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# Guidelines for selecting a solar PV installer

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**T**he agricultural, industrial, and commercial sectors, as well as the residential sector, are looking for alternative energy solutions as loadshedding and high electricity prices threaten food security. Solar energy is now becoming a more common alternative energy option, owing to the fall of prices in solar energy technology. Due to the solar energy being in high demand, more unexperienced, opportunistic service providers have emerged in the market, thus making solar PV procurement process risky for any unsuspecting end-user who is interested in solar PV installation. The residential sector is the one that is most affected by opportunistic service providers. However, any sector can be a victim, if there is no due diligence in selecting the right service provider. To navigate through to the right service provider,

here are tips to consider when planning to hire a Solar PV installer:

**Apply energy efficiencies measures:** It is a best practice to put measures in place for energy savings before Solar PV installer can be appointed. This will reduce the monthly energy bill, which, in turn will lead to a procurement of a small solar PV system size. Applying energy savings measures can imply using the more energy efficient lighting like light emitting diodes (LEDs) lights and compact fluorescent lamps (CFL). Geysers, air conditioners and certain appliances can be switched only when necessary. If necessary, gas can be used to power appliances which consume more energy.

**Know the kind of system you are looking for:** It should be concluded in advance what type of system is most appropriate. Is the solar



PV solar system intended to reduce the energy bill or is it for a back-up system, which will be helpful during the loadshedding or power outage. There are more options like going totally off grid (with or without an optional generator) or battery and hybrid inverter. Each of these options must be evaluated against the current power needs as there is no one size fits all. For example, for a business where the motive for installing a solar PV system is savings, the grid-tied solar PV system will be ideal, however, this type of system will not supply power during loadshedding/power outage. In the case, where their motive is to respond to loadshedding/power outage, a Hybrid solar PV system will work best. This system will provide power from the solar PV panels, but it will also supply power from batteries during loadshedding/power outage. Going totally off grid can be ideal in places where there is no access to utility grid from Eskom. Battery and hybrid inverter is also a good option and solar PV panels can be added to it in future when there is budget available.

### **Who is going to be the solar PV installer and what credentials should be non-negotiable:**

With a vast number of new solar PV installers, it will be worthwhile considering what to expect from a good solar PV installer. The service provider or the solar PV installer must have a team of experts (Electrical engineers and technicians). Electrical engineers must be professionally registered with the engineering council of South Africa, especially, if the solar PV system is going to be grid-tied, designs must be signed off by a professional engineer. Electricians must be registered with the Department of Labour and with wireman's license. The Solar PV installers must have a PV greencard certification. The solar PV greencard certification has been developed by South African Photovoltaic Industry Association (SAPVIA), to ensure that small-scale embedded generation projects have high quality installations standards and comply with municipal and national electrical regulations. The solar PV installers must be registered at the Electrical Contractors Association of South Africa (ECA) or the Electrical Conformance Board.

### **Compliances Issues:**

The Consumer Goods and Services Ombud (CGSO) has received at least two hundred

complaints about solar PV systems installations in the past year. The complaints had to do with qualified electricians not issuing certificates, late delivery, poor workmanship, disregarding of warranties, no follow up or maintenance, false advertising and inflated prices. To counter the non-compliance by the installers, it is the responsibility of the end user to isolate bad installers. Knowing the basics of solar systems will assist in dealing with non-compliance. Knowing basics can mean understanding the type of PV system, expected warranties of batteries (18 months to 10 years), inverters (5-10 years), solar panels (10-12 years), solar panel's performance (20-25 years). Some warranties can be up to 25 years. If the solar PV system does not have warranties, that serves as a red flag. Any solar PV installer must be familiar with municipal and Eskom by-laws in order to deliver a PV system that is legal. It is the responsibility of the end-user/consumer to make sure that the installed solar PV system is legally registered with the municipal authorities.

**Installation and commissioning:** Based on the budget, a suitable solar PV system that meet energy requirements can be selected. A best way to start will be to ask a solar PV installer to visit and conduct a site assessment before any quotation, assuming that a solar PV installer has been verified by the end-user. It is good to try several solar PV installers and compare their quotations. Once the best solar PV installer is identified, the installation can start. For grid-tied systems, the solar PV installer must seek permission to install the solar PV system from the local municipality and the designs must be signed off by a professional electrical engineer, registered with the Engineering Council of South Africa. If it is a successfully commissioned system, the solar PV installer will be able to give you all the necessary documentation (COC, registration with local municipality, greencard certificates, etc). A list of solar PV installers with greencard can be found on [www.pvgreencard.co.za](http://www.pvgreencard.co.za). It is also important to verify their credentials on Department of Labour if they are qualified electricians with wireman's license and ECSA if they are electrical professional engineers.

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