



Living Large in Maui: Luxury Smart Home Goes Off-Grid

Customer Overview

Ameresco Solar is a leading provider of comprehensive off-grid and grid tie power solutions for customers of all sizes and industries. With a strong technical foundation and over thirty years of expertise, Ameresco Solar serves as a solar distributor, manufacturer, and design and engineering consultant for customers worldwide.

Challenge

There is no denying that the cost of electricity in Hawaii is considerably higher than the rest of the US. With a heavy dependence on oil and the lack of a reliable centralized grid for backup throughout the islands, the average cost of residential electricity for the island of Maui in 2013 was 37.82 cents per kWh¹. Homeowners share the common pain of demanding costs on top of an unsettling reliance to the local utility grid. However, one luxury homeowner in Maui had demands of his own—achieve complete grid independence and gain confident access to clean quality power. This has been a demand to a solution shared only by those who realize this opportunity, but it is no longer a dream of the future to be energy independent and to be their own energy producer on the Hawaiian Islands.

To address this need, **Ameresco Solar and Maui Builders Inc** collaborated to bring together a robust and extensive hybrid system for their client. Being an impressive estate equipped with the latest smart home technologies, the hybrid system needed to be a beast of its own. It must seamlessly power large loads on a daily basis that would otherwise be sensitive to fluctuating power quality from the grid.

SUMMARY

Customer Profile

Ameresco Solar

<http://www.amerescosolar.com/>

- Leading provider of off-grid and grid tie power solutions
- Location: regional offices throughout USA and internationally

Challenge

- High utility costs and strict energy regulations
- Unreliable grid support

Solution

- 4x Conext XW 6048 120 240 60
- 4x Conext MPPT 80 600
- 2x Conext ComBox
- 2x Conext System Control Panel
- Conext Automatic Generator Start (AGS)

¹ Source: <http://www.heco.com/heco/Residential/Electric-Rates/Average-Electricity-Prices-for-Hawaiian-Electric,-Maui-Electric,-and-Hawaii-Electric-Light-Company>

Solution

In addition to ground-mounted PV arrays and a 5.5 tons flooded lead acid battery bank (with a capacity of 3200 amp hours at 48 volts), the installation included the following from Schneider Electric:

- 4x Conext XW 6048 120 240 60
- 4x Conext MPPT 80 600
- 2x Conext ComBox
- 2x Conext System Control Panel
- Conext Automatic Generator Start

The **Conext XW inverter/charger** proved to be the perfect choice for Ameresco Solar and Maui Builders for this installation. The XW inverter/charger delivers clean and stable power through its superior AC output voltage regulation of 120 V with +/- 3%. This offers the capabilities and performance to support large power loads required of a home and lifestyle of this magnitude. Completed by its integrated solar charge controller, generator control, monitoring, and configuration systems, the overall XW system becomes the secure and reliable grid for this Maui homeowner's new off-grid lifestyle.



“Ameresco has always had a great partnership with Schneider Electric, and with that, I was able to make my customer feel confident that they are in good hands, especially for such a large, visible project with virtually no tolerance for errors or shortcomings.”

— Richard Dean,
Technical Sales, Ameresco Solar



Contrary to popular belief, even a large system such as this pencils out to have a reasonable pay-back analysis when compared to the high cost of electricity in Hawaii. It also has the added benefit of grid independence, high reliability, and superior power quality.



AMERESCO SOLAR
Green • Clean • Sustainable

About Schneider Electric

As a global specialist in energy management with operations in more than 100 countries, Schneider Electric offers integrated solutions across multiple market segments, including leadership positions in energy and infrastructure, industrial processes, building automation, and data centers/networks, as well as a broad presence in residential applications. Focused on making energy safe, reliable, and efficient, the company's 150,000 plus employees achieved sales of 24 billion euros in 2013, through an active commitment to help individuals and organizations “Make the most of their energy”.

Contact us at <http://solar.schneider-electric.com/where-to-buy> to discuss your solar energy needs.