

Silvan, Victoria, Australia

Optimizing Australia's 120-year-old flower bulb family business



Location:
Silvan, Victoria, Australia



Modules: 230 Trinasmart



Installation: Commercial



Modules Distributor: AEES



Modules: 230 Trinasmart



Group Owner:
P. Aker Flowerbulbs



Tigo TS4 optimizers were installed on the back of each Trinasmart module.

Summary

P. Aker Flowerbulbs is located at Silvan, Victoria in the rich red soil of Melbourne's Dandenong Ranges since 1894. They import flower bulbs from their Dutch parent and export to Australian, Asian, US and European markets. They predominantly deal in tulips, lilies, irises, gladioli hyacinths, daffodils and other bulbs. Their energy requirement is quite high due to the need to maintain cool rooms at precise temperatures, depending on the species, to put the bulb to sleep so that flower growers can produce flowers all year round. The combination of Tigo optimizers on Trinasmart modules was selected on the basis of panel-level maximum power point tracking, monitoring, and enhanced safety.

The Challenge

P. Akers' handling process requires the bulbs to be maintained at a precise temperature to induce dormancy simulating Winter conditions in order to bloom when temperatures rise in the Spring. This temperature monitoring/control is a vital step in the process in order to put the plant in a state of sleep but ready to bloom when removed from the cool controlled environment. P. Akers' flower growing customers have a year-round supply of flowers independent of their season. This process requires high-energy usage in their warehouse and has been costing \$60,000 in this off the grid location.

The Solution

The annual projected energy output is estimated at 70.9 MWh per year and the CO2 emissions savings are put at 60.7 tonnes per annum. With the installation of the rooftop Tigo/Trina solar system, they expect to save the capital cost of the outlay in 5 years with savings of \$13,497 in year 1 and continuing to \$176,010 or 31% in year 10.



A P. Aker's Flowerbulbs warehouse with cooling rooms.



The warehouse cooling rooms may save more than an estimated \$13,000 year in electricity costs.