

SCOPE OF WORK – ENKOVUKENI SOLAR HOME SYSTEM PROJECT

Project Scope Definition

The solution shall be designed to supply power each of the 54 households at eNkovukeni Village within an island located in Northern KwaZulu Natal. The expected output of the solar PV is 5kW.

The scope shall consist of but not limited to:

- Design, manufacture and install a standalone carport structure using either galvanized steel or treated wooden poles, engineered to support the weight of solar panels, as well as accommodate the inverter and battery enclosure. The design must ensure that the maximum possible PV capacity is installed per household.
- Install solar panels with a total output of up to 5kW, including a matching inverter and battery system.
- Provide a secure kiosk to house inverters, batteries, and other electrical components that can be mounted on the solar PV support structure.
- Install LV pole-top box, cabling, and smart metering as per Eskom standards.
- Recommended meter: BS Footprint Single Phase Smart Split Meter with CIU and External GSM Modem per household.

Geographical overview of the project

Enkovukeni Village is an islanded community located in Northern KwaZulu-Natal. The area remains largely unelectrified, with limited access to electrical power. In addition to 51 households, the village is home to a primary school and a technology hub, both of which serve as vital resources for the local residents.

The location of the village within Kwazulu-Natal is shown in figure 1, below.



Figure 1: Geographical Overview of Enkovukeni

Enkovukeni Village is situated within the iSimangaliso Wetland Park, a designated World Heritage Site. As a protected area under the National Environmental Management: Protected Areas Act (Act No. 57 of 2003), any engineering or infrastructure development within the village must comply with a rigorous environmental approval process. This ensures full adherence to all relevant environmental legislation and safeguards the ecological integrity of the site.

Typical Dwelling on the project site

The village features a mix of traditional mud and reed houses, as well as brick and block structures. Residential yards are typically shaded by trees, and the soil composition is predominantly sea sand, characteristic of coastal dune systems. Enkovukeni is surrounded by undisturbed forest, contributing to its ecological sensitivity and reinforcing the need for environmentally conscious development.



Figure 2: Reed houses



Figure 3: Brick and Mud house



Figure 4: Brick House

Environmental considerations

Several site visits have been conducted in Enkovukeni Village by various stakeholders. During these visits, a diverse range of vegetation types was observed, highlighting the area's rich biodiversity and ecological sensitivity. While the list of identified vegetation is not exhaustive, it provides insight into some of the potential environmental challenges that must be addressed in any electrification project. These findings emphasize the need for comprehensive environmental assessments and strict compliance with all applicable legislation and conservation requirements.

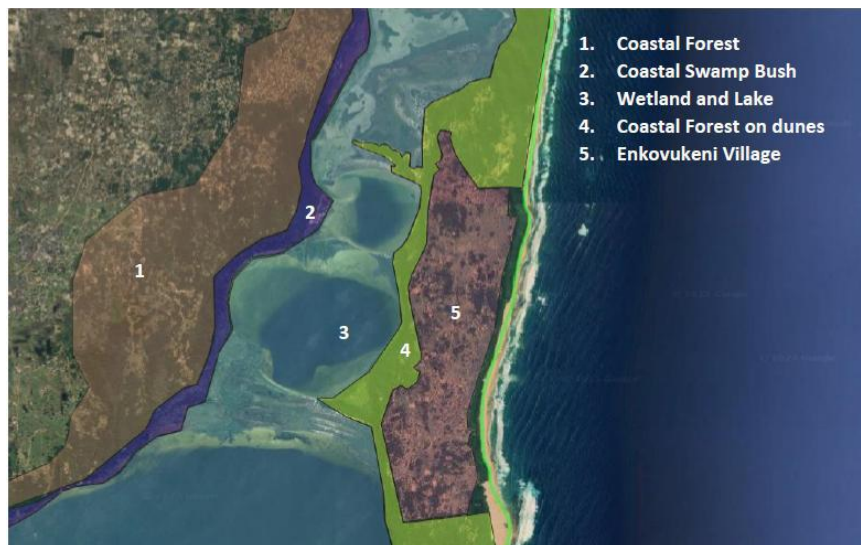


Figure 5: Potential environmental challenges