How can Cape Verde meet its goal of 50% renewables?

Cape Verde can meet its goal of 50% renewables today by integrating energy storage. A 100% Renewable System is achieved from 2026, with a 20 year cost from 68 to 107 MEUR. Current paradigm doubles emissions in 20 years and costs ranges from 71 to 107 MEUR. The optimal configuration achieves 90% renewable shares with a cost from 50 to 75 MEUR.

Is Cape Verde a developing state?

The archipelago of Cape Verde is a developing state in West Africa with extreme external energy dependency on refined oil imports despite their available solar and wind resources. Aligned with the global energy transition, the local government established goals in 2011 aiming at 50 and 100% RES.

Does seasonality characterize the renewable resource of Cape Verde?

All the analysed scenarios until this point rely fundamentally on HPS to deal with the seasonality characterizing the renewable resource of Cape Verde. As aforementioned, the sizing limit has been established based on current estimates of the total resource of the island.

Does Cape Verde have a wave energy potential?

In the case of Cape Verde, there is one study evaluating the wave energy potential which highlights the resource available, particularly for the northern islands, such as Sã o Vicente. Unfortunately, the study identifies the wave resource to match that of the wind.

Why is Cape Verde's energy grid falling out of scope?

Nevertheless, we discarded this due to the fact that the grid in Cape Verde is currently in expansion and this process is expected to continue during the foreseeable future following criterias related to energy access and political will, rather than techno-economical feasibility. Thus, falling out of scope.

What is the Cape Verde reference system (CVRs)?

The recently published Cape Verde Reference System (CVRS) has been used as the baseline for the present study. It details the topology and components of the networks of both Santiago and São Vicente islands,including load and renewable profiles. 2.1. Energy mix,challenges,and future plans

Their common challenges and energy policies are exemplified with a comprehensive generation and storage expansion planning (GSEP) for the island of Sã0 Vicente, Cape Verde.

The company will also add a battery energy storage system (BESS) with a capacity of 9 MW/5 MWh in Santiago and another unit of 6 MW/6MWh on the island of Sal. The new facilities will contribute to annual ...

During the presentation of the project, Cape Verde"s National Director for Industry, Trade and Energy, Rito

É vora, announced that the energy storage centre is scheduled to be operational ...

The country's National Programme for Sustainable Energy (PNSE) focuses on institutional strengthening, energy market reform, strategic infrastructure development, the ...

In the years 2010 and 2011, the Cape Verde Ministry of Tourism, Industry and Energy conducted a study that included an assessment of the renewable energy potentials ...

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