

Composition of the Greek hybrid energy storage system





Overview

How does storage work on Greece's islands?

The introduction and development of storage on Greece's islands that are not connected to the mainland power system is quite different, as it is currently only possible via hybrid stations (i.e. virtual production stations consisting of renewable energy resources and storage units operating as single distribution entities).

What is the res penetration target for the power system of Greece?

The power system of Greece is used as a case study, adopting a RES penetration target of around 60%, as foreseen in the National Energy and Climate Plan (NECP) for 2030, . The generation portfolio of the Greek system in the mid-term horizon to 2030 is well-defined in the NECP, with storage being the main asset yet to be identified.

How is storage developing in Greece?

The development of storage in Greece has only just begun: this year has been the big "kick-start" and there is now a common understanding of the needs and requirements and the steps to be taken to ensure an adequate identification and prioritization of all necessary actions.

How efficient is a PHS project in Greece?

A roundtrip efficiency of 70% is in line with data available for existing and planned PHS projects in Greece (), even though it is relatively pessimistic given the range of efficiencies quoted in the literature for large PHS plants ().

What are the cost assumptions for the Greek power system?

Thermal and hydro unit capacities assumed for the Greek power system. Table B.4. Variable cost assumptions for thermal units and demand response services. Includes fuel costs and CO₂ emissions rights. The investment cost assumptions for BESS, PHS and OCGT investments are presented in the



following Table B.5, Table B.7.

What are energy storage technologies?

Energy storage technologies provide valuable flexibility on the grid by making the grid more efficient. With storage systems, renewable energy can be converted into basic units – the units that cover the basic loads of the system.



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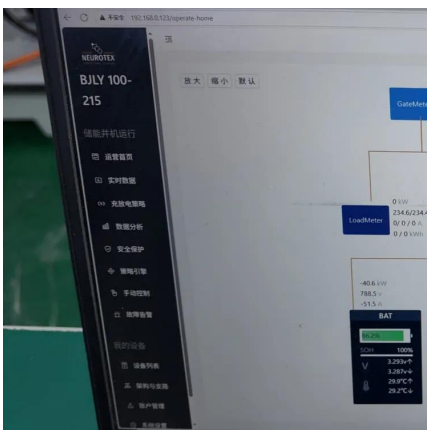
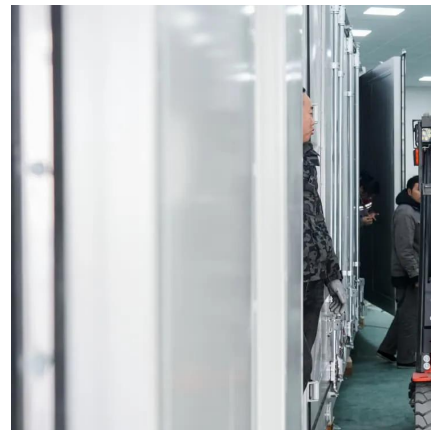


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