



Source: SolarCity

# Schneider Electric enables SolarCity to provide backup power to its existing grid-tie PV customers

## Challenge

SolarCity is the United States' largest solar power provider. It is engaged in the design, installation, and sale/lease of solar energy systems to residential and commercial customers. SolarCity is currently providing more than one out of every four new solar PV systems in the US.

Power outages during grid-disturbances and weather calamities is a common phenomenon. In most cases, homeowners who have invested in solar cannot receive power through the PV inverter when the grid is down.

SolarCity sought to create an energy storage solution that could not only store power from existing solar arrays, but also provide power for basic home appliances and electrical systems during extended power outages.

Some utilities offer Time-of-Use (TOU) rate plans in which the price of electricity varies based on the hour of the day. Rates are higher during the afternoon when electric demand is at its "peak". During peak rate hours, a storage system can save homeowners more money by drawing power from the battery instead of from the grid.

## SUMMARY

### Customer Profile

SolarCity

[www.solarcity.com](http://www.solarcity.com)

- Leading solar energy system provider
- Location: California, USA

### Challenge

- Secure customers against power outages
- Reduce peak-usage charges on utility bills
- Ability to integrate to Tesla batteries and retrofit to PV inverters

### Solution

- Connext XW hybrid inverter/charger



## Solution

These challenges required an inverter/charger with the following key features:

1. Back-up power capacity for starting and running critical loads
2. Capability of AC coupling with PV grid-tie inverters
3. Seamless integration with Li-ion battery system
4. Compact foot-print for ease of installation
5. Reliable product and technical support from a bankable partner

The **Conext XW inverter/charger from Schneider Electric** proved to be an excellent choice to allow SolarCity to retrofit existing PV grid-tie installations with back-up capability, while simultaneously reducing peak electricity charges.

The Conext XW is a hybrid battery based inverter/charger that operates in grid-tie mode during normal conditions, and seamlessly and automatically converts to back-up mode for powering critical loads during outages. It provides an out of the box 120/240 voltage needed for North American homes without requiring an external transformer, and delivers exceptional surge ability to handle demanding loads.

The Conext XW inverter/charger also supports AC coupling, which can further enable extended back-up power operation beyond the reserve energy stored in the batteries by operating in parallel with a PV grid-tie inverter.

With a compact footprint and wall mounting, the Conext XW can be easily installed in a convenient and safe location, such as a home garage. With its unique XanBus communication architecture, integrating controls to support a Li-ion battery pack or an external gateway controller for remote-connectivity and aggregated control is easy.



**Schneider Electric continues to invest in storage inverter technologies and work with strategic partners such as SolarCity to create solutions for grid operators to effectively transform our grid for the future**

## > Next Steps

The electrical grid is undergoing a fundamental transformation with aim to make it more efficient, flexible, clean and secure, including:

- Improving service continuity while absorbing increasing demand and peak loads
- Connecting and managing more green and volatile energy
- Delivering better quality power while drastically reducing network losses
- Operating the grid safely and securely

Storage at a residential level, once aggregated with control provided to the grid operator, creates an immensely powerful solution – the virtual power plant.

The virtual power plant can help utilities manage the challenges of grid frequency and voltage regulation, as well as address

### 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 [www.SEsolar.com/where-to-buy](http://www.SEsolar.com/where-to-buy) to discuss your solar energy needs.