

## SolarInnovate Energy Solutions

# What is the Arequipa wind energy storage system in Peru



## Overview

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Where is the best place to build a wind farm in Peru?

The best locations for wind farm planning at great elevation heights in the Peruvian countryside are Piura and Arequipa. The scarce promotion of wind energy generation in Peru leads to using fossil fuels and polluting the environment with greenhouse effect gasses.

Does Peru have a wind power plant?

Wind is an inexhaustible energy resource and offers a large potential in several Peruvian provinces. Fig. 1. Peruvian energy matrix of 2022 . As it was mentioned previously, Peru has only seven wind power plants which are Tres Hermanas, Wayra I, Parque Eólico Marcona, Cupisnique, Talara, Duna and Huambos .

Will the government of Peru implement wind farms in different places?

There are high expectations that the government of Peru will promote public policies that seek the implementation of wind farms in different places in the territory, which will allow the generation of renewable energy and provide access to clean energy to more inhabitants and productive activities.

What is the largest wind project in Peru?

The Wayra extension, added to Wayra I, will form the largest wind project in Peru, with an installed power of almost 310 MW. The characteristics of each wind turbine to be installed in the Wayra extension are the following: power per wind turbine: 5.9 MW; height: 180 m; and blade length: 76 m. These are all shown in Table 10. Table 10.

Which wind farm will be located in Arequipa?

Some of these are the following. Pacífico wind farm will have an installed capacity of 214.83 MW with 62 turbines of 3.465 MW each one. It will be located in Lomas district, Caravelí province, in Arequipa at a height of 320

masl. Bayóvar wind farm will have an installed capacity of 250 MW with 76 VESTAS V126 turbines of 3.3 MW each one.

Does power provide a better wind resource in Peru?

POWER provided difference of more than 79%. Five cases in Peru's countryside were evaluated in the provinces of Amazonas, Piura, Ancash and Arequipa. These cases were located at heights ranging from 2400 to 4200 m above sea level. The locations with better wind resource potential are in Piura and Arequipa between 3000 and 4200 m above sea level.

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