

Kongres Container

Portugal Energy Storage Container Power Station Design



Overview

What is the role of storage in the Portuguese power system?

Abstract The main goal of this thesis is to study the role of storage in the context of the Portuguese power system. Portugal is one of the countries in the world with more installed storage capacity, namely pumped hydro storage (PHS). Most of this work has been focused on the development to 2030 and the implications of increasing RES levels.

What are the objectives of the modelling of the Portuguese power system?

The objectives of the modelling of the Portuguese power system are the following: • The prediction of the energy mix for 2030. • The prediction of the utilisation of the storage capacity, namely with projections of the energy consumed by pumped hydro storage (PHS). • The prediction of CO₂.

Why is energy storage important in Portugal?

Renewable energies are inevitably vulnerable to variations in availability, since the sun and the wind cannot be programmed. Energy storage is therefore essential if EU targets are to be met. Portugal's installed energy storage capacity is still predominantly based on hydro pumping, which currently stands at 4,164 GW year.

What is the installed capacity of the Portuguese energy system?

By the end of 2014, total installed capacity in the Portuguese system was 17.83 GW [RENa15]. The installed capacities per generation technology are presented in table 2.2 [RENa15]. The capacity of the SSG was 6979 MW and of the OSG was 6979 MW.

Should energy storage be democratised in Portugal?

Energy storage is therefore essential if EU targets are to be met. Portugal's installed energy storage capacity is still predominantly based on hydro pumping, which currently stands at 4,164 GW year. However, this paradigm is

about to change with the democratisation of energy storage solutions through wind and solar production.

How to study the Portuguese power system?

In order to study the Portuguese power system, a model was developed with the help of EnergyPLAN simulation tool. A reference year was modelled to ensure that the model can simulate the energy system accurately. With a reference year, the user can compare the historical data with the output of the simulation.

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