

## Background

Electricity supply constraints, together with increasing electricity tariffs and decreasing prices of renewable energy technologies, **have driven the substantial uptake of embedded generation (EG) in South Africa.**

It is estimated that there are at least 6 GW of EG across the country. If not properly managed and proactively integrated, EG may pose financial, technical and safety challenges for Network Service Providers (NSPs). Since the EG market is expected to grow, municipalities must encourage and incentivise their customers to register their systems and adhere to the necessary codes, standards and by-laws.

The EG Support Programme was established in 2017 to offer municipal utilities support with developing a consistent approach to integrating EG into their networks in a way that is technically, legally and economically sound.

The programme aims to support municipalities with:

- Building institutional, organisational and human capacity with establishing or enhancing application and approval processes for EG customers;
- Safely integrating EG systems onto municipal networks; and
- Exploring and developing new sustainable business models for municipal utilities.

## Field of Intervention:

# Embedded Generation

Every roof can deliver clean energy, every distribution network should integrate it



## Overview of the Support Process

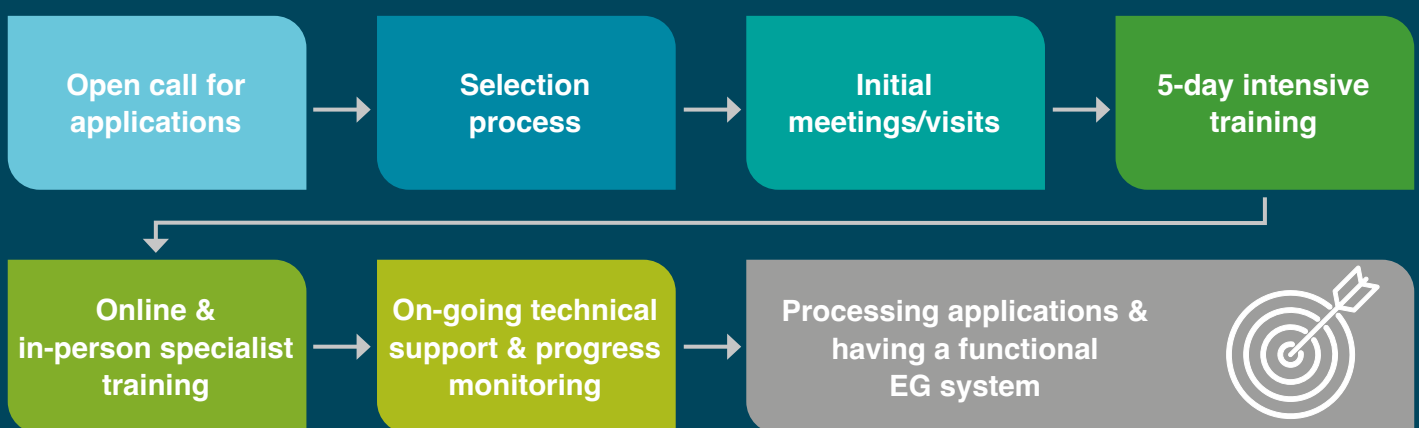
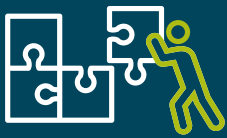


Figure 1. Support process for building EG readiness as part of the Embedded Generation Support Programme for Municipalities.



## Partners

The EG Support Programme is proudly endorsed by the political partner, the Department of Mineral Resources and Energy (DMRE, now Department of Energy and Electricity (DEE)), in collaboration with the South African Local Government Association (SALGA). It is implemented by a consortium of sector experts comprised of Sustainable Energy Africa (SEA), Solar Training Center, DigSilent Buyisa and Det Norske Veritas (DNV).



## Activities and Support Mechanisms

The programme offers **capacity building using a holistic approach towards building EG readiness** for partner municipalities through various support formats:

- **Practical training on EG topics** at no cost to partner municipalities, to support them with setting up a comprehensive EG application system. A 5-day basic EG training is the foundation for the support, complemented by a technical helpdesk and several shorter training courses on more specialised EG topics such as grid impact studies, cost of supply, bi-directional metering, power quality.



*Image 1. Participants at the 5-day EG training in Pretoria, February 2025 (© GIZ/Slebz Collen)*

## Training Topics and Schedule for 2025

Date	Training Topic	Description	Format
27 January	EG applications 1MW & larger	Provides an overview of the guideline on processing EG applications that are 1MW and larger, covering the process and requirements municipalities need to have in place and customers should adhere to.	Online
24-28 February	General embedded generation training	5-day intensive training covering the basics for all things EG. Forms the foundation for the support.	In-person
11-13 March	Wheeling	Provides an overview of the regulatory framework for wheeling, and the various steps municipalities need to take to facilitate electricity wheeling in their jurisdiction such as designing wheeling tariffs, developing policies and implementation roadmaps.	Online
31 March-04 April	Cost of supply studies	Covers the fundamental principles behind understanding the cost of supplying electricity. Includes practical support using the NERSA approved tool for compiling cost of supply studies.	In-person
07-11 April	Embedded generation tariff training	Covers how to design tariffs for EG customers that is fair to the customer's business case and municipality's revenue. Recommended that financial and technical staff attend.	Online
19-23 May	Grid impact training: An overview	General overview of grid impact studies and the requirements, learning how to assess grid impact studies, complete the assessment form and interpret results. Covers all aspects under the municipality's control.	Online

**Additional self-paced online training** on topics such as bi-directional metering, PV own-procurement, power quality apportionment are available at: <https://www.training.sseg.org.za/>.

- Access to an online open-source **Embedded Generation Resource and Training Portal** (<https://www.sseg.org.za/>) with a wealth of resources in one place such as knowledge products, guidelines, explanatory videos, tools and approved inverter lists.
- Easy-to-customise templates for setting up an application process in the form of the **AMEU (Association of Municipal Electricity Utilities)-SALGA Resource Pack**, which is continuously updated and covers all aspects related to EG, from policies and by-laws to tariff design, technical standards and commissioning requirements.
- Customised ad-hoc assistance via a **Technical Helpdesk** to support municipal staff on all queries around EG related topics like grid impact study support, help with presenting to the Council, assessing complex applications and everything around EG processes.
- **Peer Exchange Network** that serves as a community of practice, via a WhatsApp group, where officials can ask any question they have to the technical helpdesk or their fellow peers. In addition, regular information sessions on topics of interest are announced here..
- **Online EG Application Platform** which allows customers to submit applications for systems up to 1 MW. The system is based on the technical requirements of the NRS 097-2-3 simplified criteria to check whether the generator can safely be integrated into the network. The platform reduces paperwork and increases the turnaround time for processing of applications, improving the customer experience and reducing the workload for municipal staff. It is available at: <https://apply.sseg.org.za/>

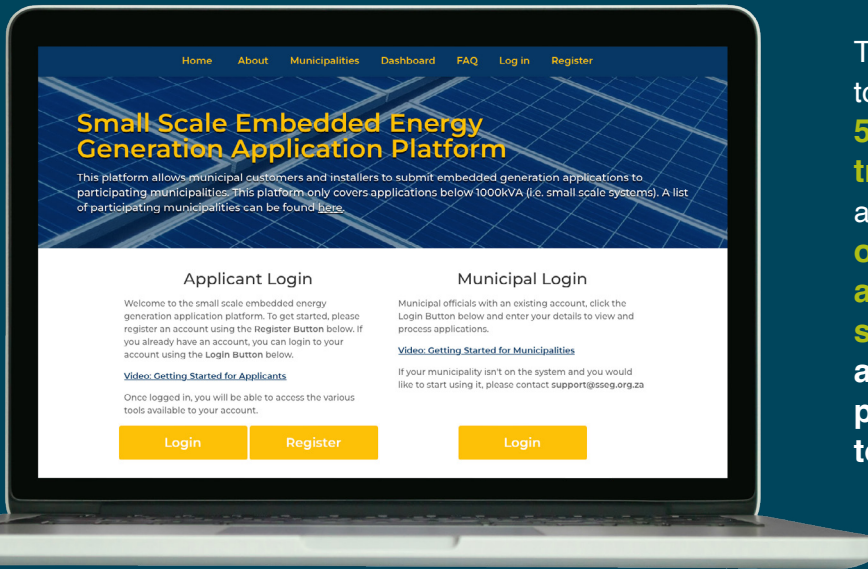


Image 2. Landing page for the SSEG Application Platform

The application portal is open to all municipalities. Currently, **55 municipalities** have been **trained** to use the platform, and **43 municipalities allow or are actively processing applications through the system**, **47.16 MW of PV** and **25.16 MWh of storage** processed and approved to date.

<https://apply.sseg.org.za/>

## Results of the Programme:

**133**

partner municipalities in the programme (representing 80% of all municipal utilities)

**19,834**

registered **EG systems** around the country

**43**

municipalities actively processing applications via the central application portal with

**77**

municipalities with Council approved processes in place

**468**

municipal officials trained in 2024, of which 33% were female

**1,482**

applications processed

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