

SA businesses begin to consider renewable energy

The rising cost of energy paired with the unreliability of the national electricity supplier has become a growing concern for South African businesses that are heavily dependent on electricity supply. Business owners are starting to consider renewable sources of energy such as Photovoltaic (PV) solutions - better known as solar power - as a sustainable energy source, which is now accessible without risking upfront capital."



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This is according to head of sales at Energy Partners, Manie de Waal, who says that a company can collaborate with a reputable solar partner that invests in its client's site at its own cost by installing and maintaining the PV solution. "The solar power that is generated is then sold to the company at an agreed upon rate (below grid power rates). These purchase power agreements (or commonly referred to as PPAs) minimise the financial and operational risk for the client as all the responsibility for system performance and maintenance falls on the energy partner. As part of the PPA the client has the option of purchasing the PV system at any time."

He warns, however, that it is imperative to partner with a reputable supplier. "The solar industry is new and booming and with that there are many operators that do not have the experience, capabilities or intent to deliver a long-term and sustainable partnership to clients."

The minimum expected electricity generated by PV panels 25 years after installation should be at least 80% of the original production capacity, says de Waal. "In addition to this, a 5 to 10-year guarantee is typically offered on the electronics. It is also critical to ensure that the rest of the components used in the installation (cables, mounting structure, etc.) are sourced from reputable suppliers, as these components will be exposed to the environment for decades to come."

Another aspect to keep in mind is that PV solutions in South Africa have not been standardised yet and should this come into play in future, taking shortcuts now can cost the company dearly in the long term, he says.

De Waal says that the first and most important step is to select the right PV solution for the specific site.

He lists the following three basic solutions:

- Firstly there is the grid-tied PV solution without battery storage. This solution ties into the power grid and feeds the load with the solar power that is generated. While this solution is likely to decrease utility costs, it is not suitable for uninterrupted power supply (UPS) as the solar system is completely dependent on the grid to transport energy.
- Secondly there is a grid-tied solution with battery storage. This solution is also tied into the grid when it is available, but excess solar power can be stockpiled and utilised when required, for example in the event of a power outage.
- The last, an off-grid PV solution, has no connection to the grid and acts as the main source of electricity, often assisted by diesel generation in the event of prolonged periods without sunshine.

De Waal adds that while it is imperative to tailor the solution to meet site specific needs, for some sites the system can be implemented gradually. "The most popular method is to initiate the process by implementing a grid-tied system without storage to avoid the initial cost of batteries. As more blocks are connected to the PV solution, a battery is added for UPS functionality or to even take the system off-grid completely."

He says that PV solutions are especially suited for sites that are exposed to a lot of sunlight, have north facing non-asbestos roofs and that have a tariff structure with a large energy (kWh) component.

"Besides the immediate cost savings, PV solutions are also robust and require little maintenance except for regular cleaning of the panels and a monitoring system to measure output. The energy savings of an effective PV solution can be hugely beneficial for local businesses in the long term due to the reduced cost of energy, not to mention the benefit of not being 100% reliant on the national energy supplier," concludes de Waal.

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