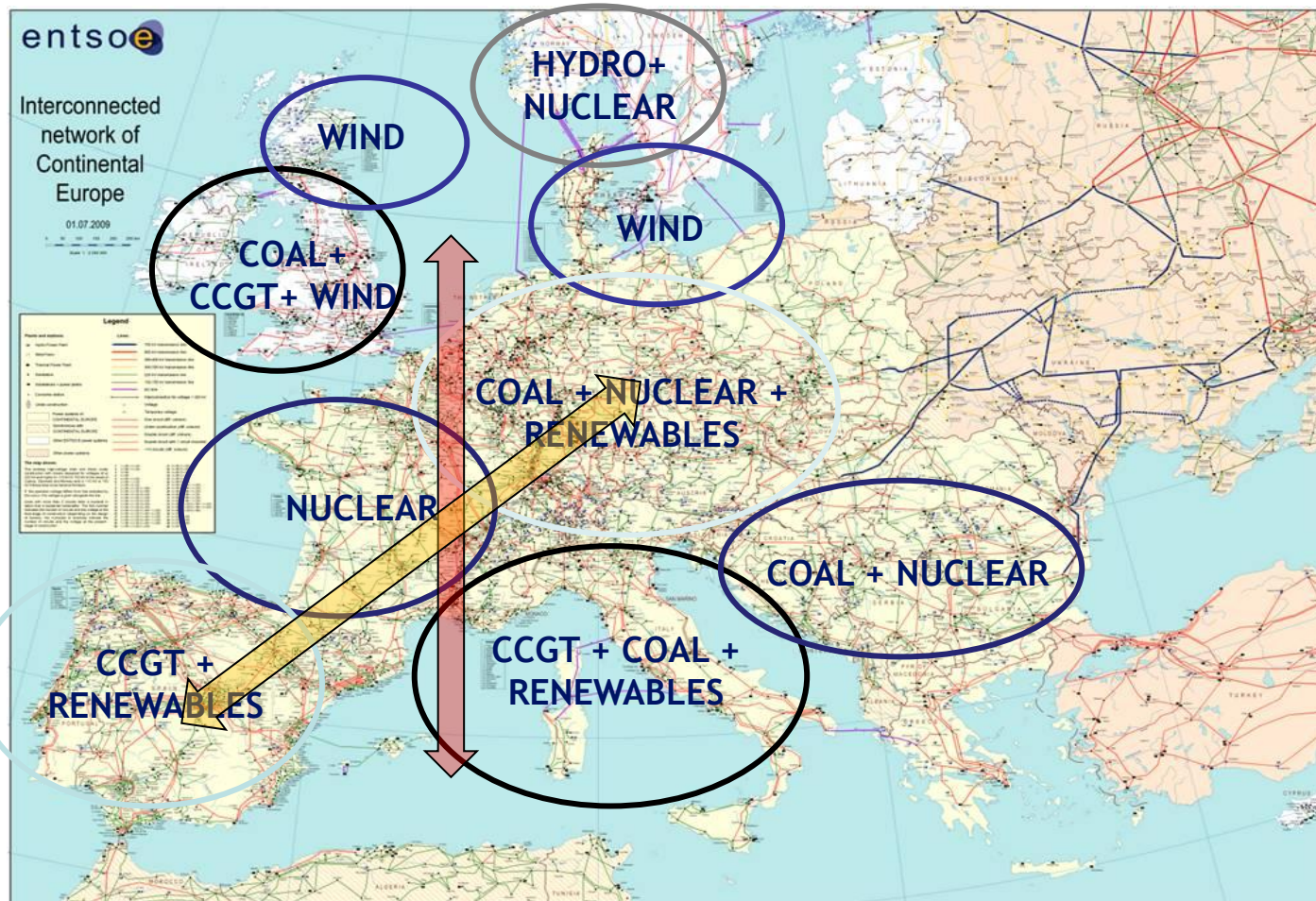


REN - Redes Energéticas Nacionais,
SGPS, S.A.



Redes Energéticas Nacionais, SGPS, S.A.

Transmission infrastructure is essential to integrate diversified regional energy profiles

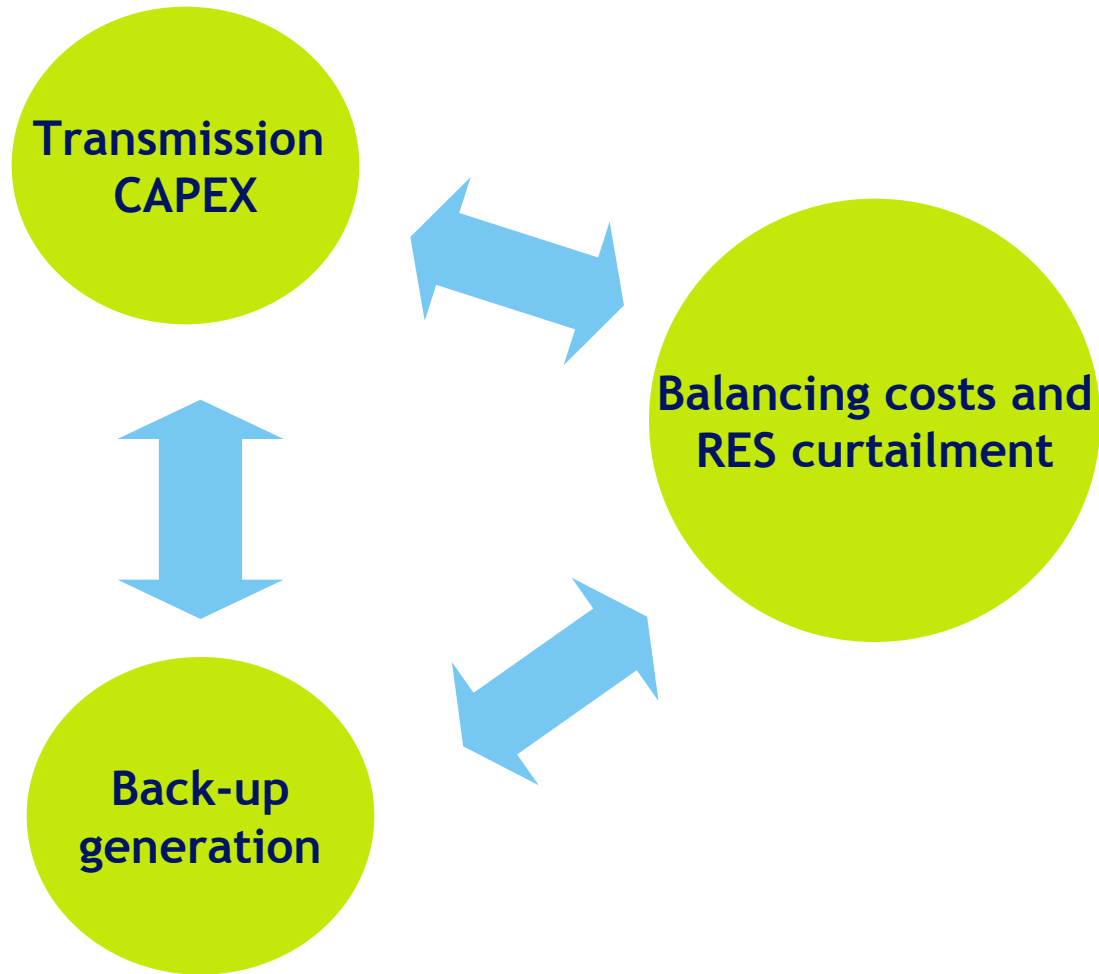


Geographic specialization in different production technologies calls for stronger and smarter Transmission Infrastructures

Transmission plays a key role in all the pathways towards a decarbonised power sector

- Incorporating large shares of intermittent renewables without loss of reliability and without excessive back-up costs requires significant increases in transmission capacity between geographic areas.
- Inter-regional demand and supply sharing will play an increasing role: sharing of resources and reserves brings down the backup generation capacity required and the costs of balancing services in the EU27 by 35-40%.
- Inter-regional transmission capacity in the EU27 will need to more than double to achieve a decarbonised power sector towards 2050. Upgrade of Iberia - France interconnections is crucial.

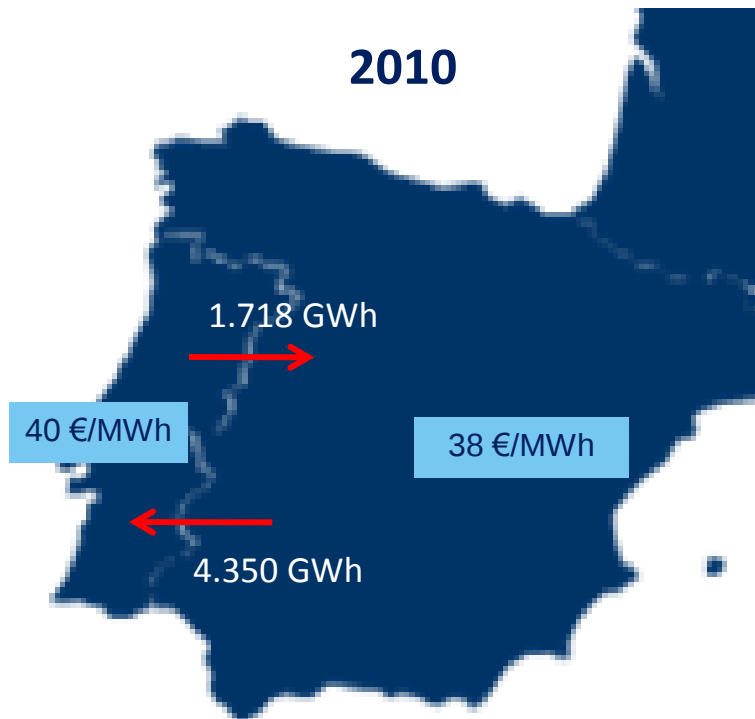
Strong CAPEX in transmission is needed to avoid excessive costs in the decarbonisation of the power sector



Natural Gas infrastructures will play a key role in the transition towards decarbonisation

- Natural Gas will play a large and crucial role in the transition.
- Most of the required backup capacity will come from NG plants (CCGT and OCGT).
- Two other issues are in order: energy storage and CCS infrastructures.
- Energy storage is needed for balancing RES supply with energy demand. Underground storage assets will play an important role.
- CCS infrastructures will have to be built to reconcile a decarbonised power sector with the use of existing fossil resources.

Development of Interconnections has contributed to price convergence between Spain and Portugal



✓ PT – SP electricity interconnection

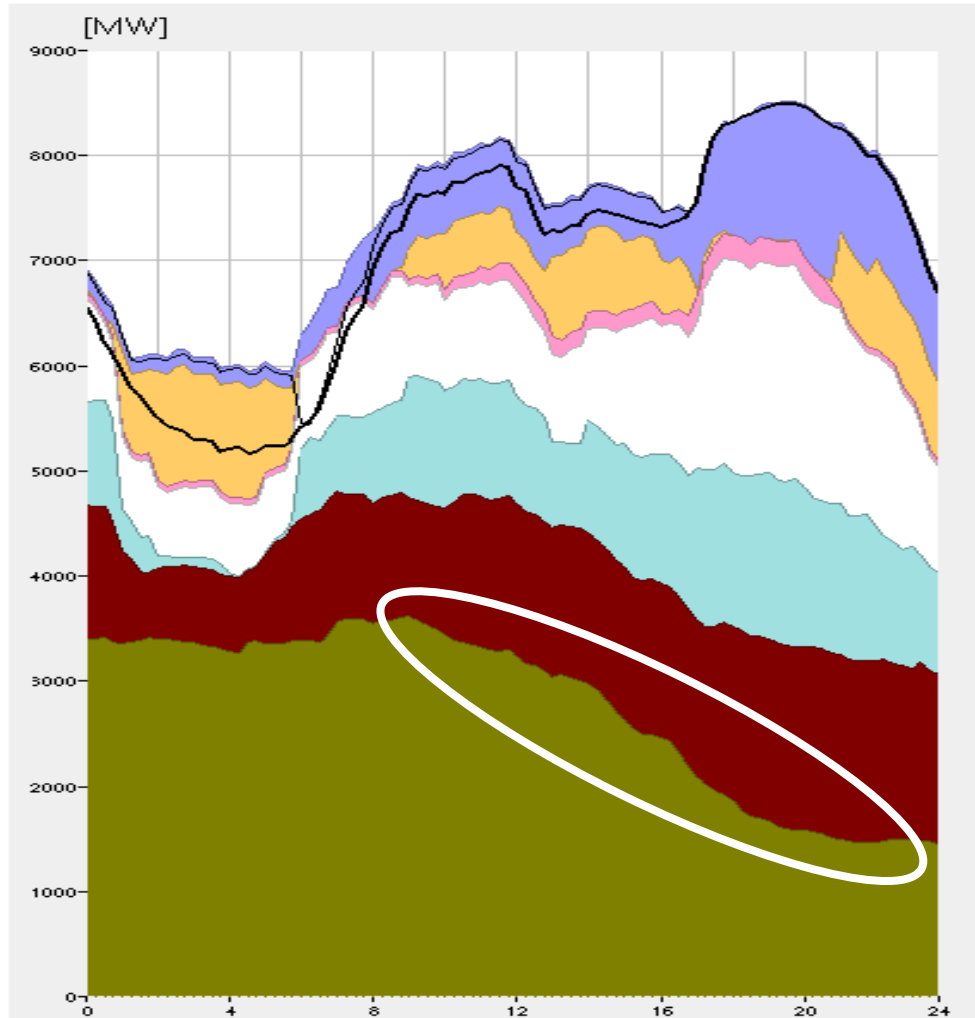
Current	1200 to 1800 MW	14% of peak load
2014	3000 MW	25% of peak load

✓ SP – FR Interconnection corresponds to only 6% of Iberian peak load

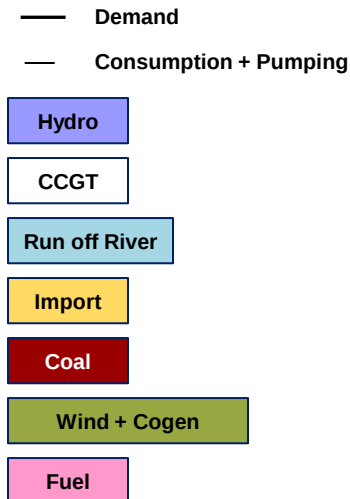
Congestion hours (yearly) decreased from 63% in 2008 to 25% in 2009 and 21% in 2010

An extreme episode: December 17 2009

A 80% drop in wind power during 8 hours



Natural gas and hydro made up for most of the wind power breakdown



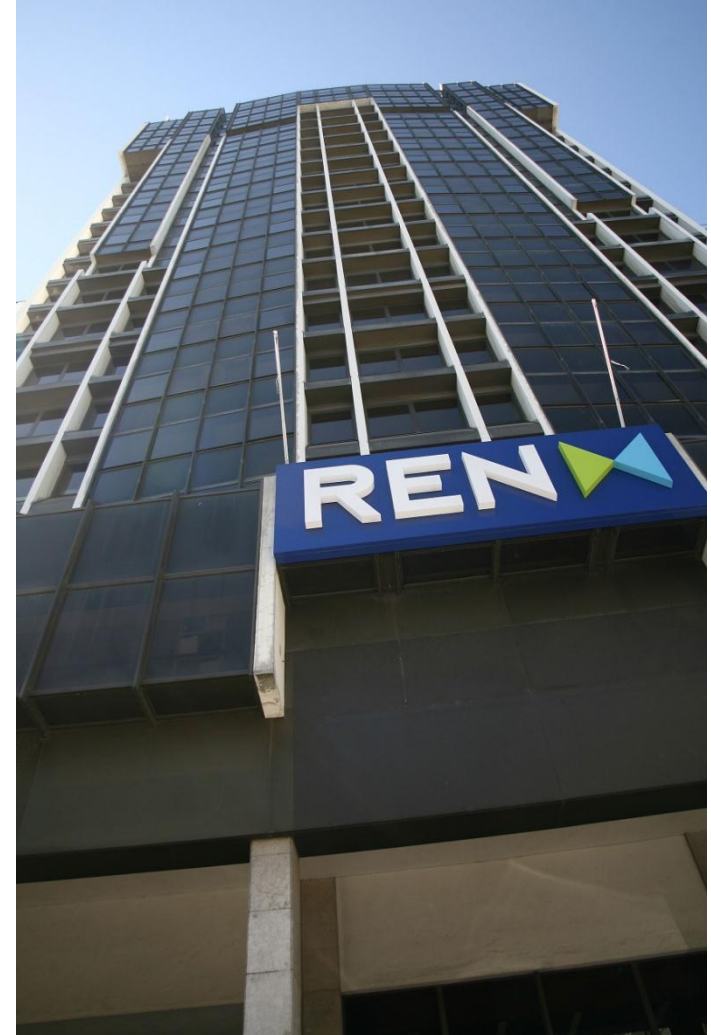
Leveraging on REN's strengths

REN is an energy utility with a unique profile:

- ✓ **An integrated TSO with electricity and natural gas infrastructures;**
- ✓ **Located in a geographic region with abundant renewable resources;**
- ✓ **More than half of power production in Portugal comes from RES (hydro and wind);**
- ✓ **A strong quality track record and technical background;**
- ✓ **Strong skills in the integration of renewables in the energy system.**



Redes Energéticas Nacionais, SGPS, S.A.



Some priorities for EU infrastructure development (I/II)

Iberian Infrastructures are a key asset for European Energy policy

- Seven out of eighteen EU LNG terminals are located in Iberia
- RES account for more than one third of power consumption
- Spain-Portugal interconnections will allow for a full integration of Iberian Market
- Transport of Power and NG is a fully unbundled activity



1

Funding of Strategic Infrastructures should be protected from the Sovereign debt crisis

- The role of the EIB should be increased and its scope enlarged
- Certain strategic projects need to be risk insured and/or funded through project bonds
- EU subsidies to Energy Highways (Financial Framework beyond 2013)

2

Regulation must provide the right incentives for investment

- Convergence of frameworks must be pursued but will take time
- Short term measures are needed: a EU-wide premium to new CAPEX aligned with EU priorities

Some priorities for EU infrastructure development (II/II)

Iberian Infrastructures are a key asset for European Energy policy

- Seven out of eighteen EU LNG terminals are located in Iberia
- RES account for more than one third of power consumption
- Spain-Portugal interconnections will allow for a full integration of Iberian Market
- Transport of Power and NG is a fully unbundled activity

3

Iberian NG hub may support EU Energy Security of Supply policy

- LNG Terminals are an EU alternative entry port for NG
- Development of Underground Storage should be further pursued
- Reinforcement of France-Spain NG interconnection is mandatory

4

TSOs play a crucial role in the development of smart grids

- Compressed NG or air storage, coupled with OCGT to return power to the system
- Hydro pump storage for ancillary services
- Real time data gathering all over the network for system management
- Integration of decentralized generation and consumption for online system operation