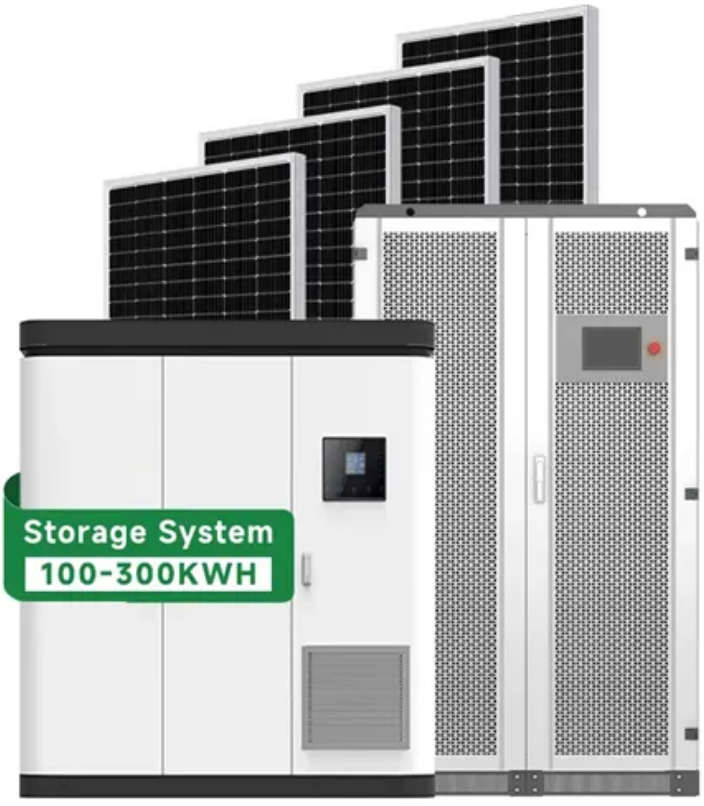
SolarInnovate Energy Solutions

# What is the energy storage system of Arequipa Power Station in Peru



## Overview

Can Peru generate electricity from a solar energy source?

This article presents the enormous potential of Peru for the generation of electrical energy from a solar source equivalent to 25 GW, as it has in one of the areas of the world with the highest solar radiation throughout the year.

Where are solar energy plants located in Peru?

These regions are part of the Coast Desert of Peru, in which nine photovoltaic solar energy plants are in operation in 2024. Also noteworthy are the northern regions of the country (i.e., Tumbes and Piura and part of the Sechura desert), which, despite their attractive solar resources, have not been used to date.

How much solar power does Peru have?

Conclusions Peru’s solar resources have been estimated, resulting in a useful potential of 25 GW; this is due to having territory in one of the areas of the world with the highest solar radiation throughout the year.

What is the useful solar energy technical potential for Peru?

The useful solar energy technical potential for Peru is equivalent to 25,000 MW. Table 2 shows details of the geographical areas of the country with the greatest average solar energy, where values between 4.00 and 7.00 kWh/m 2 /day are recorded. Table 2. Geographical areas of Peru with the greatest average daily solar energy .

Where are the highest solar energy levels in Peru?

At the end of spring, on the desert terraces of Arequipa, Moquegua, and Tacna (13.5° to 18° S and 70° to 76° W) above 1000 masl, the highest annual values of solar energy of the Peruvian territory are reached. This is because they are located above the thermal inversion layer and have clear skies throughout the year.

What is the development of solar PV energy in Peru?

Finally, Figure 21 shows the development over time of the installed capacity in MW of solar PV energy in Peru. Figure 21. Evolution (years) of the solar photovoltaic installed capacity (MW) in Peru. Figure 21 shows that the first stage of solar PV energy in the country began in 2012, with strong growth from 2012 to 2023.

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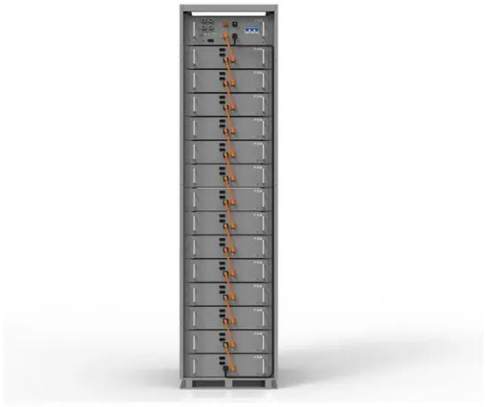

### Technologies and economics of electric energy storages in power systems

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