



The StorEdge™ Solution

Enabling Energy Independence



Compatible with



The StorEdge Solution

Combining SolarEdge's breakthrough PV inverter technology with leading battery storage systems, the StorEdge solution helps homeowners reduce their electricity bills while maximising energy independence from the grid.



StorEdge is based on a single SolarEdge DC optimised inverter that manages and monitors PV production, consumption and storage. StorEdge is compatible with the LG Chem RESU battery.



Available Applications

Backup Power and Self-Consumption

Homeowners are automatically provided with backup power in the event of grid interruption to power pre-selected loads. A combination of PV and battery is used to power important loads such as the refrigerator, TV, lights and AC outlets, day or night. Solar energy can also be stored in a battery for on-grid applications such as meeting export limitations, offering demand response and peak shaving, and performing time of use shifting for reduced electric bills.

Providing backup power day or night



Charge battery from the PV system

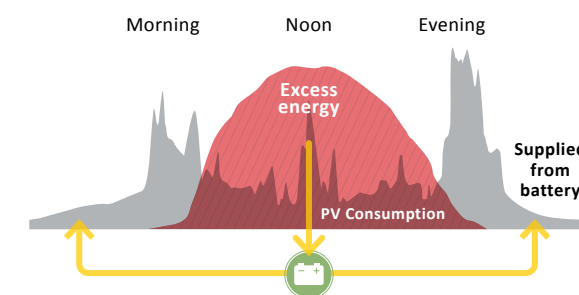


Daytime: Important loads are powered first by the PV system and then by the battery. The battery can be charged from the PV as needed



Nighttime: Important loads are powered by the battery

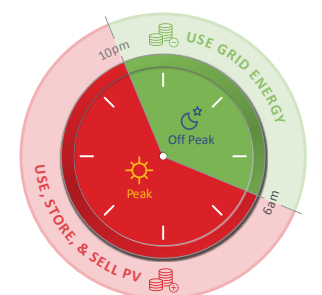
Utilising Excess Energy



Using StorEdge, excess energy produced during peak sunlight hours when consumption is low is stored to a battery and used later. Energy isn't wasted!

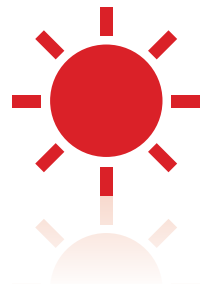
Profile Programming

The StorEdge system can be programmed to operate according to different charge/discharge profiles, also referred to as Time of Use (TOU) arbitrage. By increasing energy consumption when electric demand from the grid is low (off-peak tariffs) and lowering consumption when demand is high (peak tariffs), household electricity bills can be reduced.



Maximising the Homeowner's Solar Investment

The StorEdge system is full of benefits for the installer and homeowner alike.



More Energy

- > Power optimisers increase rooftop energy harvest
- > PV power is stored directly in the battery
- > DC coupled battery solution allows high system efficiency, as there are no additional conversions from AC to DC and back to AC



Simple Design & Installation

- > A single inverter for PV, storage and backup power
- > Outdoor installation allows flexibility in battery location
- > No special wires are required > utilises the same PV cables



Full Visibility & Easy Maintenance

- > Monitor the battery status, PV production, and self-consumption data
- > Smarter energy consumption to reduce electricity bills
- > Monitor battery energy levels and remaining hours of backup power
- > Remote diagnostics
- > Remote firmware upgrades to both inverter & battery

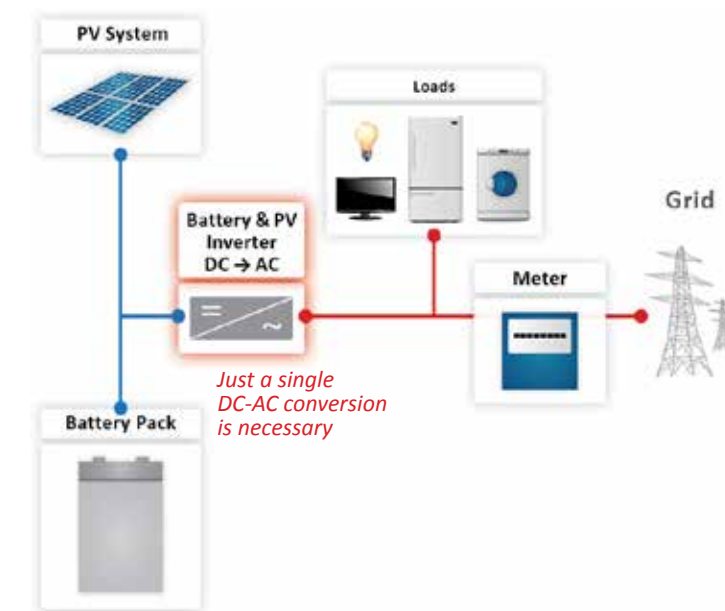


Enhanced Safety



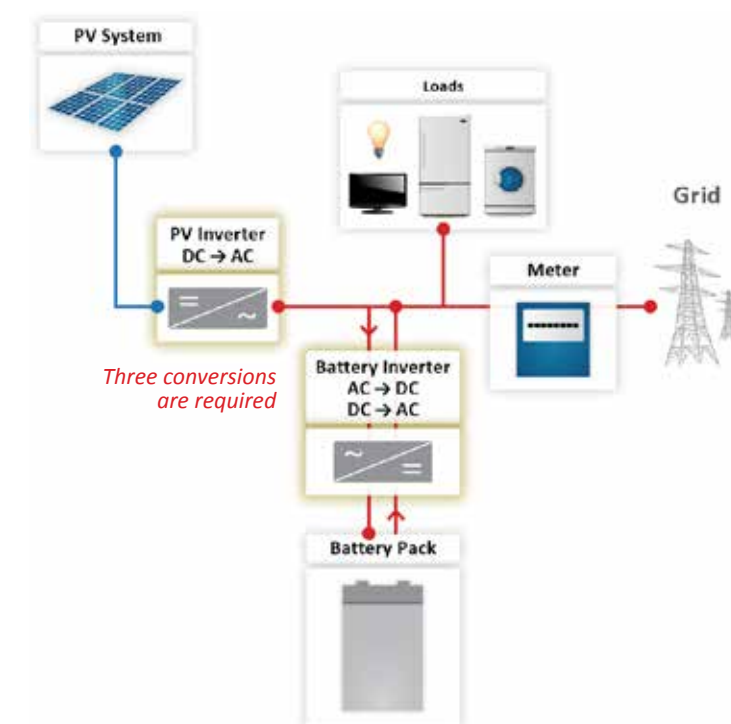
- > PV array and battery voltage reduced to a safe voltage automatically upon AC shut down when not in backup mode
- > Complies with NEC 2014 690.12

PV System with DC-Coupled Storage solar**edge**



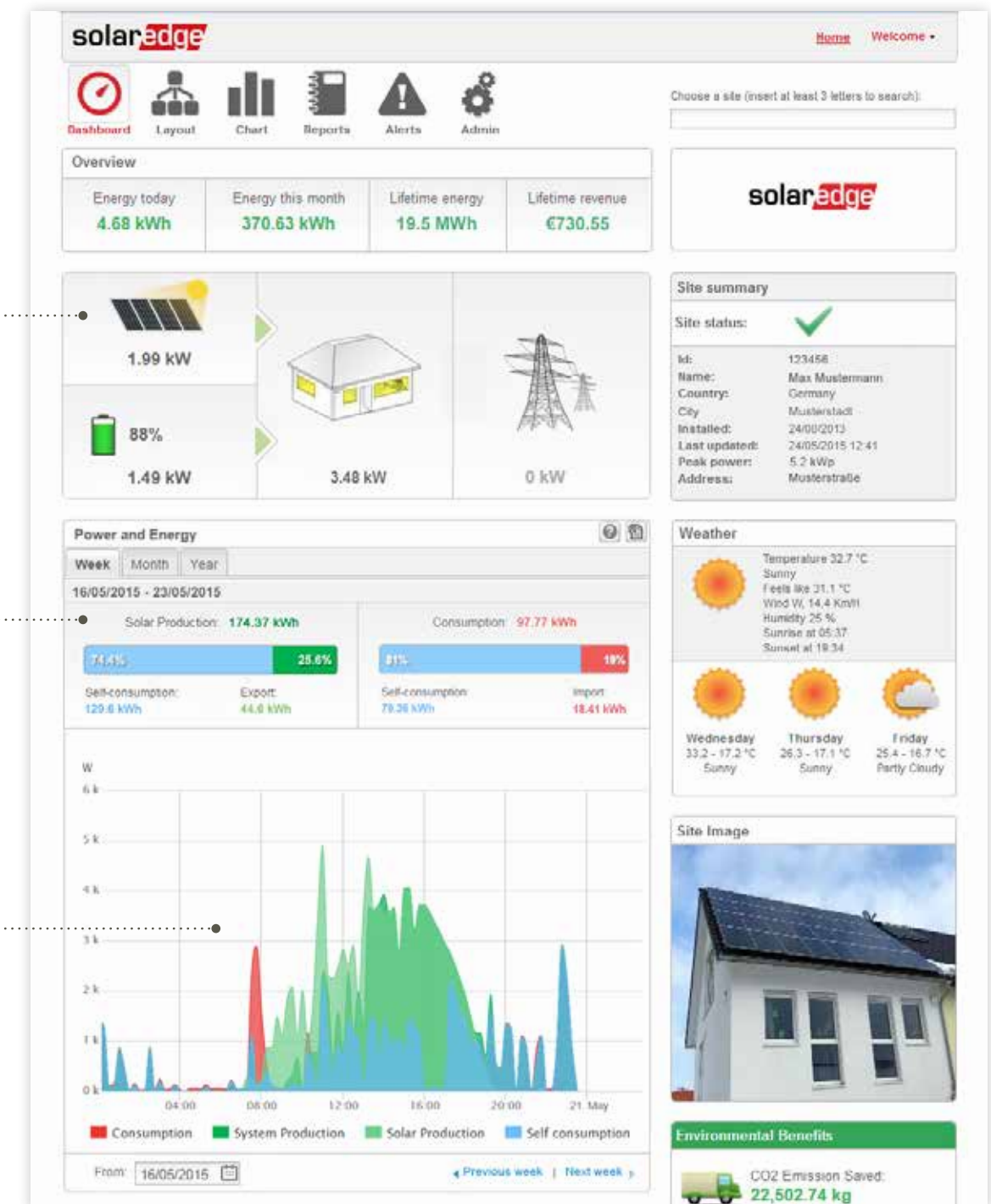
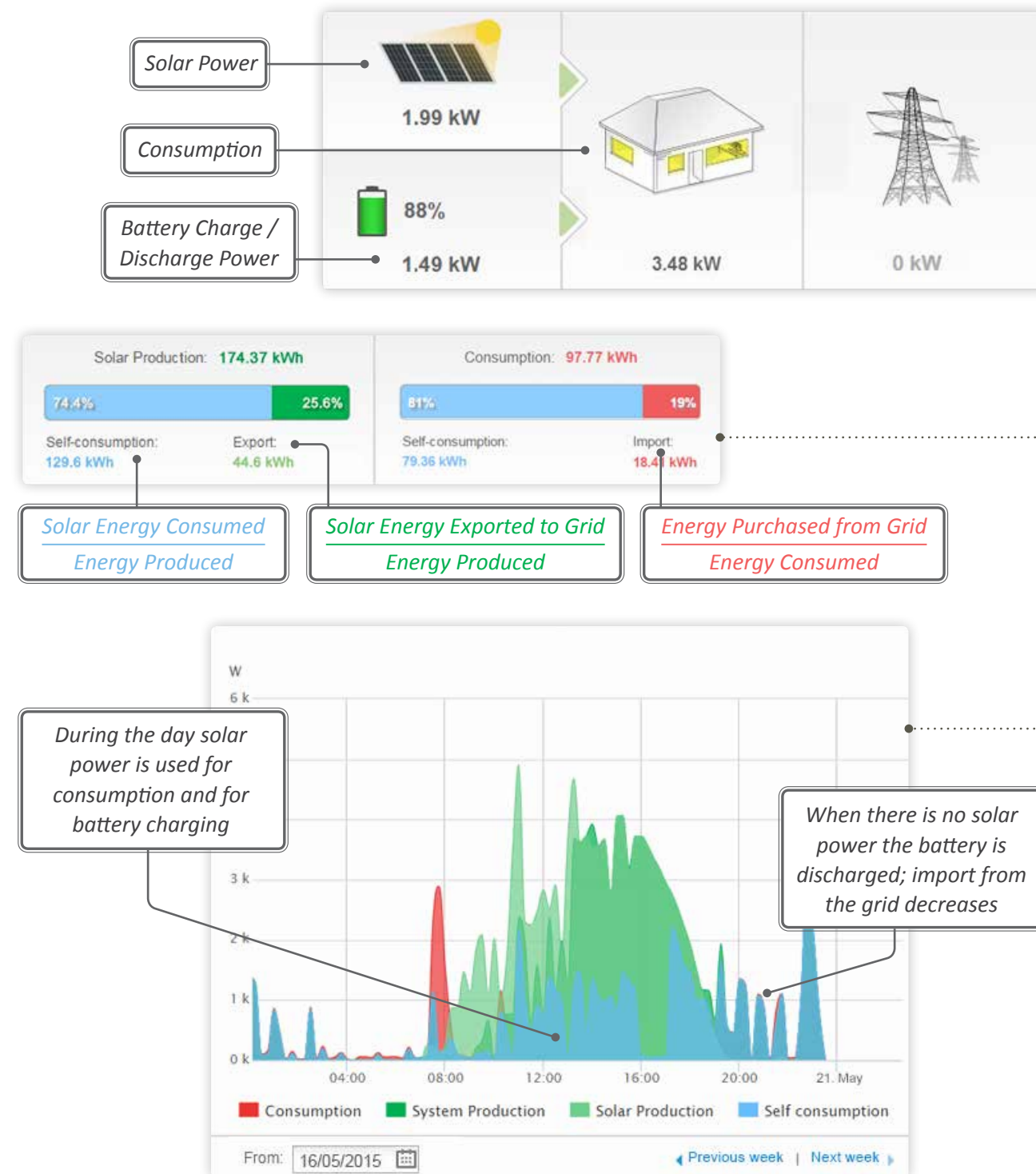
Vs.

PV System with AC-Coupled Storage



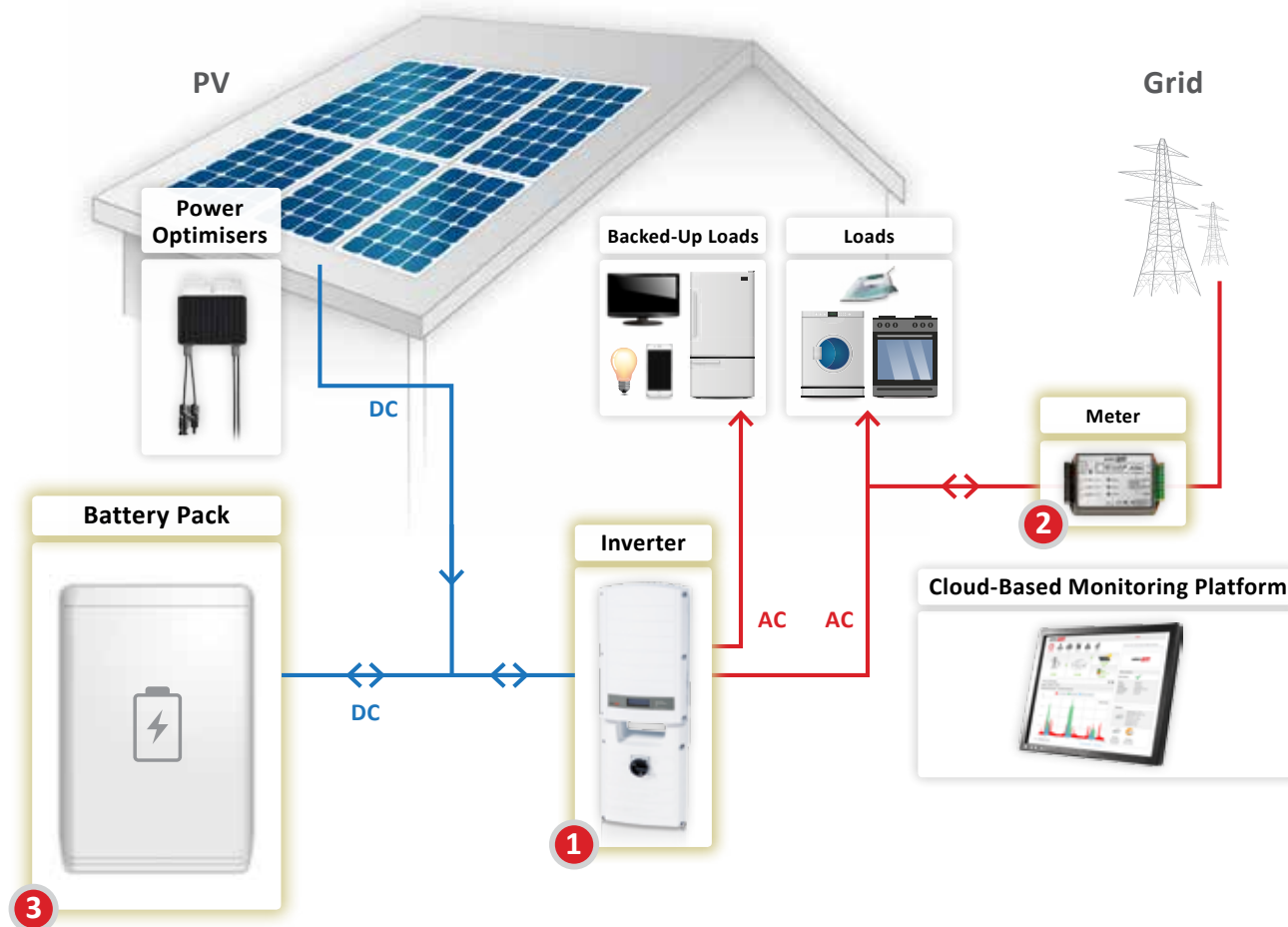
SolarEdge Monitoring Platform Dashboard

The cloud-based monitoring platform provides insight into household PV production and consumption, displaying the power flow between the PV array, battery, grid and house loads as well as tracking real-time system data.



Dashboard from the SolarEdge cloud-based monitoring platform

StorEdge Applications - Backup Power and Self-Consumption



1

SolarEdge Single Phase StorEdge Inverter

The StorEdge Inverter manages battery, system energy and backup power, in addition to its functionality as a DC-optimised PV inverter

2

SolarEdge Meter

Needed for on-grid applications such as export limitation, demand response and peak shaving, and time of use shifting. Integrates with the SolarEdge Inverter and monitoring platform

3

Battery Pack

Compatible with DC coupled, high-voltage and high-efficiency batteries from LG Chem



Additional StorEdge Configurations

Each StorEdge application supports modifications to the basic system configuration, providing homeowners with a StorEdge solution specific to their energy requirements.

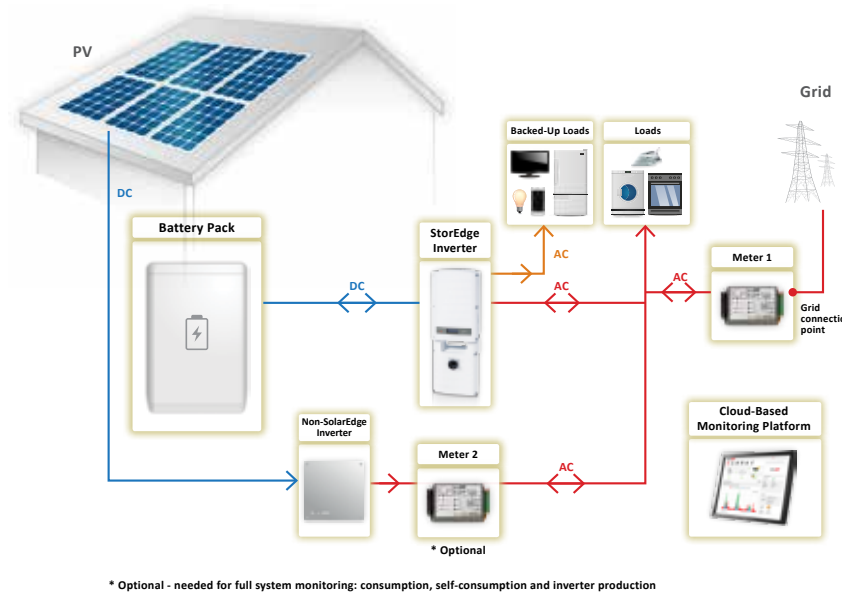
Homeowner Requirement	Details
1 Connection to a non-SolarEdge inverter	The StorEdge inverter can also be used to control the battery even on legacy PV systems installed with non-SolarEdge inverters.
2 Backup Power without PV	Charge the battery by connecting it to the AC grid for backup power



Additional StorEdge Configurations

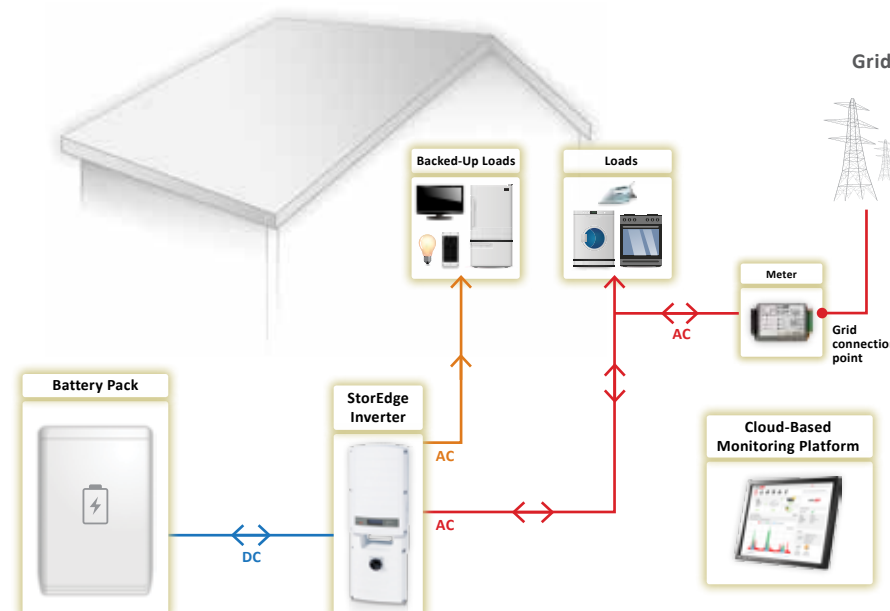
1 Connection to a non-SolarEdge inverter

To upgrade existing single or three-phase non-SolarEdge PV installations, the StorEdge inverter can be connected to the AC output of the non-SolarEdge inverter (AC-coupled). The StorEdge inverter charges the battery using the PV power produced by the non-SolarEdge inverter.



2 Backup Power without PV

A StorEdge system may be installed for sites without a PV system requiring backup power. The battery is charged from the AC grid only.



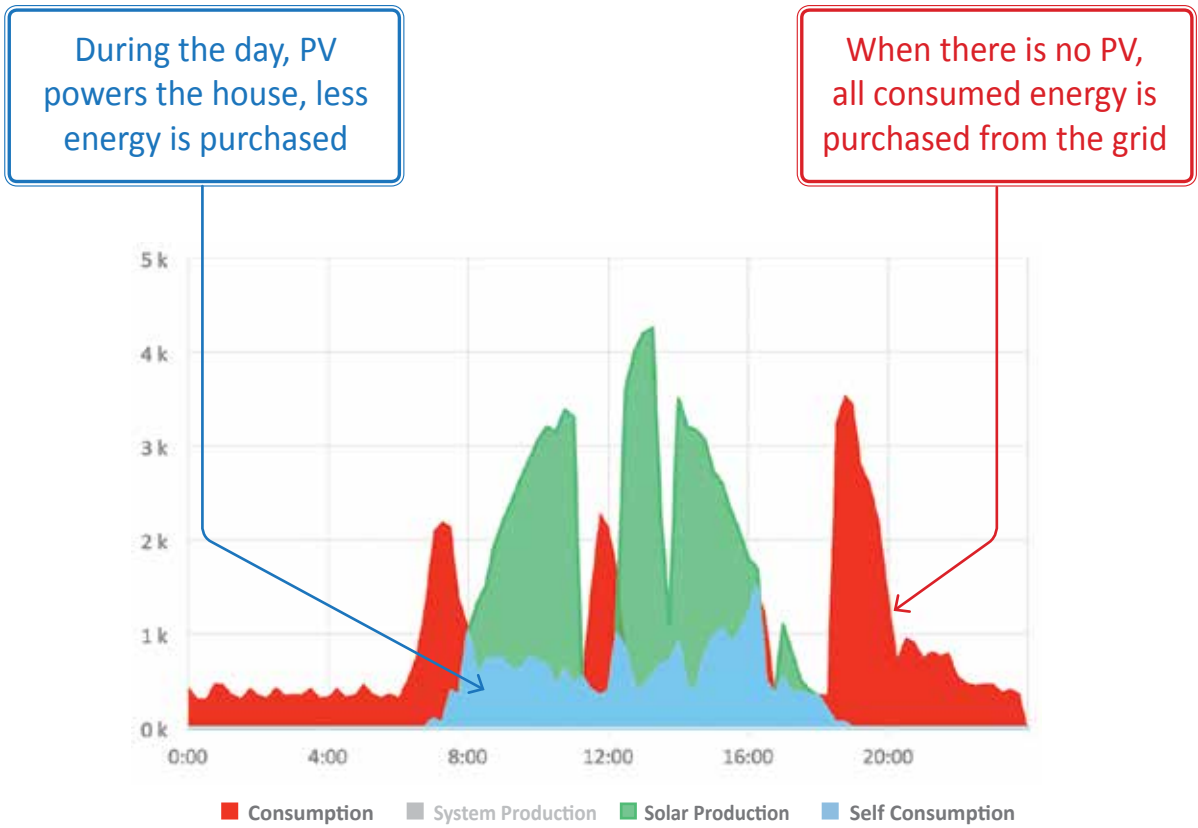
Case Study - Increasing Self-Consumption with StorEdge

By simply adding StorEdge to its existing SolarEdge PV system, this typical household was able to more than double its self-consumption levels

BEFORE - monitoring self-consumption:

5kW System on April 8, 2015 (before battery installation)

Total produced energy	Total purchased energy	Total consumed energy	Self-consumption level
21.37 kWh	13.57 kWh	20.61 kWh	7.04kWh 33%

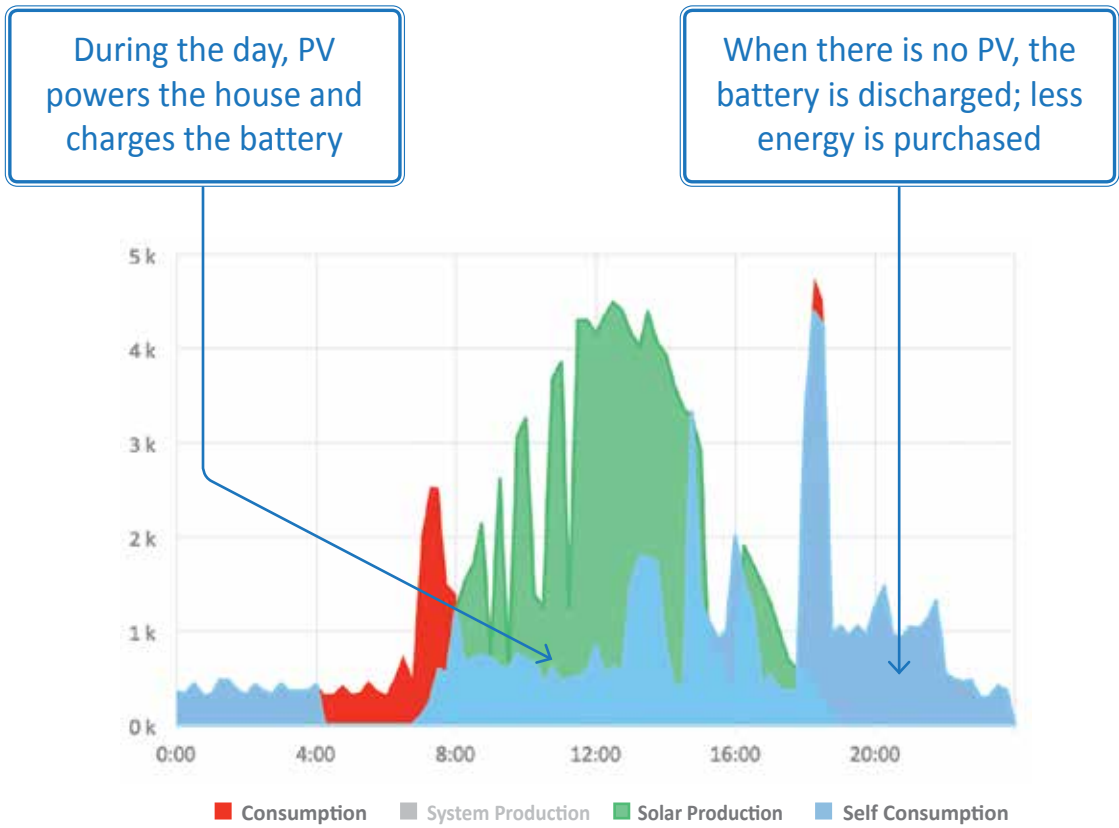


*Based on a SolarEdge 5kW residential PV system

AFTER - increasing self-consumption:

5kW System on April 15, 2015 (after battery installation)

Total produced energy	Total purchased energy	Total consumed energy	Calculated self-consumption level
25.41 kWh	3.17 kWh	21.53 kWh	18.36kWh 72%



After installing StorEdge, PV self-consumption jumped from **33% to 72%**

The Complete SolarEdge Residential Solution

The SolarEdge Smart Energy Management solution integrates solar energy production with battery storage and home automation, all under the control of a single SolarEdge PV inverter. The SolarEdge DC-optimised system provides substantial benefits including more PV power, higher system visibility and advanced safety features.

Home Automation

Increase homeowners solar energy usage with SolarEdge smart home devices. Utilise excess PV production to power heat pumps, hot water boilers, lighting or other typical home appliances.

Homeowners will enjoy greater convenience with automatic, on-the-go control of their smart devices via the SolarEdge monitoring platform.



Smart Switch



Immersion Heater Controller

Monitoring

SolarEdge provides free panel-level performance monitoring, remote maintenance and alerts. This enables fewer trips to sites, less time spent on site and higher system uptime. Easy access from your computer or mobile device anytime, anywhere.



Power Optimiser

Connects to each solar panel on the roof enabling them to perform independently, providing greater energy production, enhanced safety, and constant information from each panel.



Inverter

The brains of the PV system, the SolarEdge inverter has a fixed input voltage and is responsible only for DC to AC conversion. Small and lightweight with 99% weighted efficiency, it's ideal for indoor or outdoor installations.



StorEdge™

Store unused PV energy directly on compatible, high power DC batteries from LG Chem to maximise energy independence, lower electricity bills and provide backup power. StorEdge is a DC-coupled solution enabling higher system efficiency.





SolarEdge invented an intelligent inverter solution that has changed the way power is harvested and managed in PV systems. Addressing a broad range of solar market segments, from residential to commercial and large scale solar, the SolarEdge DC optimised inverter solution includes PV inverters, power optimisers, and cloud-based monitoring. By connecting power optimisers to each module, the system enables superior power harvesting and module management.

SolarEdge has been shipping its DC optimised inverter solution worldwide since 2010 and is traded on the NASDAQ under the SEDG symbol.

For more information on SolarEdge:

Website www.solaredge.com

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Facebook www.facebook.com/SolarEdge



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