

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 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 S. Vicente. Unfortunately, the study identifies the wave resource to match that of the wind.

Where is Cape Verde located?

The archipelago of Cape Verde is located in the Atlantic Ocean at approximately 600 km from the westernmost point of continental Africa. Cape Verde is compounded by ten islands; nine of them inhabited by roughly 540,000 people. Their climate is usually regarded as semi-desert, more moderate than that of sub-Saharan Africa due to the oceanic influence.

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 criteria 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 S. Vicente islands, including load and renewable profiles. 2.1. Energy mix, challenges, and future plans

It's another sunny day in Cape Verde, where 350 days of annual sunshine could power the entire archipelago... if only we could store that energy for later. Enter the unsung hero of renewable ...

Integrated analysis of energy and water supply in islands. Case study of S. Vicente, Cape Verde The authors in [5] presented the case study of S. Vicente, Cape Verde, where they analyzed ...

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