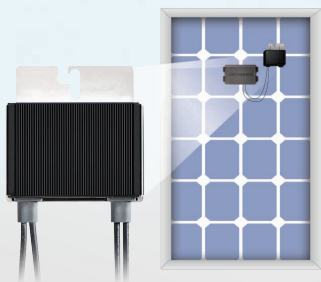
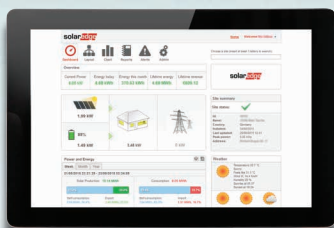




# The StorEdge™ Solution

## Enabling Energy Independence



Supported batteries

**POWERWALL**  
TESLA HOME BATTERY

**RESU**  **LG Chem**

# 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 maximizing energy independence from the grid.



StorEdge is based on a single SolarEdge DC optimized inverter that manages and monitors PV production, consumption and storage. StorEdge is compatible with batteries from selected vendors, including the Tesla Powerwall Home Battery and the LG Chem RESU.

**POWERWALL**  
TESLA HOME BATTERY



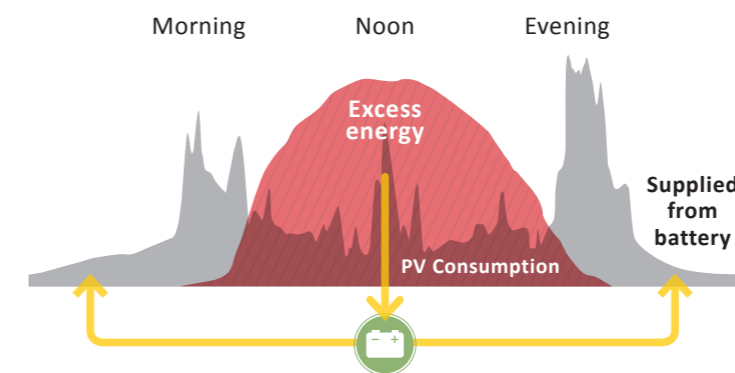
**RESU** LG Chem



## Two applications are available

### Optimizing Self-Consumption

The StorEdge solution can be used to increase energy independence for homeowners, by utilizing a battery to store power and supply power as needed. To optimize self-consumption, the battery is automatically charged and discharged to meet consumption needs and reduce the amount of power purchased from the grid.

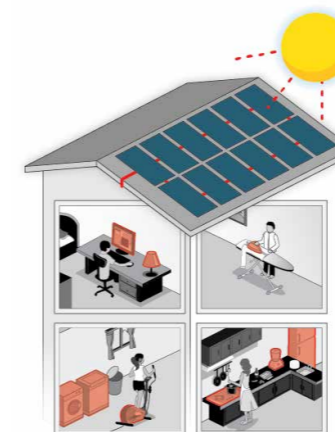


*Using StorEdge, excess energy produced during peak sunlight hours when consumption is low is stored to a battery and used later. Energy isn't wasted!*

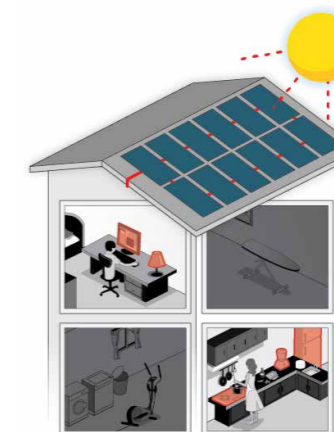
### Optimizing Self-Consumption + Backup Power

In addition to optimizing self-consumption, StorEdge can also automatically provide backup power to pre-selected loads when the household suffers from grid interruptions. A combination of PV and battery is used to power important loads such as the refrigerator, TV, lights and AC outlets, day or night.

#### Providing backup power day or night



**Charge battery from the PV system**



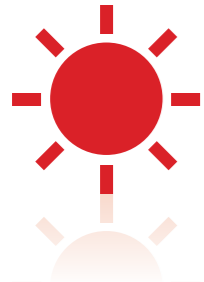
**Daytime:** Important loads are powered first by the PV system and then by the battery. The battery can be charged from the PV as needed



**Nighttime:** Important loads are powered by the battery

# Maximizing the Homeowner's Solar Investment

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



## More Energy

- > Power optimizers increase rooftop energy harvest
- > PV power is stored directly in the battery
- > DC coupled battery solution allows high system efficiency
- > 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 > utilizes 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 access to inverter/battery software

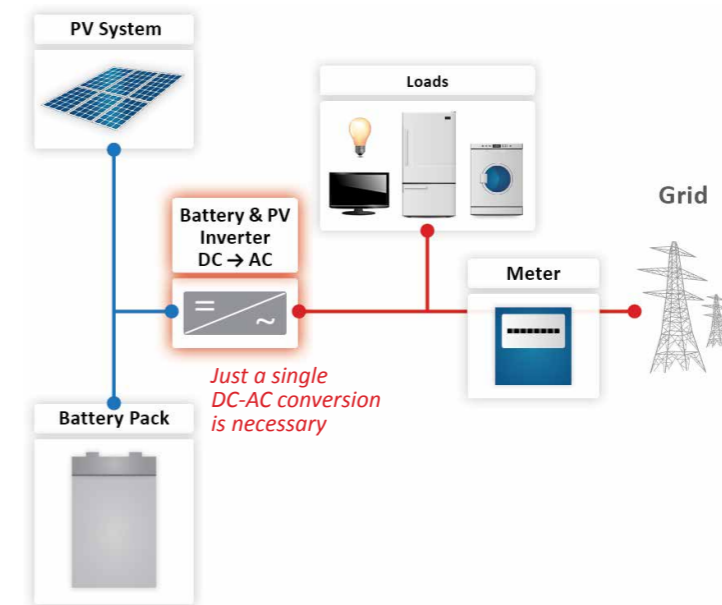


## Enhanced Safety



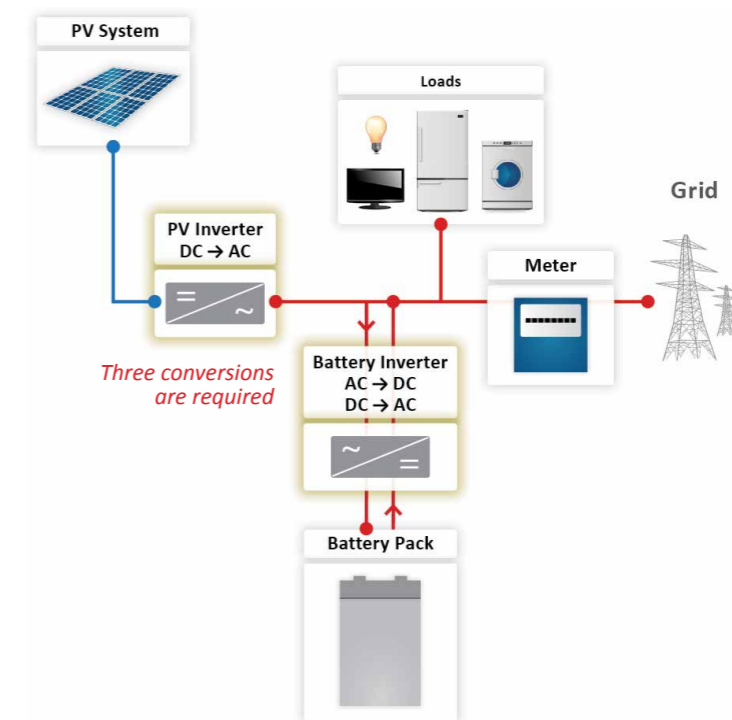
- > PV array and battery voltage reduced to a safe voltage automatically upon AC shut down when not in backup mode
- > Complies with VDE 2100-712

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



Vs.

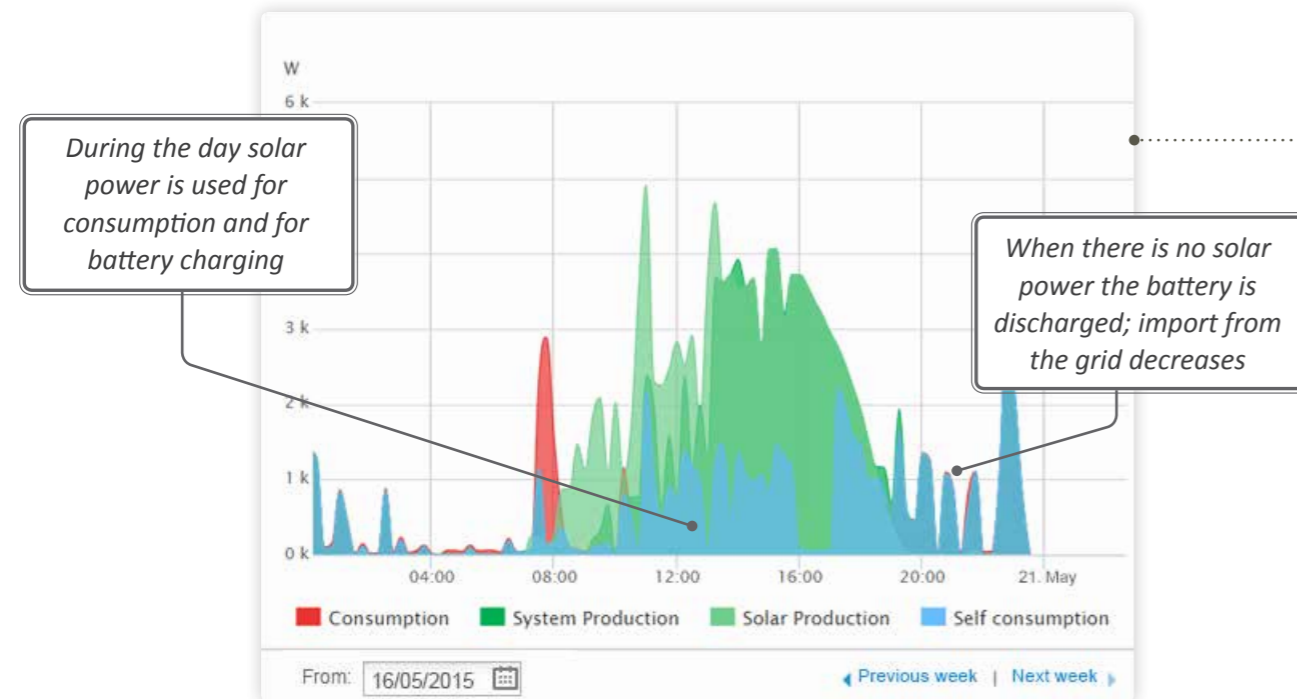
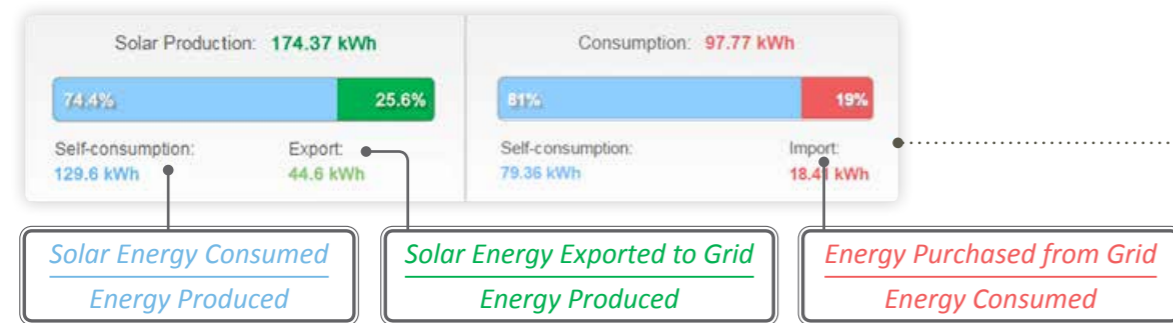
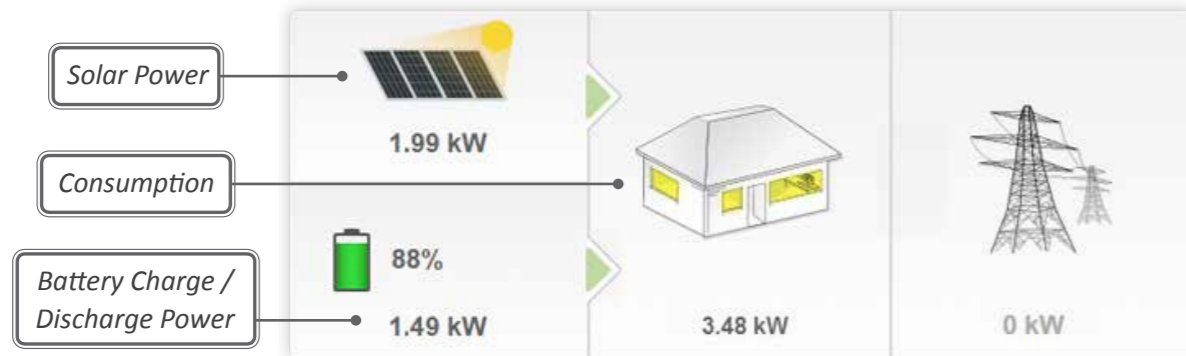
## PV System with AC-Coupled Storage





# 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.



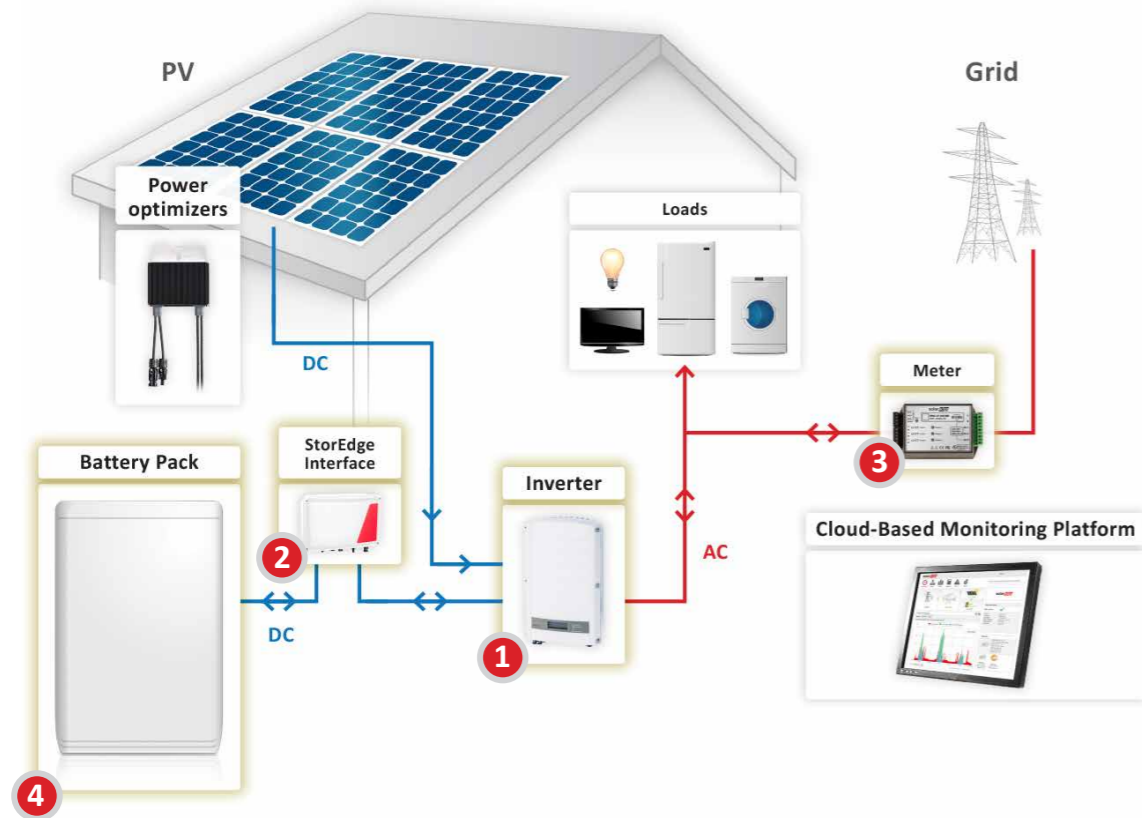
The screenshot shows the SolarEdge monitoring platform dashboard. Key sections include:
 

- Overview:** Energy today (4.68 kWh), Energy this month (370.63 kWh), Lifetime energy (19.5 MWh), and Lifetime revenue (€730.55).
- Site summary:** Site status (green checkmark), Id (123456), Name (Max Mustermann), Country (Germany), City (Musterstadt), Installed (24/08/2013), Last updated (24/05/2015 12:41), Peak power (5.2 kWp), and Address (Musterstraße).
- Power and Energy:** A detailed view of the summary bar chart with a legend for Consumption, System Production, Solar Production, and Self consumption.
- Weather:** Current conditions (Temperature 32.7 °C, Sunny) and a 3-day forecast.
- Site Image:** A photograph of the house with solar panels.
- Environmental Benefits:** CO2 Emission Saved: 22,502.74 kg.

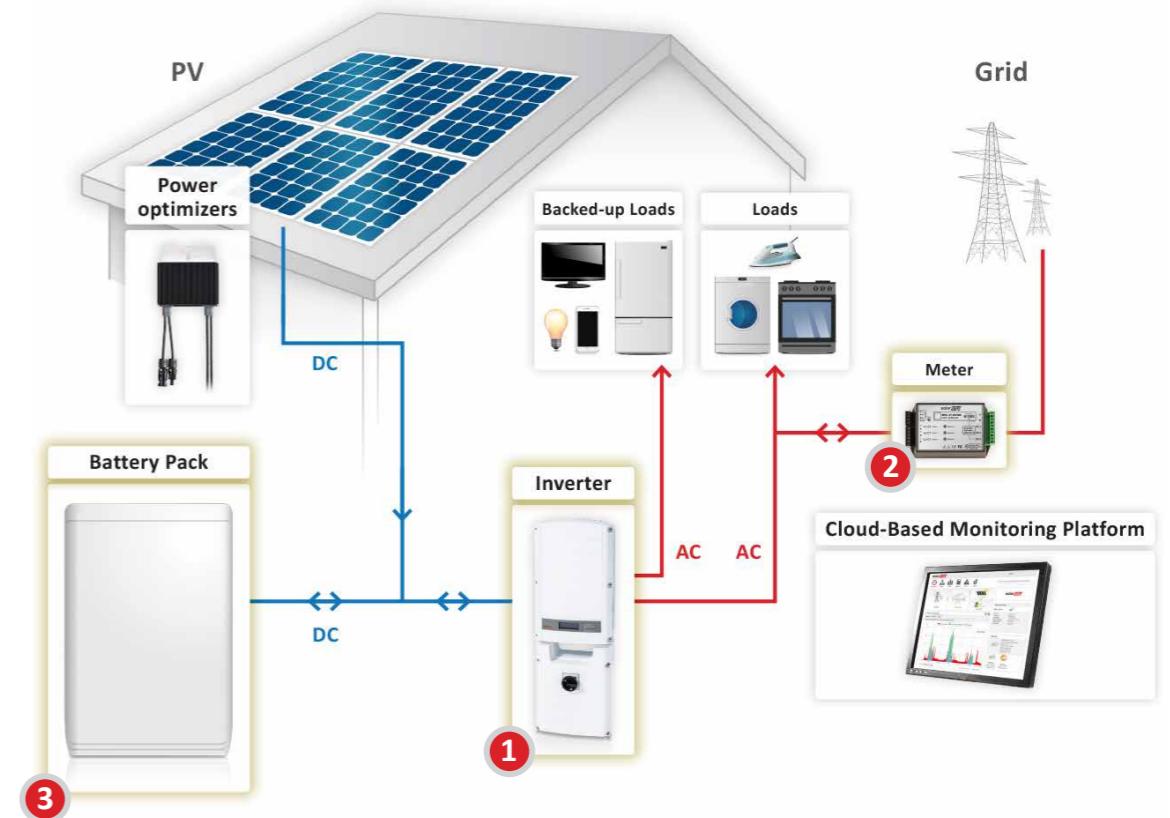
Dashboard from the SolarEdge cloud-based monitoring platform

# StorEdge Applications - Basic Configurations

## Optimizing Self-Consumption



## Optimizing Self-Consumption + Backup Power



1

### SolarEdge Single Phase Inverter

The SolarEdge inverter manages battery and system energy, in addition to its functionality as a DC PV inverter

2

### StorEdge Interface

Connects the battery to a SolarEdge inverter  
Connects to the inverter in parallel to the PV strings

3

### SolarEdge Meter

For production and consumption readings  
Meter is required for self-consumption management

4

### Battery Pack

Compatible with DC coupled, high-voltage and high-efficiency batteries from selected vendors including the Tesla Powerwall Home Battery and LG Chem RESU



1

### SolarEdge Single Phase StorEdge Inverter

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

2

### SolarEdge Meter

For production and consumption readings  
Meter is not required for a backup-only solution

3

### Battery Pack

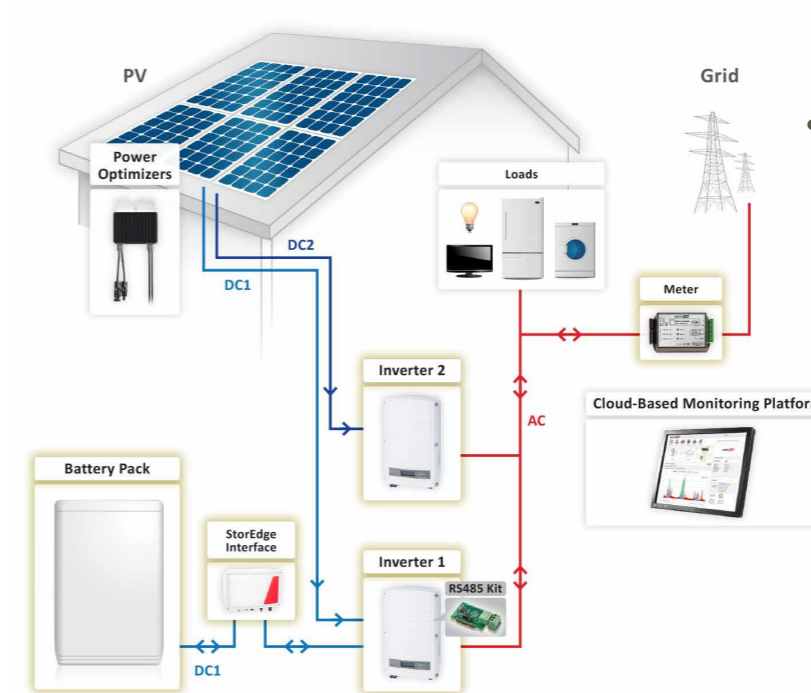
Compatible with DC coupled, high-voltage and high-efficiency batteries from selected vendors including the Tesla Powerwall Home Battery and LG Chem RESU



# Additional StorEdge Configurations

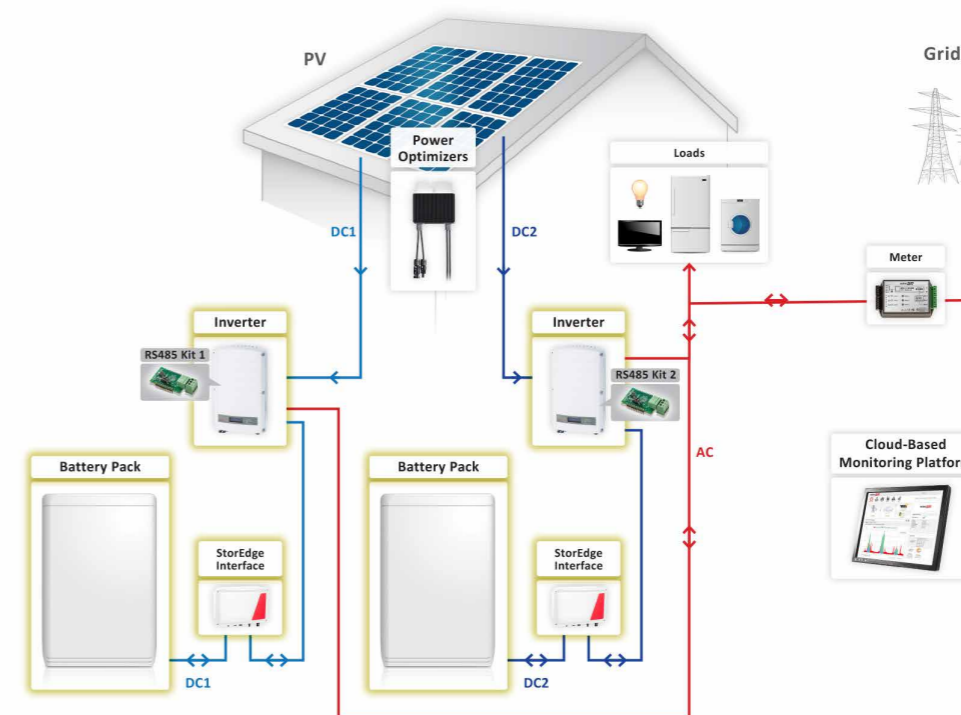
Each StorEdge application supports modifications to the basic system configurations, providing homeowners with a StorEdge solution specific to their energy requirements.

Homeowner Requirement	How is StorEdge Connected?
<b>1 More PV power</b>	Add another 1-ph inverter to handle additional PV power from array
<b>2 More battery capacity &amp; power</b>	Add one more 1-ph inverter and battery. For the self-consumption application only, each of the two batteries is connected to a separate StorEdge interface
<b>3 More battery capacity</b>	Connect two batteries to a single StorEdge interface with one battery operating at a time
<b>4 Connection to 3-ph SolarEdge inverter</b>	Connect the StorEdge system to the SolarEdge inverter's AC output (AC-coupled solution)
<b>5 Connection to non-SolarEdge inverter</b>	Connect the StorEdge system to the non-SolarEdge inverter's AC output (AC-coupled solution)
<b>6 More battery capacity &amp; power</b>	Connect two batteries to a single StorEdge interface



## 1 More PV Power

A second 1-ph inverter is added for the purposes of handling the additional PV power needed.



## 2 More Battery Capacity & Power (two inverters)

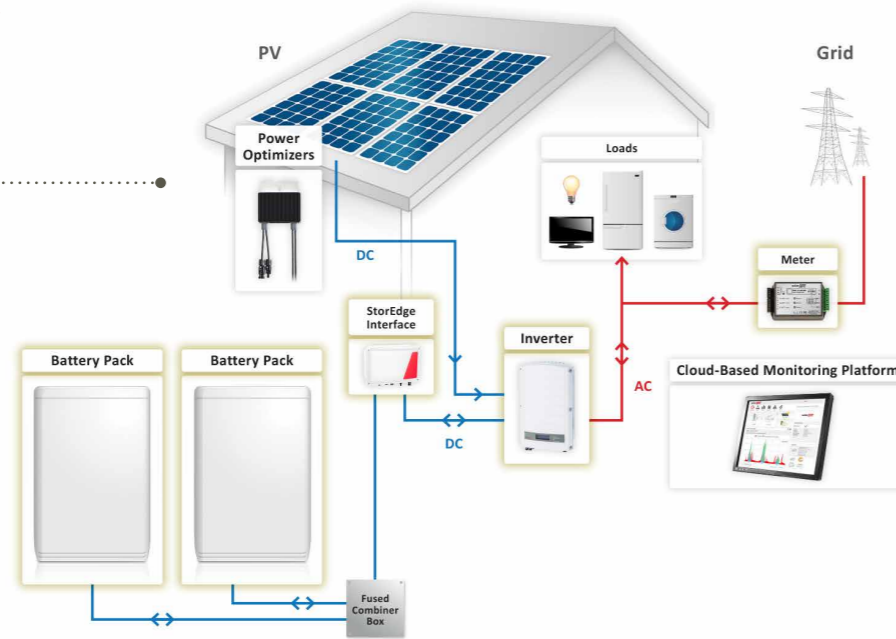
Where more power and capacity are needed, two 1-phase inverters are installed with two batteries each connected to a separate StorEdge interface.



# Additional StorEdge Configurations

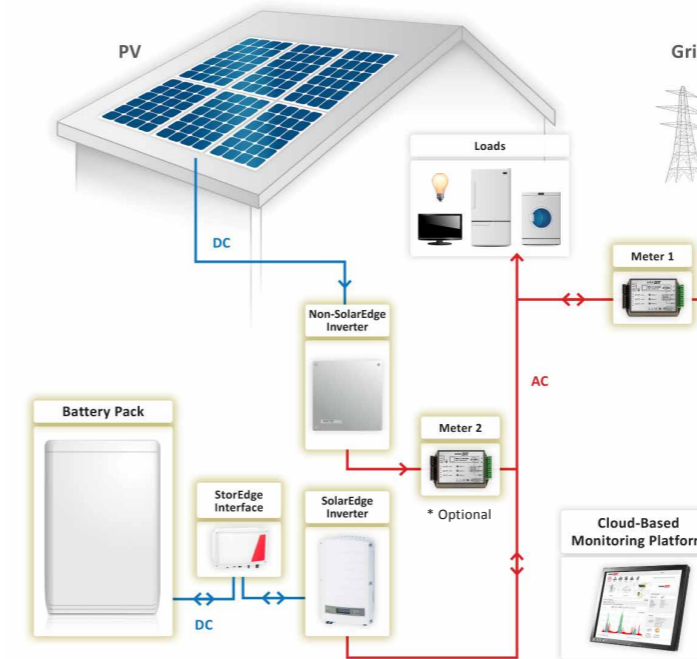
## 3 More Battery Capacity (one inverter)

For homes with high consumption, two batteries are connected to a single StorEdge interface with only one battery operating at a given time



## 5 Non-SolarEdge PV Systems

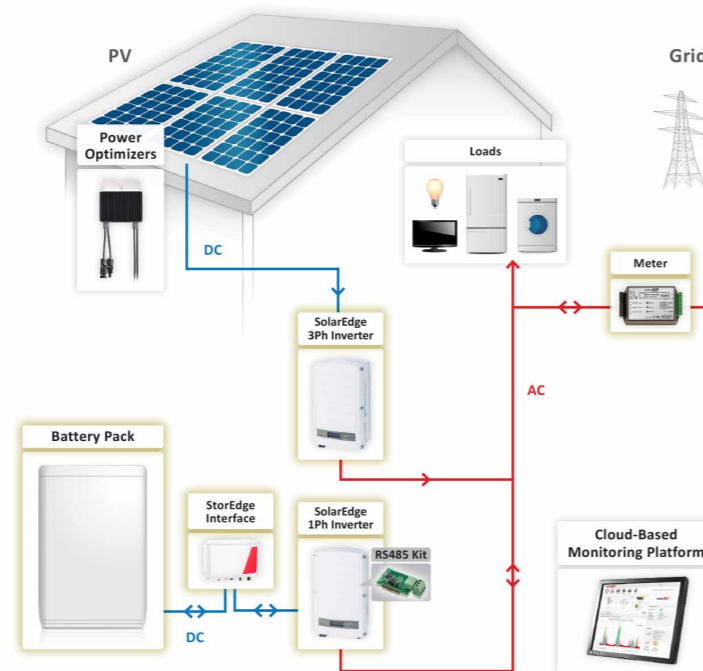
To upgrade existing single or three-phase non-SolarEdge PV installations, the StorEdge system, including an additional 1-ph SolarEdge inverter, connects to the non-SolarEdge inverter's AC output (AC-coupled)



\* Optional - needed for full system monitoring: consumption, self-consumption and inverter production

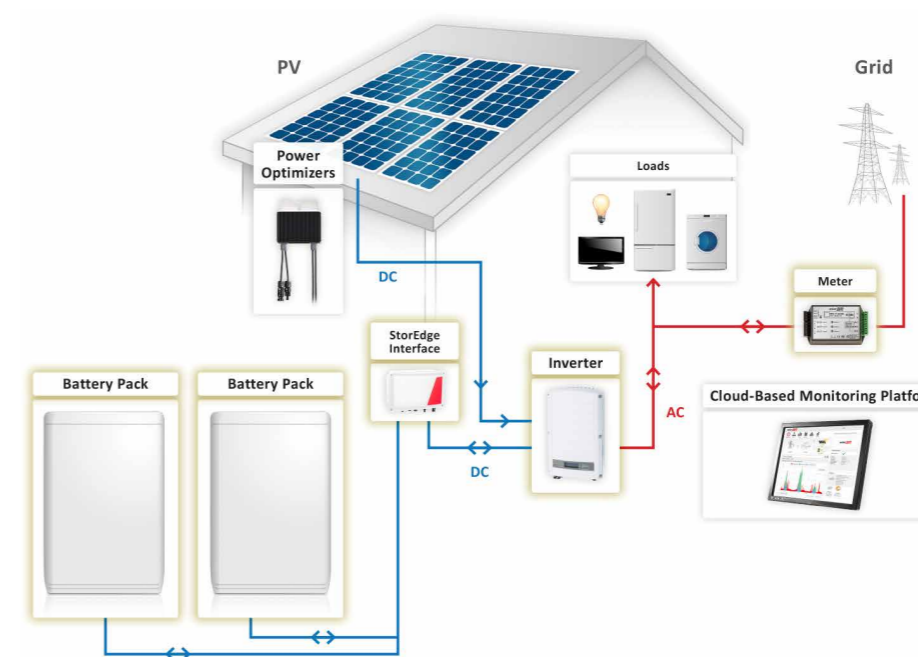
## 4 3-Ph SolarEdge PV Systems

For installations using a SolarEdge 3-phase inverter, the StorEdge system, including an additional 1-ph SolarEdge inverter, connects to the 3-ph inverter's AC output (AC-coupled)



## 6 More Battery Capacity & Power (one inverter)

For homes with high loads, two batteries are connected to a single StorEdge interface providing more power. (To support this configuration, new StorEdge interface and battery hardware will be required).



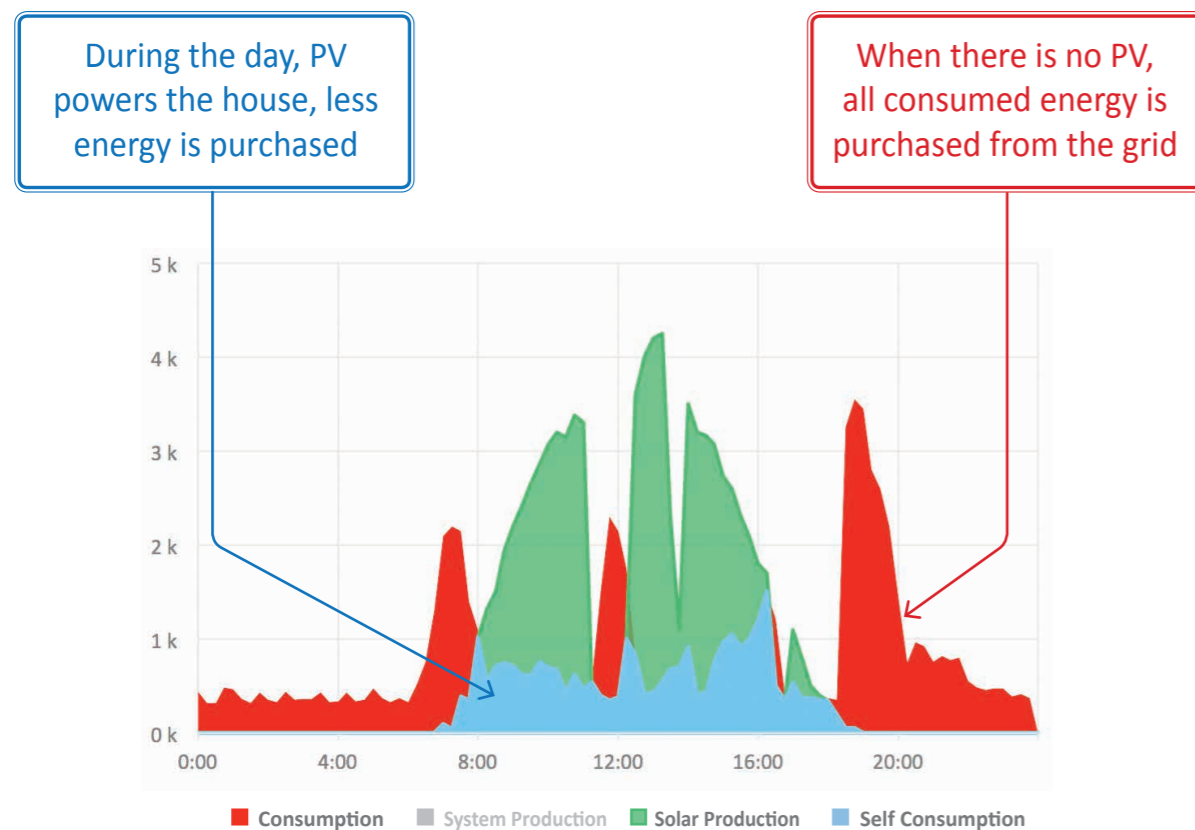
# Case Study - Increasing Self-Consumption with StorEdge

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)

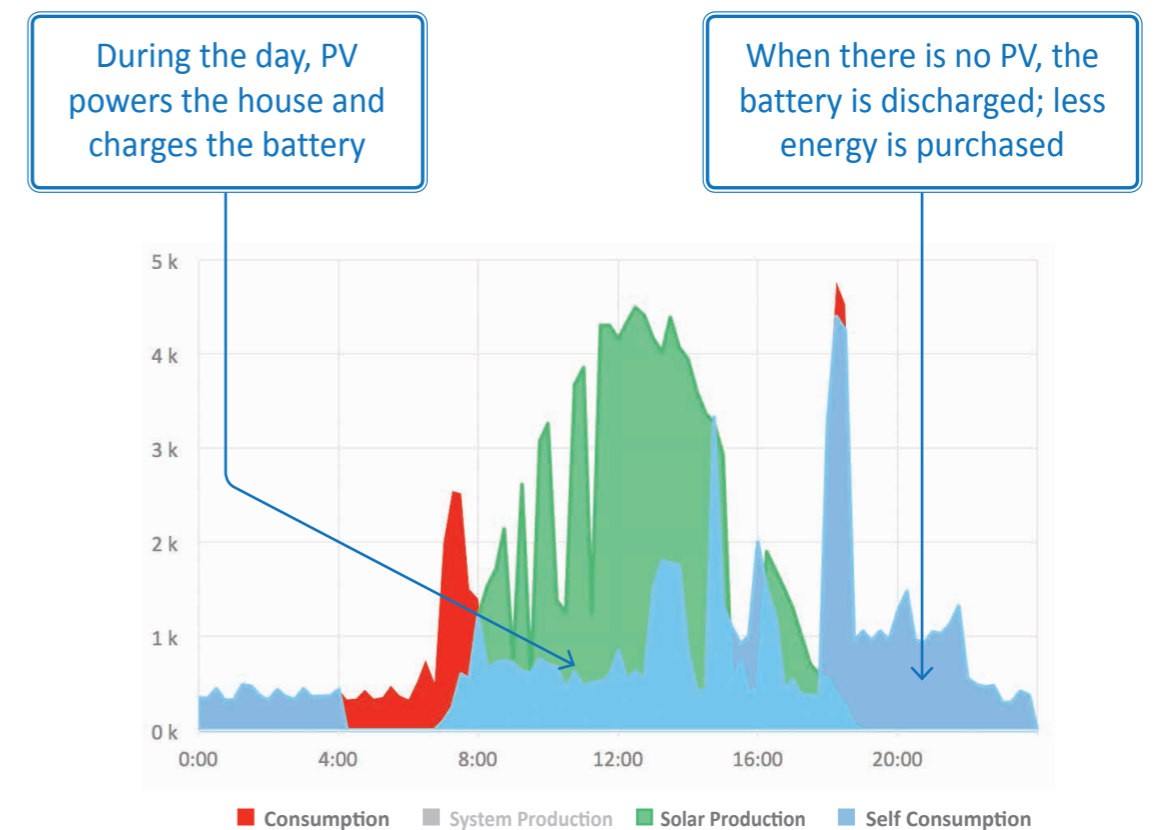
Total produced energy	Total purchased energy	Total consumed energy	Self-consumption level
21.37 kWh	13.57 kWh	20.61 kWh	7.04kWh   33%



## 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%



\*Based on a SolarEdge 5kW residential PV system



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





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 optimized inverter solution includes PV inverters, power optimizers, and cloud-based monitoring. By connecting power optimizers to each module, the system enables superior power harvesting and module management.

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

For more information on SolarEdge:

Website [www.solaredge.com](http://www.solaredge.com)

Email [info@solaredge.com](mailto:info@solaredge.com)

Twitter [www.twitter.com/SolarEdgePV](http://www.twitter.com/SolarEdgePV)

Facebook [www.facebook.com/SolarEdge](http://www.facebook.com/SolarEdge)

