



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD



TOP 10 FREQUENTLY ASKED QUESTIONS

ABOUT SMALL-SCALE EMBEDDED GENERATION
(SSEG) IN CAPE TOWN

1. WHY SHOULD I REGISTER MY SSEG SYSTEM?

All SSEG systems must be authorised by the City of Cape Town before installation to ensure they are safe and legal. An SSEG system such as solar PV is not an appliance that you just plug into a wall socket; it is an electrical generator that impacts your home's electrical system and the entire electrical grid. Therefore, it is essential that the people operating the network know about all the generators. The primary reasons for requiring authorisation are:

✓ SAFETY:

Non-compliant SSEG systems could electrocute City personnel if electricity feeds into a grid that is believed to be off. Poorly installed systems can also cause household fires and insurers may not cover damages if the installation is not authorised.

✓ GRID MANAGEMENT:

Electrical infrastructure becomes constrained as more SSEG systems are connected, even if the systems do not feed back. For example, when the sun sets and homes using solar PV suddenly start using grid electricity, this impacts the network

due to the rapid change of load and scale of solar PV users. Furthermore, the quality of electricity is compromised if SSEG infrastructure does not meet strict power quality requirements.

✓ LEGISLATION:

Registration is legally required in terms of the City of Cape Town Electricity Supply By-Law, 2010 and ensures the safety of anyone who comes into contact with the PV system or the grid itself. The Occupational Health and Safety Act states the property owner carries the responsibility for the safety of the electrical installation on the property. Furthermore, the National Energy Regulator of South Africa (NERSA) requires reporting of all embedded generation.

To register your system for authorisation, follow the application procedure as detailed in the City's Requirements for Small-scale Embedded Generation. Failure to obtain this consent constitutes an offence which could lead to the issuing of an unauthorised SSEG fee and/or electrical disconnection in terms of the City of Cape Town Electricity Supply By-Law 2010.

2. WHICH SYSTEMS NEED TO BE REGISTERED?

All SSEG systems in the City of Cape Town supply area need to be registered and authorised. The majority of SSEG systems in the City are rooftop solar PV systems, however, small wind turbines, biogas and small hydro can also be forms of SSEG. Solar water heaters (SWH) or geysers that heat up water directly are not SSEG systems and do not need to register for authorisation. However, solar PV panels that are used to power electric geysers will need to be registered.



3. CAN I INSTALL AN OFF-GRID SOLAR PV SYSTEM?

An 'off-grid' solar PV system refers to a system installed on a property that does not have an electrical connection such as in a rural or un-electrified area. All embedded generation on Cape Town properties with a service connection will be treated as standby or grid-tied as all generation systems, including standby systems, impact the network. This is to minimise the risk of

SSEG systems claiming to be off-grid but are not electrically separate from the property's wiring and are therefore not technically off-grid. Furthermore, the City's Geographic Information System (GIS) conducts regular counts of all rooftop solar PV systems and registration of your standby system will ensure that your system is not mistaken for an unauthorised grid-tied system.

4. WHAT DOES IT COST TO REGISTER?

The registration and authorisation process is free. However, some installers may charge you to complete the registration process. Ensure that your quote includes all the relevant items for a compliant system.

5. HOW LONG DOES THE AUTHORISATION PROCESS TAKE?

The authorisation process can take between one and three months, provided that you supply the City with all the relevant information.

6. WHY ARE THE CITY'S SSEG METERS SO EXPENSIVE?

Customers wishing to feed excess generation back onto the grid need to have an Advanced Metering Infrastructure (AMI) bi-directional meter installed to measure the feedback and credit the customer accordingly. These meters must

meet a number of rigorous technical specifications. The City is aware that the meters are expensive, particularly for smaller installations, and is investigating alternative metering options.

7. WHY MUST I USE A CITY-APPROVED INVERTER?

The inverters on the City's Approved PV Inverter List have undergone rigorous testing to ensure that they do not pose a safety risk to the network, municipal workers and the inhabitants of the property. This is particularly the case for anti-islanding, i.e.

when the network goes down, the inverter disconnects and does not feed electricity onto the network. Furthermore, approved inverters adhere to a number of electricity quality standards.

8. HOW WILL MY ELECTRICITY TARIFF CHANGE IF I CHOOSE TO GO ONTO THE RESIDENTIAL SSEG TARIFF?

There are a number of elements that make up your electricity tariff:

The following items stay the same for all residential customers on the Home User Tariff (SSEG or non SSEG customers):

- ✓ A monthly network access and administration charge that appears on your rates account. This is to cover the cost of maintaining the electrical infrastructure.
- ✓ Block 1 (0 – 600 kWh) and Block 2 (600.1+ kWh) electricity consumption charges for kWh (or “units”) consumed.

The following items are specific to the Residential SSEG Tariff users:

- ✓ A monthly AMI meter reading fee.
- ✓ The customer benefits through a rate per kWh at which the City will purchase exported excess generation i.e. SSEG Feed-in Tariff.
- ✓ The customer benefits through an additional SSEG feed-in incentive tariff (available until 2025).

Customers on the SSEG tariff are billed and credited monthly.

9. WHAT IS THE BASIS FOR CALCULATING THE FEED-IN TARIFF?

The current SSEG feed-in tariff is based on the avoided cost of electricity purchased from Eskom on the Megaflex time-of-use tariff. From our metering system, we are able to determine how much electricity is fed into the grid and at what times of day.

As almost all SSEG is solar PV, most reverse power flow occurs during standard or off-peak periods during the 9 months of the low demand season. With this data, we can determine the total avoided cost of electricity from Eskom and create an appropriate tariff.



10. CAN AN ELECTRICIAN ISSUE A CERTIFICATE OF COMPLIANCE (COC) FOR MY SOLAR PV INSTALLATION?

For standby systems, a qualified electrician can sign off that the schematic provided is as installed and the system is electrically isolated from the grid. A CoC must be issued and provided to you.

For grid-tied systems, the following applies: until such time as

✓ The relevant parts of SANS 10142 (The Wiring of Premises) are updated and published, and

✓ accredited embedded generation installation and commissioning electricians/technicians exist, all embedded generation systems installed on the City's grid must be certified as complying with the City's requirements as follows:

✓ An ECSA-registered professional engineer, ECSA-registered professional engineering technologist or certified engineer (electrical engineer with a Government Certificate of Competency) may certify industrial, commercial and residential SSEG installations.

✓ An ECSA-registered professional technician may only certify residential SSEG installations.

It is recommended you use a reputable installer who is accredited with a relevant industry association and has experience with the City's authorisation process.

BE SAFE: GET YOUR SOLAR PV SYSTEM AUTHORISED

**The City actively supports embedded generation (EG).
By law, all grid-tied and off-grid systems must be authorised before installation.**

Protect your household from electrical shocks and fires from illegally connected systems.

Minimise risk of injury or death from severe shocks to electricity staff working on the grid.

Maintain power quality and load management. Pay for your use of the grid.



**CONNECTING WITHOUT APPROVAL IS
ILLEGAL AND DANGEROUS**

All new and existing PV systems must be authorised by the City of Cape Town.

- Failure to comply could result in the disconnection of the electricity supply to the property.
- Solar water heaters are exempt from registration.

Go to www.capetown.gov.za/solarPV

If you are looking for more information to support you, the [Rooftop Solar PV: Guidelines for Safe and Legal Installations in Cape Town](#) will help you make informed decisions about what type of solar PV system to install, evaluate your prospective service providers and understand all the key requirements before, during and after installation.

For all relevant solar PV information, please visit www.capetown.gov.za/solarpv