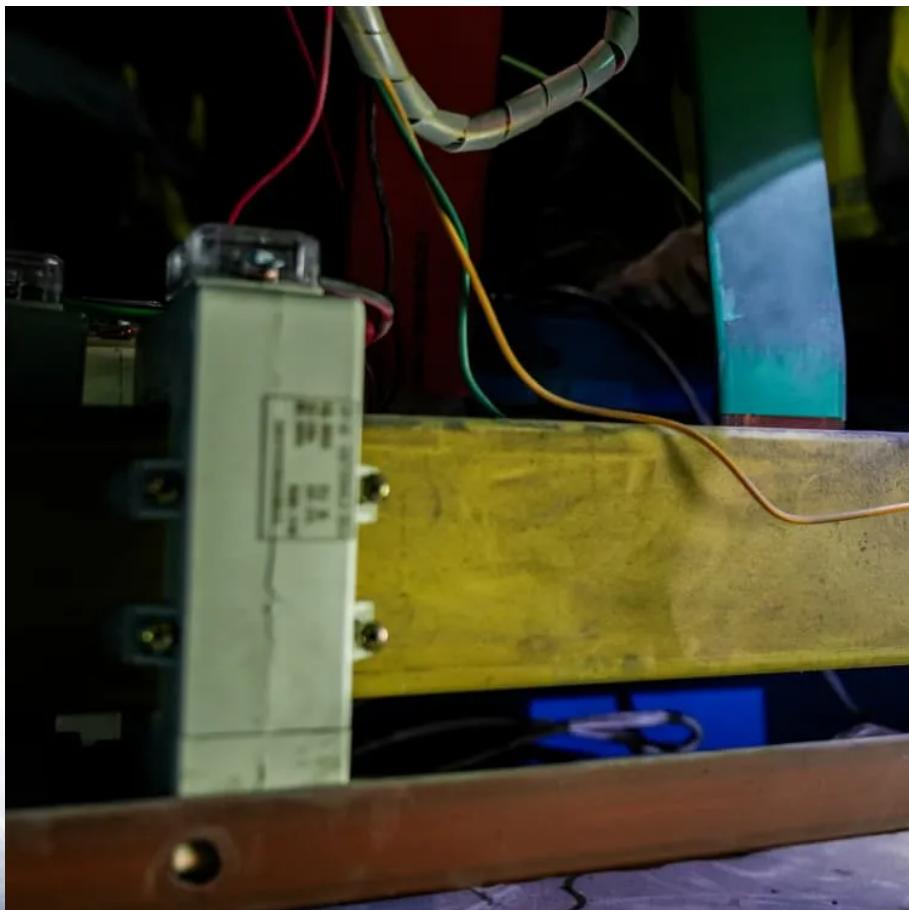




FTMRS SOLAR

Environmental Protection Project Using Benin Photovoltaic Energy Storage Container Hybrid Type





Overview

Providing power to rural communities, which are far from the grid and suffer from lack of energy access in Africa, especially in Benin, in a sustainable manner requires the adoption of appropriate technology.

Is solar power a viable option for rural electrification in Benin?

Besides, current projects on off-grid rural electrification in Benin, specifically Solar Energy Promotion Project (PROVES) and Renewable Energy Development Program (PRODERE), are based on stand-alone solar PV/battery only. Such a combination makes the overall cost high due to a big battery storage required to ensure reliable power supply.

Can a hybrid PV/DG/battery system power remote areas in Benin?

In summary, as solar radiation is an abundant resource across the country, this hybrid PV/DG/battery system can be a suitable model to power remote areas in Benin, and we recommend it for future electrification projects in the country in place of the current widely deployed PV/battery system.

1. Introduction.

Can Benin achieve universal energy access?

Regarding the country's energy sector, more effort is needed to reach the universal energy access goal. Benin Republic currently has one of the lowest national electrification rate in SSA (only about 30.4%), with a strong disparity in favour of urban areas closer to the main grid [17, 18].

Can a mini-grid supply power to rural communities in Benin?

The rural communities cannot wait any longer for grid extension projects that are costly and take longer time for implementation. Therefore, isolated mini-grid (cheaper and quick to install) would be a suitable technology to supply power to rural communities in Benin.



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