

Life Is On

Schneider
Electric



Green Energy without Compromising Lifestyle

Amid unreliable grid and bushfires, John Oddie gained energy resilience and independence without compromising his lifestyle - thanks to the solar system he installed.

solar.schneider-electric.com



After his first attempt to overcome the unreliable grid supply with a generator failed, John installed a solar system, using Schneider Electric's hybrid inverter. The domestic-size system worked well until bushfires hindered solar energy production. He recently upgraded the system to build more robust capacity, using Schneider Electric's new hybrid inverter, XW Pro.

Challenges

When John realized that his new home didn't have a reliable power supply from the grid, his first solution was to install a generator like many other people living in a similar situation. But soon, he found that the generator he had wasn't sufficient enough replacement of the grid. That's when he installed his first solar and storage system, using Schneider Electric's XW+ hybrid inverter.

The single-phase XW+ system with an 11 kW solar array worked well for about two years. John could save quite a significant amount of electricity bill every quarter. He also liked that XW+ had seamless transitions when the grid went out, and he often even didn't notice the outages until his neighbours told him.

The next thing that came along was the bushfires. Due to the smoke, solar energy production was dramatically diminished, causing him substantial power supply interruptions. Exact Tech Australia (XactTech) decided to upgrade the existing domestic scale system to a light industrial scale to build a more robust power capacity and a foundation for innovation in remote and distributed energy solutions.

XactTech already had substantial experience with Schneider Electric by the time and was confident that Schneider Electric Solar's technology is mature with an assured engineering foundation. Schneider Electric offers systems to minimise cyberattacks and handles harsh environmental conditions.

Customer Profile

Exact Tech Australia Pty Ltd (XactTech) is specialized in the design and manufacturing of energy, space, defence and aviation products, based in NSW, south of Sydney, Australia. Visit www.xacttech.com.au for more information.

Goal

- 1) establish an infrastructure that enables optionally off-grid renewable energy systems.
- 2) establish the infrastructure to allow site scale development of renewable hydrogen manufacture, storage, and regeneration.
- 3) understand how the systems could be integrated with dynamic load management and respond to variable climatic conditions, including intense bushfire smoke.

Solution

Upgrade the existing single-phase XW+ system to 3-phase XW Pro and single-phase XW+ system, increasing solar array from 11 kW to 22 kW and storage from 22 kWh to 52 kWh

Results

The commissioned system is fully stable and reliable without any interruptions since commissioning (4 months). It achieved max generation capacity of about 120 kWh / day at equinox, delivering 90+ kWh with remainder curtailed by export and load constraints. On full production days exporting ~40 kWh daily and supplying loads of ~50 kWh daily.

Solution

XactTech upgraded the existing single-phase XW+ system to a 3-phase XW Pro and single-phase XW+ system, increasing the solar array from 11 kW to 22 kW and the storage from 22 kWh to 52 kWh. Taking advantage of the XW series' flexible design, they also upgraded the generator from 6 kVA (4.5 kW) single phase to 40 kVA (30 kW) 3 phase.

The new system included three XW Pro hybrid inverters, two Conext™ MPPT 80 600 charge controllers, the Gateway and Insight for energy management, Conext System Control Panel, and Battery Monitor.

Results

The new solar and storage system provides enough power to handle heavier loads, such as electric hot water systems, while charging batteries during the daytime. On full production days the system exports ~40 kWh daily and supports loads of ~50 kWh daily.

The customer found that Schneider Electric was responsive to technical requirements and keen to deliver a reliable and trusted system. John is excited to have sufficient power to heat hot water on most days and is ready for trial and demonstration of enhanced energy storage systems. The system provides enough power with no constraints on load demand. His next step is to achieve the goal of 12 kW load on one selected phase through slave integration of the heritage XW+ hybrid inverter.

“The big thing here is that we’re able to be independently and resiliently off the grid. But we’re not in any way moderating living conditions and lifestyle as well as productivity. Schneider Electric systems work reliably right out of the box and are readily integrated with automated site performance and management software. We trust Schneider Electric systems to work hard and deliver reliability.”

— John Oddie, Managing Director, XactTech

System performance

June 18th (mid-winter)

- PV Production 70 kWh
- Load 30 kWh
- Grid Export 30 kWh
- Minimal production curtailment

September 12th (around equinox)

- PV Production 94 kWh
- Load 44 kWh
- Grid Export 42.5 kWh
- Production curtailment assessed at 30 kWh



On full production days, the new solar and storage system exports up to 40kWh daily and supports loads of 50kWh daily.



Customer Story

Customer Story of Energy Resilience: John Oddie is now available on YouTube.

Watch John's story and learn how his journey of becoming energy resilient, thanks to the XW Pro hybrid inverter.



Learn More



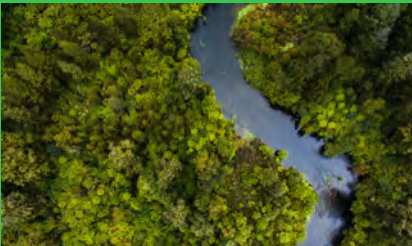
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