



BUHLE POWER

# Community-use Windhoek Solar Container Off-grid Type





## Overview

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Can off-grid electrification provide electricity to the informal settlement in Windhoek?

This study explores two potential off-grid electrification methods to supply electricity to the Havana informal settlement in Windhoek, with the aim of finding an optimal solution that can cost-effectively meet the load requirements. This section presents and discusses simulation results. 4.1. Electrification through Solar Home Systems (SHS).

What types of off-grid energy configurations can be simulated?

In addition to the three off-grid energy configurations discussed above, a solar photovoltaic (PV), wind turbine (WT), diesel generator (DG), and batteries (BAT) setup (henceforth, PV|WT|DG|BAT) is simulated. The HOMER schematic diagrams used to model the SHS for Shack-24sqm load, and a roof-top microgrid are shown in Figure 10.

Do off-grid energy configurations provide the load profile expected in peri-urban communities?

It examines different off-grid energy configurations that can supply the load profile expected in a typical informal settlement or peri-urban community. It presents a comparative analysis of the deployment of individual solar home systems to each resident versus supplying electricity from a centralized microgrid.

How much sunlight is available at Windhoek?

The clearance index is between 0.58 and 0.78 in winter. Thus, 4 to 7 h of full sunlight is available at the site throughout the year and has potential to generate adequate electricity from solar photovoltaic (PV) modules. Figure 7. Annual solar radiation and clearness index profile for Windhoek. Source [ 60 ].



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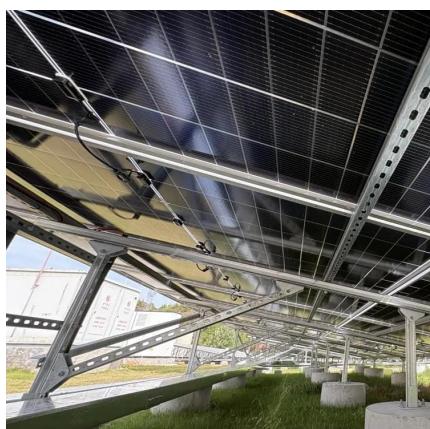
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