

Solar Energy After Dark in Hawkes Bay

CHALLENGE

Optimising the home owner's existing solar system for self-consumption

SOLUTION

Retrofit an existing string system with an appropriately sized Enphase AC battery and Envoy gateway communication device to capture excess power generation for self-consumption

RESULT

Radical reduction in grid supplied power, minimal electricity bills



“The great thing about Enphase products are they are compatible with other brands.”

— Aaron Duncan
Managing Director,
Freenergy

Self-Reliant Target

Roger had an 8 panel, 2kw string inverter system and a hot water cylinder diverter (controller) installed in January 2015. Though Roger's power bills were reduced after his initial installation he was finding his solar production during the day was more than he could use. Excess electricity was being exported to the grid during day (at 8c/kWh) and he was drawing electricity from the grid at night (at 33.33c/kWh) – a sad deal no matter how you look at it.

Roger knew at the time of his PV install he wanted to be as self reliant as possible, but the price point of the batteries on the market at the time meant it was not economical for Roger as a small residential system owner. Other batteries on the market were not appropriate for his residential system, installing a 5-8kw battery and paying upwards of RRP \$9,000 NZD for another brand of battery was not financially viable - Roger would have been paying for excess battery capacity which his system simply would never use. The Enphase 1.2Kw battery was the perfect fit for Rogers 2kw system and at a much lower price point of RRP 2,500NZD.

In December of 2016 Roger contacted Freenergy, to design a system to optimise his self-consumption and reduce grid reliance through batteries that would power his house long after the sun went down.



Delighted home owner Roger Sutherland setting a target to be self reliant

Solar Energy After Dark

The Enphase AC Battery knows when the PV System is producing more power than what is being consumed and stores this energy ready to be used in the evening once the solar system is no longer producing power. Coming in modular 1.2kW plug and play blocks, the battery is much more suitable for smaller systems like Roger's than the other oversized and complicated to install batteries on the market. The 1.2kW storage capacity the Enphase AC Battery is the perfect size for Rogers needs, but if he were to increase his system size, more batteries can be easily added to accommodate increased production.

Adaptable to Local Utilities Pricing Structures

Roger has also found the software of the Enphase AC Battery can be programmed to optimise it's behaviour to suit the local utility's requirements. With the recent Time-Of-Use pricing structures being implemented by New Zealand lines companies, the Enphase AC battery works seamlessly to discharge stored, free solar energy during the evening and also set up to charge from the grid during cheap off peak times to help manage your high peak morning loads.

INSTALLATION SUMMARY

Client **Roger Sutherland**

Location **Hastings, New Zealand**

Installer **Freenergy Solar Solutions**

System Size **2kw**

Inverter System **String**

Modules **JA Solar**

Enphase Installed **1x Envoy-S Metered, 1x Enphase AC Battery**

Retrofitting PV Systems with Enphase Batteries

"The great thing about Enphase products is that they are compatible with other brands, so it's easy to upgrade an old string inverter system with Enphase monitoring and batteries" - Aaron from Freenergy.

Freenergy Solar Solutions are customer focused and spend time understanding each customer's usage pattern, so they can design a solution that suits their customer's individual needs. Aaron says he doesn't favour one brand of inverter or battery over another and instead he simply chooses the best solution to suit his customer's specific needs. Although Aaron does not sell Enphase exclusively, he says most of his residential installs use Enphase products, and many of his existing string customers are now upgrading to install an Enphase battery with advanced monitoring capabilities.

"Expandability, future proofing - Enphase adds value to new and existing solar systems because their products are smart, versatile and allow for cost effective expansion as technology evolves" - Managing Director, Freenergy

To find how Enphase Products can help cut your energy bills, visit www.freenergy.co.nz

Enphase Energy, Inc., The Enphase System revolutionizes solar power generation with industry-leading technology innovation. Enphase's proven microinverter technology maximizes production of each module has advanced communications hardware and an intelligent software platform to deliver a reliable, high-performance solar array.