

# **Expected ROI of solar diesel hybrid storage project in Portugal 2030**





## Overview

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Why is storage important for the energy transition in Portugal?

With 21 318 GWh of electricity generated in Portugal between January and June 2022 - 57% of which of renewable origin - storage will be decisive for the much-desired energy transition for two major reasons. On one hand, storage will offset the intermittent generation of renewable energy.

How much green energy will Portugal need by 2030?

The Portuguese government forecasts that the overall installed renewable energy capacity will rise to 42.8 gigawatts (GW) by 2030, up from a target of 27.4 GW in the previous plan, and 2.5 times more than the capacity in operation last year. In total, this will need an estimated 75 billion euros in green energy funding.

What is the energy storage capacity in Portugal?

Energy storage installed capacity in Portugal is still predominantly based on hydropower pumping, which is today over 3 GW, and will increase to 4,164 GW when the Alto- Tâmega dam is completed this year. However, this paradigm is about to shift with the democratization of energy storage solutions with wind and solar production.

What is the EnergyPLAN model for Portugal in 2030?

Results of the ENERGYPLAN model for Portugal in 2030 in the SP scenario. The emissions for all scenarios are close to zero (well below the target of target 4.3Mton), as the natural gas-fired plant is only used for a very few hours of the year. The cost of the system is, at worst, lower than 2023. 6.

How much energy will Portugal produce in 2021?

This figure is lower than that reported with the APA, which for Portugal (mainland and islands) was 7.6 Mton in 2021 . According to the NECP (which also includes the mainland and islands), the power generation sector is



expected to reduce emissions by 83 % in 2030 compared to 2005, so the value considered for 2030 should be 4.34 Mton.

What is Portugal's Energy and Climate Plan?

On 10 July 2020, the Portuguese Government approved the National Energy and Climate Plan through Council Ministers Resolution no. 53/2020. The plan will shape Portugal's energy and climate policy from 2021-2030 and sets the long-term objective of decarbonizing the economy by the end of 2050.



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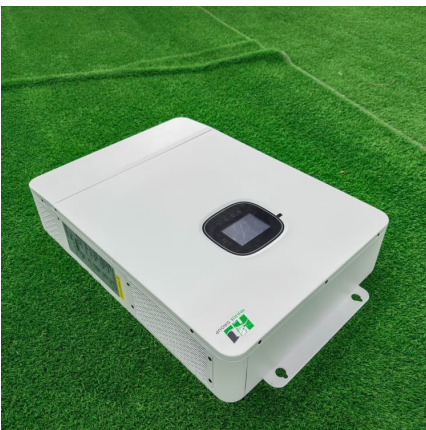


[Portugal has 720 MWh of battery capacity awaiting ...](#)

The other projects awaiting environmental permits include Endesa's 82.17 MWp Helíade Photovoltaic Plant, part of the planned "Pego Cluster" which will feature 168.6 MW of energy storage alongside 365 MWp of ...

### Top Energy Storage Power Stations in Portugal Key Projects and ...

As Portugal accelerates its renewable energy transition, energy storage systems have become critical for grid stability. This article explores the most efficient energy storage power stations in ...



### Massive global growth of renewables to 2030 is set to match ...

In terms of technologies, solar PV alone is forecast to account for a massive 80% of the growth in global renewable capacity between now and 2030 - the result of the ...

### [Tripling Global Renewable Energy Capacity by 2030 SOLAR](#)

Director General International Solar Alliance As we navigate the complexities of transitioning to a sustainable energy future, the International Solar



Alliance (ISA) proudly ...



### The role of pumped hydro storage in the Portuguese National ...

This work proposes a new methodological approach to assess the potential role of pumped hydro storage system in Portugal for 2030, taking into consideration the impacts of ...



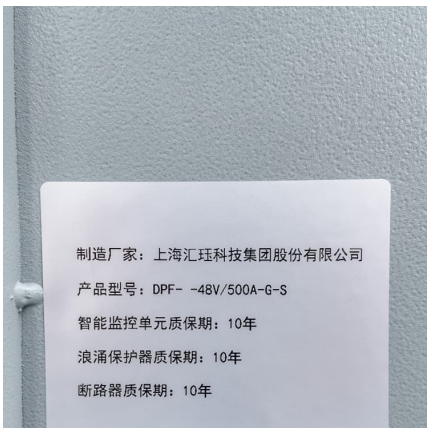
### [Green light for Algarve battery storage plant](#)

The batteries will allow "Galp to store clean solar energy generated in periods of high production and use it in periods of greater demand, maximising the value of the energy". Alcoutim "is Powin's inaugural project in ...



### EDP inaugurates new hybrid solar and wind energy project in Portugal

In addition to the hybrids operating in Portugal, the company was also a pioneer in installing the first hybrid project in Spain and Poland. EDP currently has over 1600 MW of hybrid projects ...



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### [Portugal adds 1.77 GW of solar in 2024](#)

Portugal set a record for solar deployment in 2024, installing 1.77 GW and surpassing the previous year's total. The country's cumulative installed PV capacity now stands at 5.66 GW, as it works



### [Aggreko mulls gas plant-battery hybrid projects for ...](#)

The English and US-owned business could offer gas-plus-storage projects in a thermal and hydro capacity reserve auction (LRCAP) planned for June as well as bidding in this year's planned energy storage tender.

### [20 Biggest Solar Projects in Portugal](#)

Portugal appears to have an exciting future as a major player in the global solar energy field, with numerous major projects already completed and several more exciting updates to come over the next decade. With the ...



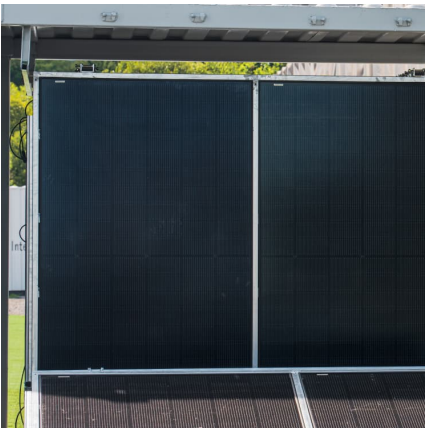
### [Energy Storage in Portugal. Publications. Knowledge](#)

With 21 318 GWh of electricity generated in Portugal between January and June 2022 - 57% of which of renewable origin - storage will be decisive for the much-desired energy ...



### Renewable energy generation, electric vehicles, storage ...

Growing concerns with climate change has prompted governments for action. Portugal put forward ambitious targets through its National Energy and Climate Plan 20



### Portugal solar power Surges with 1.77 GW Expansion in 2024

Portugal solar power surges in 2024 with a record 1.77 GW boost, meeting 15% of national demand. Explore how this leap drives the energy transition--read more!

### [Energy storage in portugal and spain](#)

Over the next three years, it is intended to produce 900 MW of storage-enabled renewable energy across Spain Portugal. Close Menu. LinkedIn X (Twitter) Facebook. its initial investment in ...



### Energy Storage Roadmap in Portugal



This study provides a compelling answer: energy storage is not only a technical necessity -- it is a strategic opportunity. It aims to guide Portugal in defining its energy storage roadmap, offering ...

Energy storage in pv systems Portugal

"Europe is expected to implement more than 90 GWh of large-scale battery energy storage projects by 2030, and we are well positioned to support this demand and keep up with the rapid ...



eu-market-outlook-for-solar-power-2023-2027

SolarPower Europe's annual EU Market Outlook helps policy stakeholders in delivering solar PV's immense potential to meet the EU's 2030 renewable energy targets. ...

Portugal Battery Storage Boom Lures Foreign Investment

Their simulations show that combining solar, wind and at least four hours of battery storage can meet Portuguese demand in 94 % of hours across an average year; add ...





### [Portugal Scales Up PV Target From 9 GW to Over 20 ...](#)

Portugal has set itself the target of 8.4 GW by 2025, almost as much as its target for 2030 earlier. While three-quarters of the 20.4GW solar PV capacity target would be coming from utility-scale projects (14.9GW), the ...

### **Endesa to Build Major Hybrid Renewable Energy Park in Portugal**

Various renewable energy news websites reported in late March that Endesa's subsidiary had capture a tender to construct a major hybrid renewable energy park in central ...



### [Exus Renewables Acquires 130 MW Solar Farm in Portugal](#)

Exus Renewables acquires the 130 MW Cibeles solar farm in Portugal, expanding its European portfolio. Portugal targets 20 GW renewable capacity by 2030, with Cibeles playing ...

### [Evaluating energy storage tech revenue potential](#)

Across all these opportunities, the actual revenue potential of energy storage assets will depend on the local context: power market conditions in the country, storage-specific regulations and incentives, commodity or ...





### Somalia plans to cut diesel use and triple renewable energy ...

Monday June 23, 2025 FILE - A hybrid solar power plant under construction in Baidoa, Somalia. Developed by Kube Energy in partnership with the South West State government and backed ...

### Green light for Algarve battery storage plant

The batteries will allow "Galp to store clean solar energy generated in periods of high production and use it in periods of greater demand, maximising the value of the energy". ...



### Battery solar storage Portugal

"Europe is expected to implement more than 90 GWh of large-scale battery energy storage projects by 2030, and we are well positioned to support this demand and keep up with the rapid ...

### Portugal's Solar and Hydrogen Capacity Goals for 2030 Set to ...

Despite this positive from Portugal, the EU overall is currently set to miss its 2030 climate change targets. This is due to uncertainty around whether there are sufficient funds being invested in ...





### [Exus Renewables Acquires 130 MW Solar Farm in ...](#)

Exus Renewables acquires the 130 MW Cibeles solar farm in Portugal, expanding its European portfolio. Portugal targets 20 GW renewable capacity by 2030, with Cibeles playing a key role in its energy transition. ...

### [The Economics of Battery Storage: Costs, Savings, ...](#)

For instance, a residential solar-plus-storage system might have a different ROI compared to a large-scale utility battery storage project. Impact of Incentives and Subsidies



### [Portugal Finances 500MW of Energy Storage](#)

The Portuguese Ministry of Energy has allocated EUR100 million for grid flexibility and energy storage projects that are expected to be completed by the end of 2025. Portugal, which continues to



### **CAISO: The state of grid-scale battery energy storage ...**

Another 5.6 GW is set to come online in 2025, driven by large-scale hybrid projects. Subscribers to Modo Energy's Research will also find out: How SP15 dominates CAISO's battery buildout and why its solar resources drive price ...



### **Impact of demand flexibility on renewable energy integration, ...**

The interactions between power system resources, i.e. flexible demand resources as electrolysis for green hydrogen production, electric vehicles (EV), and storage technologies, ...



### **Modeling renewable energy integration in the 2030 portuguese ...**

The main goal of this work is to study the role of energy storage in the context of the Portuguese power system by the year 2030. Portugal is one of the countries in the world with more ...



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