



# Case Study | Glenelly Estate, South Africa

## SunPower develops cost effective solutions for the wine industry

The South African wine industry has successfully developed a world-class reputation for producing high quality products. However, the cost of energy, water resources and many industry challenges still remain, and solutions must be found to ensure a competitive and lucrative future for the industry panels mounted on fixed-tilt systems.

### Glenelly Estate

Glenelly, located on the slopes of the Simonsberg in Stellenbosch, partnered with SunPower to design, supply and install a solar photovoltaic (PV) electric generating system for the rooftop of the wine cellar.

Glenelly was the first local rooftop installation from SunPower in South Africa and the system took a mere two weeks to install. SunPower made use of local service providers for this project.

### Why SunPower?

For over 25 years, SunPower has been delivering high-efficiency premium solar solutions<sup>1</sup>. When you select SunPower, you can be assured that you are getting a solar solution that can dramatically reduce your electricity bill and can help you save money from the day your system is energised.

SunPower industry-leading 25-year combined product and performance warranty, guarantees 9.1% more energy over 25 years. This means 25 years of complete peace of mind for you and your business.

Wineries around the world rely on SunPower thanks to its long track record of successfully delivering high quality, innovative solutions. These solutions help to reduce operating costs, protect against future electricity price rises, offer a significant return on investment and promote sustainable business practices.

1. SunPower three E-Series panels ranked #1, #2, and #3, with the most energy per rated Watt out of 151 panels tested¹Photon International, Mar 2013.

## Project Overview

Location:	Stellenbosch, South Africa
Completed:	July 2013
System Size:	70 kWp
Covered Surface Area:	2,450 m²
Number of Panels:	299
System Integrator:	SunPower Energy Systems Southern Africa (Pty) Ltd

## Benefits

- Offset the peak demand electricity rates and flatten the electricity load profile
- Reduce dependence on expensive grid electricity
- Hedge against future electricity price rises

*"The original concept and design provided by SunPower dovetailed perfectly with our already established environmentally-friendly building, and contributed further to our philosophic approach and vision to the environment. The installation of the PV system was efficient and very well organised to ensure minimum impact on our daily operations. Local suppliers and contractors were used for installation purposes, therefore fully complying with our philosophy in support and procurement of the local industry – Proudly South African!"*

Talita Louw, Glenelly



### The electricity dilemma

According to Luke O'Cuinneagain, Winemaker at Glenelly, electricity is becoming an important issue due to its rising costs. "Irrigation pumps use a lot of electricity and cooling plants for cellars are a big expense. This puts strain on electricity consumption." One of the major benefits of using solar energy is that farmers can get the highest energy production during harvest time when utilisation is at its peak. This allows the pay-back period for solar projects to decrease, O'Cuinneagain stated. In addition to the above, Glenelly benefited from Eskom's rebate savings. The rebate, formally known as Standard Offer, is a mechanism used by Eskom for acquiring demand-sided resources under which Eskom pays for the verified energy savings using a pre-determined and pre-published rate in cZAR/kWh (South African cents / kilowatt hour) for an approved technology.

### Glenelly's green strategy

Glenelly initiated a "green strategy" in 2006. Some of the energy saving initiatives include, but is not limited to, a mechanical cooling system which chills the structure of the building down through 15 kilometres of pipe, creating such a thermal load that it requires a lot of energy to change the temperature, but very little energy to maintain the temperature. Hence, a potential saving of 70% on power consumption can be achieved when compared to the use of industry airconditioning. About half the building is below ground which also aids energy efficiency. "The use of renewables contributes to the business's bottom line but there are also big environmental benefits to using solar and renewables", O'Cuinneagain goes on to say that farmers become more independent by using external power sources.

### Solar PV can benefit local industries

By implementing a cost effective solar solution, an agriculturist can decrease the operating costs associated with electricity supply. Money saved from the decreased electricity costs can be reinvested back into the business. By generating solar electricity, an agriculturist can:

- Offset its peak demand electricity rates and flatten its electricity load profile
- Reduce its reliance on expensive grid electricity
- Reduce carbon emissions
- Protect itself against future electricity price rises