

# Spanish hybrid power station structure





## Overview

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Where is Europe's largest hybrid power plant being built?

Europe's largest hybrid power plant is being built by the Spanish electric company Endesa in Pego, Portugal, in the District of Santarém. The plan is to build a combination of a 365 megawatt (MW) PV system, a 264 MW wind farm and a 168 MW battery storage system.

Where is Eura energy constructing a hybrid power plant?

In Tenevo, Bulgaria, Bulgarian project developer Eura Energy is constructing a hybrid power plant with 238 MW of PV, 250 MW of wind, and a battery storage system with a capacity of 500 megawatt hours (MWh). Our trend papers provide you with background information and current developments in selected areas of the new energy world.

What is Iberdola's new hybrid power plant?

Iberdola, a Spanish energy company, is currently building a hybrid power plant that combines PV with hydropower. 160,000 PV modules are being installed in Cedillo in the Spanish province of Cáceres, and once it is complete, the system will generate a total of 86 MW.

What will hybrid power plants look like in the future?

In the future, hybrid power plants with digitalized control concepts will switch between different modes of operation in order to maximize profitability and optimize their ability to balance out short-term fluctuations in the grid. In Germany, hybrid power plants are subject to innovation tenders under the Renewable Energy Sources Act (EEG).

How can hybrid power plants improve grid stability?

There are several business models for marketing electricity from hybrid power plants, such as feed-in tariffs, direct marketing, energy arbitrage and the provision of operating reserves and grid stability services. As renewable



generation capacity increases, the latter two will make this type of plant essential for grid stability.

Are hybrid power plants legal in Europe?

At the EU level, there is no regulatory definition of hybrid power plants which could serve as basis for similar regulatory frameworks and process optimizations in the member states. Europe's largest hybrid power plant is being built by the Spanish electric company Endesa in Pego, Portugal, in the District of Santarém.



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### Iberdrola switches on 210 GWh Spanish pumped hydro-battery ...

The completed hydroelectric site will have a 225 MW generation capacity plus a 15 MW/7.5 MWh hybrid battery and will add 210 GWh of energy storage capacity to the local Tajo ...

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Hybrid Power Stations: The Future of Multi-Source Energy Integration As global energy demands evolve, users increasingly seek solutions that combine the strengths of ...

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### [Opportunities for Research and Development of Hybrid ...](#)

Combining assets into hybrid power plants complicates the matter, since most incentive structures are tied to a single technology power plant configuration. Incentives generally come in forms ...

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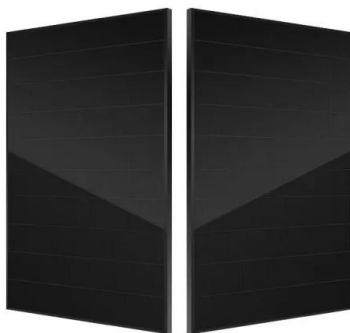


### The hybrid power plant in El Hierro island: facts and challenges ...

The hybrid power plant of El Hierro, composed by a wind farm, a hydro power plant, a water pump station and two big water reservoirs, is operating at full capacity since mid-2015.



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## [ITC: Wind-pumped-hydro Power Station of El Hierro](#)

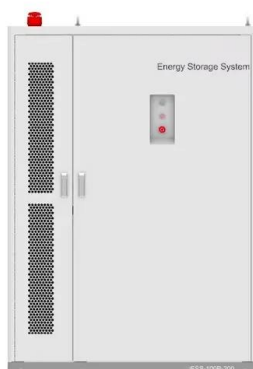
The wind-pumped-hydro power station of El Hierro is a perfect example of public-private partnership and a multilevel governance approach, for promoting RES in European ...

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## Iberdrola to install Spain's first hybrid hydroelectric-solar plant

Iberdrola España has obtained environmental approval for Spain's first hybrid PV-hydroelectric plant. The Hidro Cedillo project, located in the community of Extremadura, will ...

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## [Wind-pumped-hydro Power Station of El Hierro](#)

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## [Hybrid Power Plants: Efficient and Grid-Serving](#)

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## 2023 was another big year for newly installed and proposed hybrid power

Newly released data compilation from Berkeley Lab tracks operational and proposed plants Improving battery technology and the growth of variable renewable ...

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## A comprehensive review of electricity storage applications in ...

The analysis of the relevant papers showed that the hybrid power plant concept mainly incorporates wind-powered hydro-pumped storage stations, aiming to mitigate the ...

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**ESS**



[Case study: El Hierro - renewable energy for remote ...](#)

El Hierro, the westernmost of Spain's Canary Islands, located in the Atlantic Ocean, is using a wind/hydro hybrid system to move towards a 100 per cent ...

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## Solar updraft tower

Schematic presentation of a solar updraft tower  
The solar updraft tower (SUT) is a design concept for a renewable-energy power plant for generating electricity from low-temperature solar heat. ...

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Solar



**Case study: El Hierro - renewable energy for remote island systems**

El Hierro, the westernmost of Spain's Canary Islands, located in the Atlantic Ocean, is using a wind/hydro hybrid system to move towards a 100 per cent renewable energy supply.

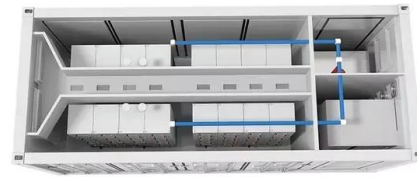
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