

Project Brief: Residential Solar PV Installation – Eskom Infrastructure Resilience Initiative

Project Title

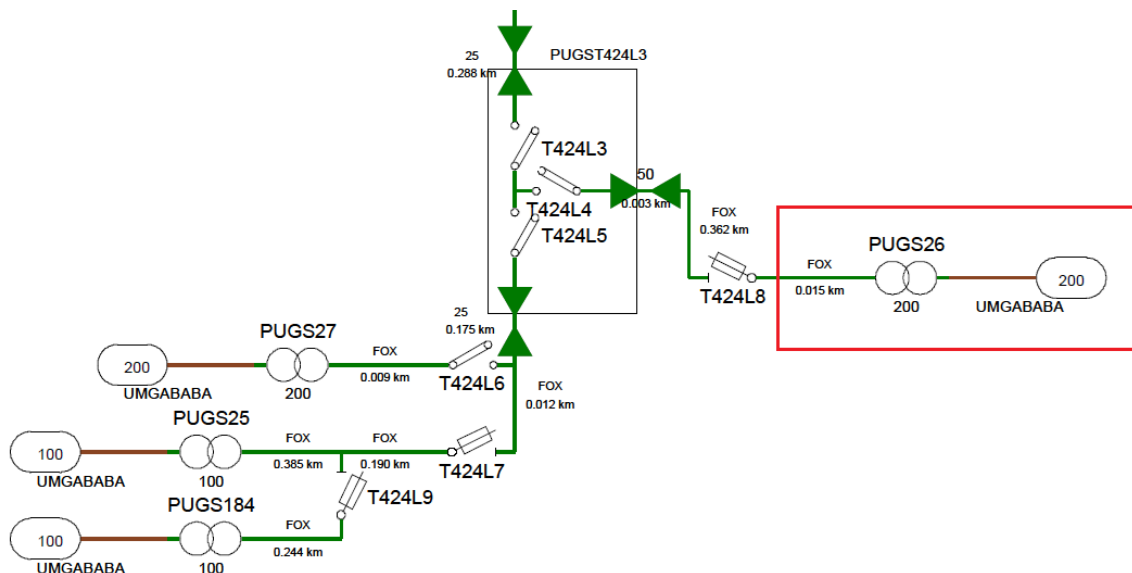
Alternative Electrification Solution for Affected Customers – MV/LV PUGS26, St. Josephs NB70 South Coast – PMB Zone

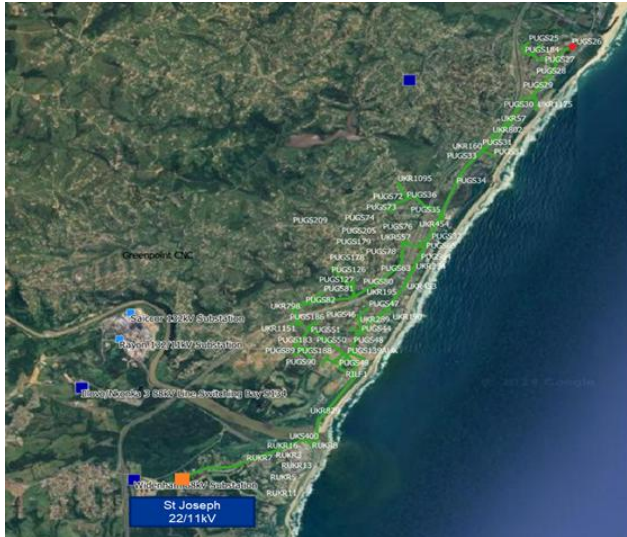
1. Background and Objective

Eskom is currently experiencing an increasing number of transformer failures within residential distribution networks. These failures are primarily driven by:

- Meter tampering,
- Illegal electricity connections,
- Vandalism of electrical infrastructure.

In response, Eskom is piloting a campaign aimed at providing reliable, legal, and sustainable supply alternatives to *paying customers* affected by isolated or damaged transformers. As part of this initiative, the **deployment of solar PV systems** at customer premises has been proposed as a viable off-grid or hybrid electrification solution. The DD as well as the geographical layout is included below.





- ◆ PUGS26
- St Joseph Substation 22/11kV

2. Project Scope

The trial implementation site is centred around the MV/LV PUGS26 transformer on St. Josephs NB70. Two system capacities have been identified for evaluation:

- 3 kW PV System,
- 5 kW PV System.

PR_LAT_LONG	Ave Monthly kWh	Ave Monthly REV	System Type	System Size (kW)
300754.177S 305028.485E	252.683333	511.66667	<R600	3
300757.105S 305032.844E	235.866667	579.166667	<R600	3
300754.929S 305031.505E	230.825	560	<R600	3
300754.974S 305029.624E	228.466667	441.666667	<R600	3
300749.594S 305035.685E	220.46667	536.66667	<R600	3
300755.082S 305029.167E	217.275	560.75	<R600	3
300759.716S 305025.573E	185.466667	450.83333	<R600	3
300752.514S 305028.913E	183.883333	367.916667	<R600	3
300754.611S 305030.733E	180.316667	320.083333	<R600	3
300722.440S 304515.840E	172.2	362.5	<R600	3
300800.398S 305033.380E	167.258333	330.416667	<R600	3
300747.295S 305034.713E	160.2416667	325.83333	<R600	3
300752.052S 305030.015E	155.03333	300.833333	<R600	3
301300.230S 308400.380E	151.216667	305.833333	<R600	3
300755.252S 305031.903E	135.458333	334.58333	<R600	3
300756.955S 305030.340E	127.75	315.8333	<R600	3
30°07'51.8"S 30°50'36.4"E	325.458333	659.166666	<R800	5
300754.955S 305029.590E	306.358333	753.5	<R800	5
300748.600S 305026.000E	272.2	658.33333	<R800	3
300757.759S 305022.765E	260.5416667	646.083333	<R800	3

300748.461S 305038.313E	349.908333	875	<R1000	5
300753.642S 305037.555E	430.45	1059.416667	<R1000	5

3. Scope of Engineering Services

The appointed engineering entity is required to design and install 22 PV systems at 22 customers premises. The installation to be done outside the customer's houses. The size of the PV system for each premise is shown on the table above.

The SSEG system to be configured so that the battery discharges during the morning (5-9am) and evening peak periods (5-9pm), when irradiance is low. During the day, the PV array recharges the battery and supplies the household load. The installation to be grid-tied; any surplus PV generation will be exported to the grid.

In addition, the appointed entity is required to undertake maintenance work for the duration of 2 years.

4. Detailed Scope of Work

Design and install 22 PV solar systems at 22 customer's premises. The systems shall be as follows:

18 X 3 kW PV Systems with a minimum of 5 panels each

4 X 5 kW PV Systems with a minimum of 9 panels each

Details of the PV mounting structure shall be provided for an **outdoor-only, platform-mounted** PV array that accommodates a **dedicated IP65-rated kiosk enclosure**. The platform and racking system shall be engineered to support the PV modules and provide sufficient space and access for the kiosk housing the **battery system, inverter(s), and all supporting balance-of-system equipment** (including protection, isolation, metering, communications and cabling). The submission shall include the **installation methodology/procedure**, structural support details, and **associated engineering drawings**.

Details of the **outdoor IP65 kiosk enclosure** for the inverter and battery system shall be provided. The kiosk shall be suitable for external environmental exposure and shall include all required internal mounting arrangements, ventilation/thermal management where applicable, gland plates/cable entries, and access provisions. The submission shall include the **mounting/installation method or procedure**, kiosk layout and general arrangement drawings, and **technical data sheets** for the kiosk and all installed equipment.

A solution for the **reconfiguration, segregation, and outdoor enclosure** of the existing service connection shall be provided. This shall include an IP65-rated outdoor enclosure arrangement integrated into, or suitably positioned adjacent to, the platform/kiosk installation. The submission shall include the **mounting/installation method or procedure**, single-line integration approach, and **associated drawings** showing the final service connection configuration and interfaces to the PV, inverter, battery and kiosk equipment.

Theft mitigation measures to be included in the design.

5. Task Duration – 8 months (Excluding 2 years of preventative and corrective maintenance)



Moses Jumbe

NED Designer

09/02/2026



Mlungisi Sibiyi
Programme Manager Infrastructure
09 Feb 2026