The StorEdge™ Solution

Enabling Energy Independence

Compatible with LG Chem

The StorEdge Solution: Enabling Energy Independence

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.

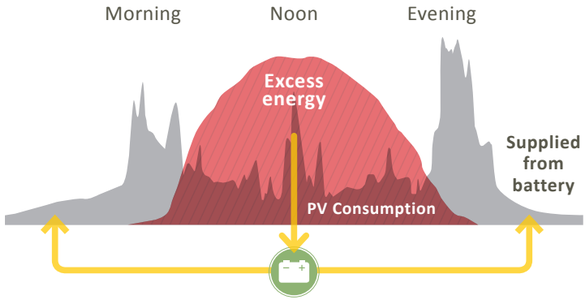
StorEdge is based on a single SolarEdge DC optimized inverter that manages and monitors PV production, consumption and storage. The StorEdge solution is compatible with high voltage batteries from LG Chem.

LG Chem RESU

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.

* Backup capability is only available in certain countries. Check with your local SolarEdge sales person.

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 with StorEdge

The StorEdge system has many benefits for the homeowner as well as the PV installer.

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 from a single dashboard
> 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

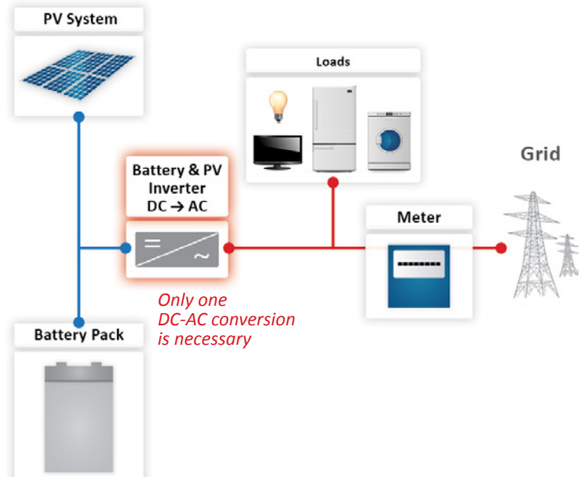
Enhanced Safety

SafeDC

> 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 and IEC 60947

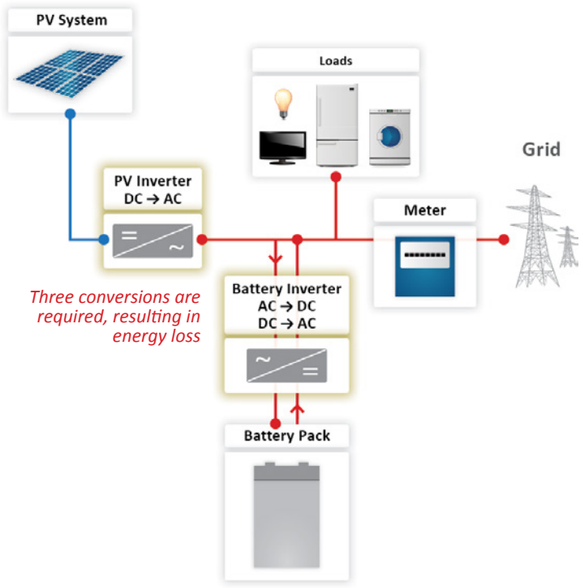
PV System with DC-Coupled Storage

solaredge



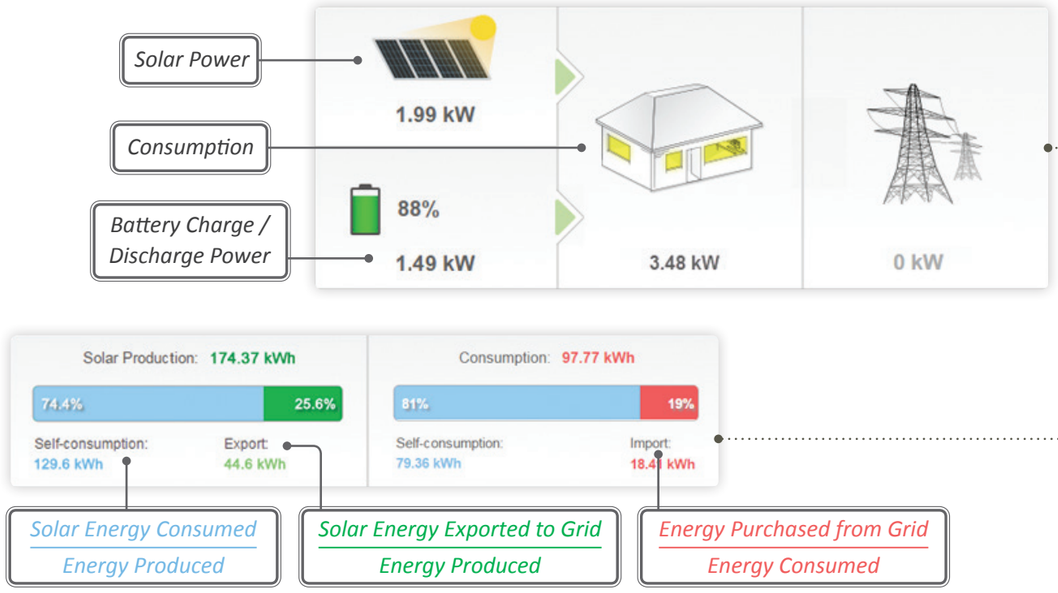
Vs.

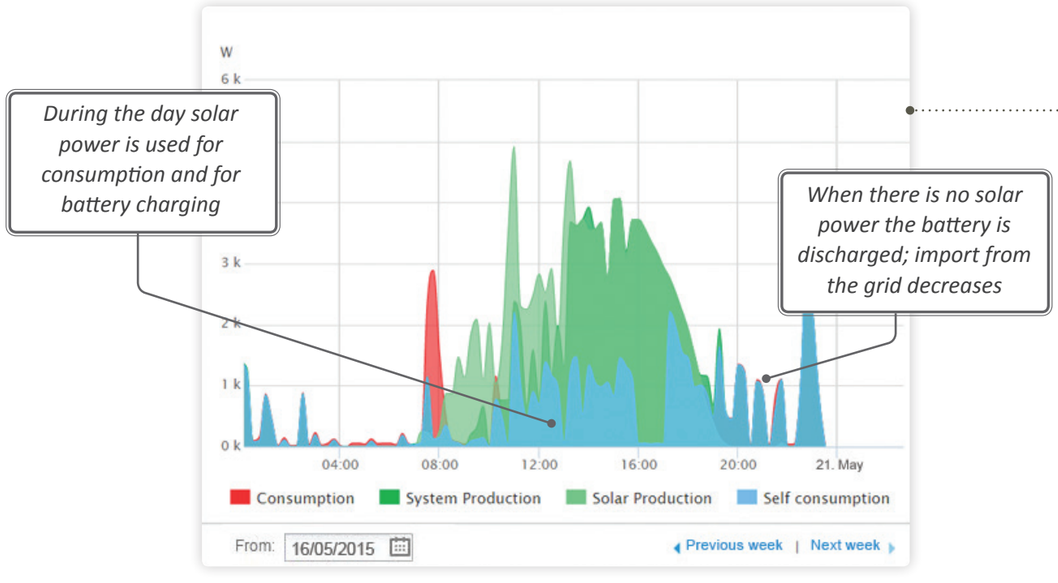
PV System with AC-Coupled Storage

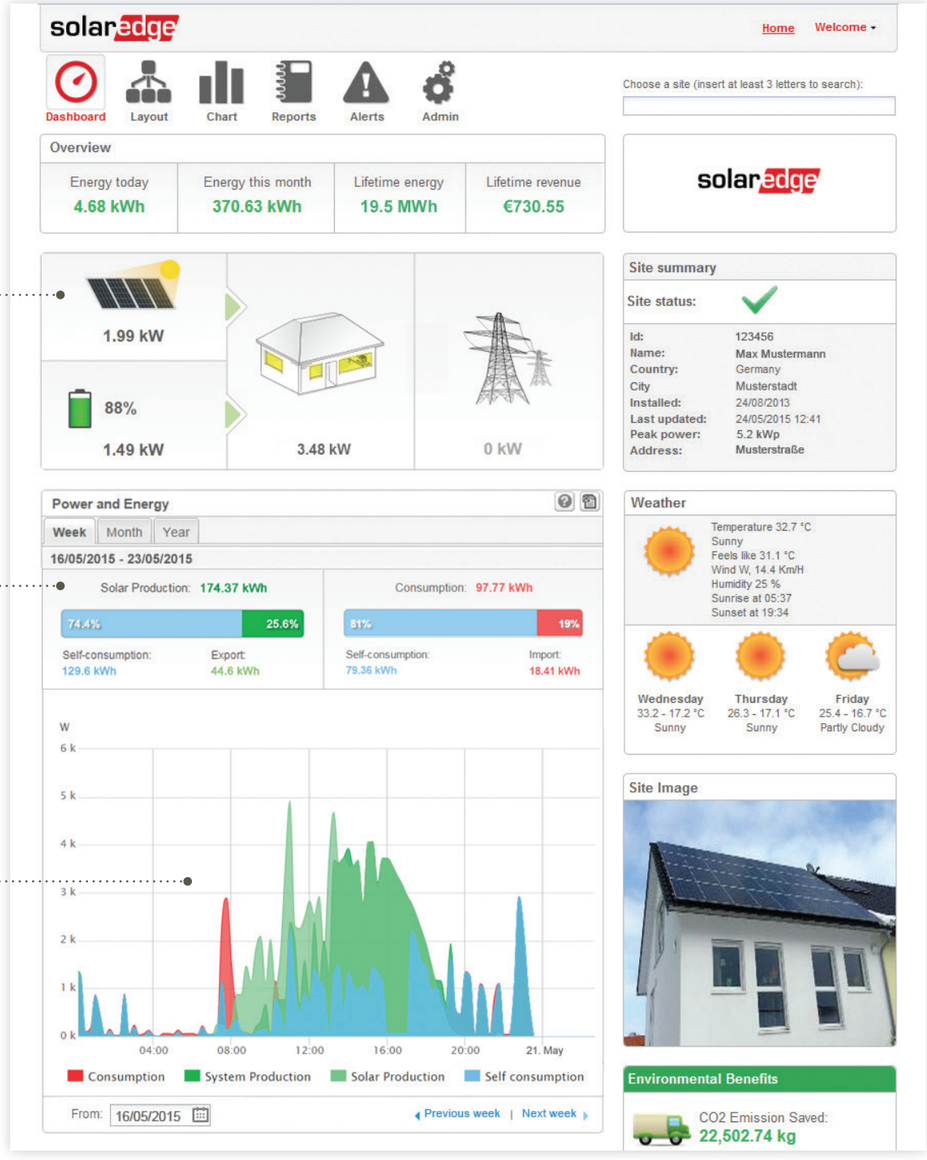


Full Monitoring of PV and StorEdge Systems

The SolarEdge 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.



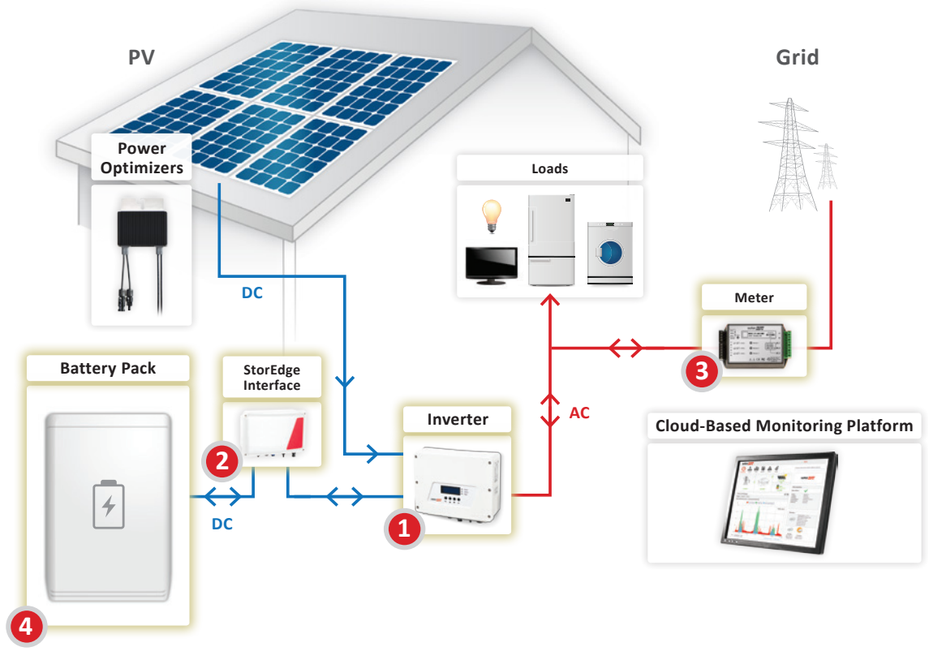




Dashboard from the SolarEdge cloud-based monitoring platform

StorEdge Applications: Basic Configurations

Optimizing Self-Consumption



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 measuring electricity import and export

Meter is required for self-consumption management

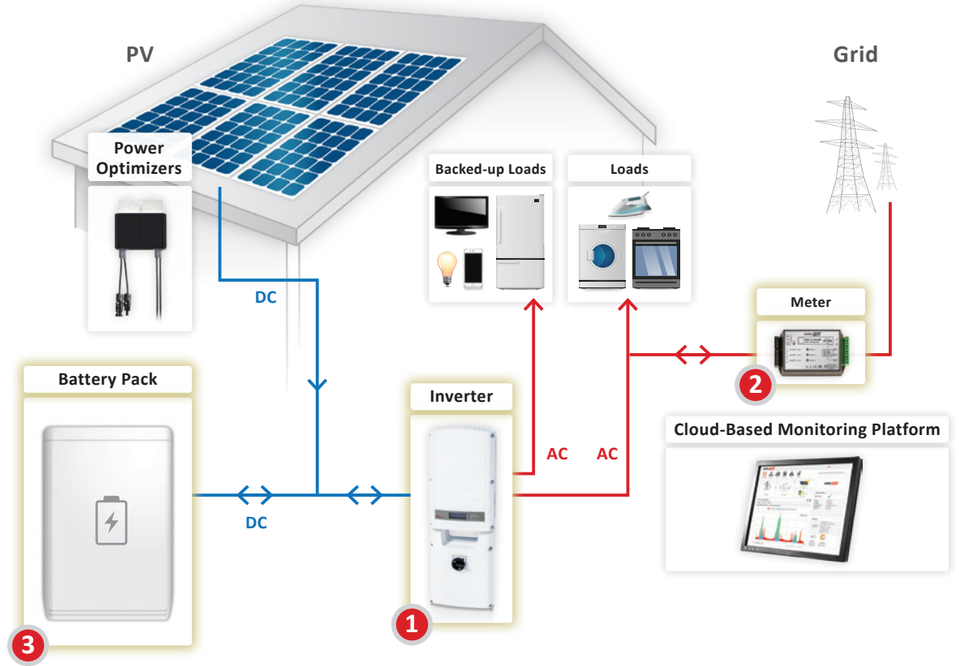
4 Battery Pack

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

Compatible with

LG Chem

Optimizing Self-Consumption + Backup Power*



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 measuring electricity import and export

Meter is not required for a backup-only solution

3 Battery Pack

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

Compatible with

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* In supported regions only. Check with your local SolarEdge sales person.

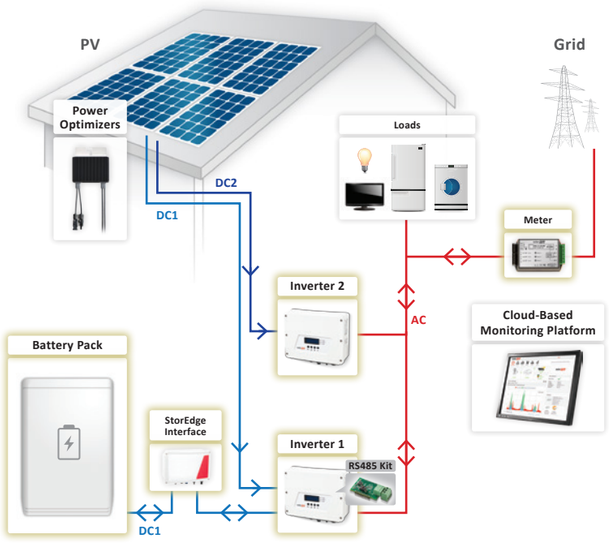
Additional StorEdge Configurations

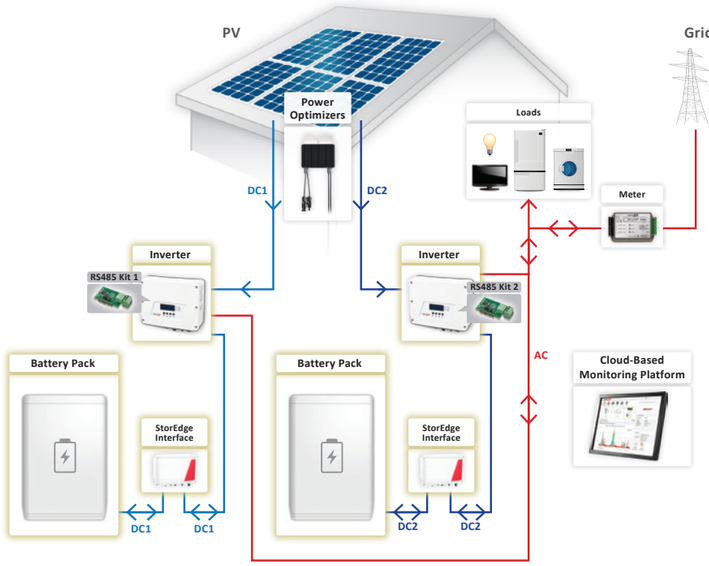
The StorEdge system can be modified to provide homeowners with a solution specific to their energy requirements.

	Homeowner Requirement	How is StorEdge Connected?
1	More PV power	Add a second single phase inverter to handle additional PV power from the array
2	More battery capacity (kWh) and more power (kW)	Add one more single phase inverter and battery. For the self-consumption application only, each of the two batteries is connected to a separate StorEdge interface
3	Connection to a three phase SolarEdge inverter	Connect the StorEdge system to the SolarEdge inverter's AC output (AC-coupled solution)
4	Connection to a non-SolarEdge inverter	Connect the StorEdge system to the non-SolarEdge inverter's AC output (AC-coupled solution)
5	Time of Use without PV	Charge the battery from the AC grid when electricity tariffs are low, and discharge the battery to meet house loads when tariffs are high
6	Backup power without PV	Charge the battery by connecting it to the AC grid for backup power

1 More PV Power

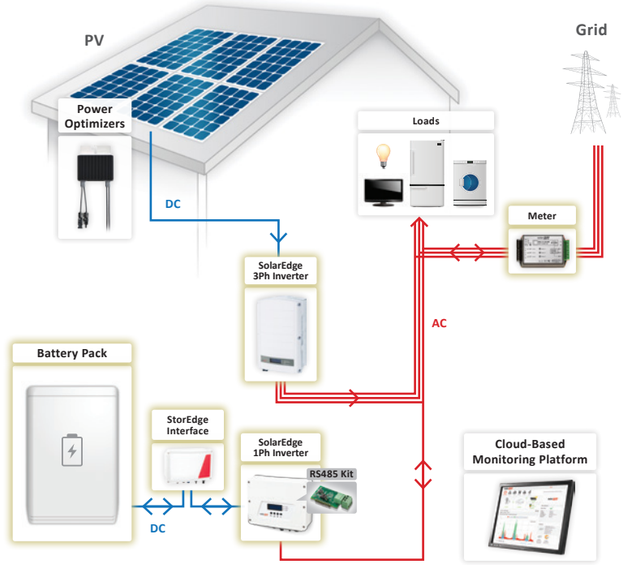
A second single phase inverter is added for the purposes of handling the additional PV power needed.





2 More Battery Capacity (kWh) & More Power (kW)

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



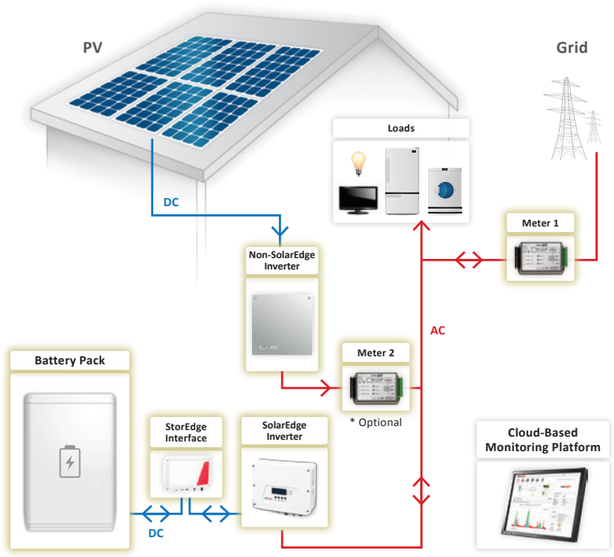
3 Three Phase SolarEdge PV Systems

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

Additional StorEdge Configurations

4 Non-SolarEdge PV Systems

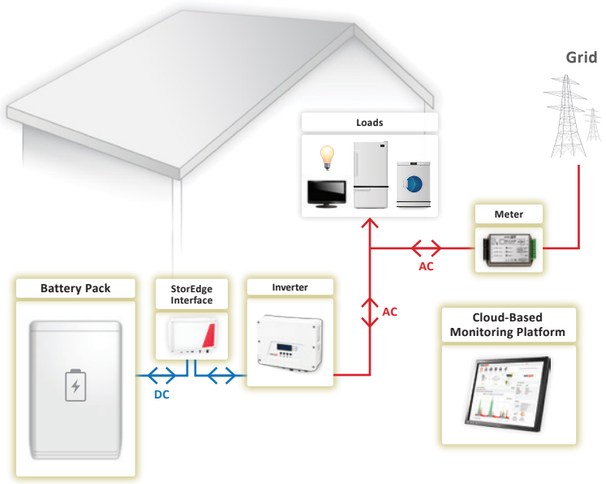
To upgrade existing single or three-phase non-SolarEdge PV installations, the StorEdge system, including an additional single phase SolarEdge inverter, connects to the non-SolarEdge inverter's AC output (AC-coupled. The SolarEdge inverter charges the battery using the PV power produced by the non-SolarEdge inverter.

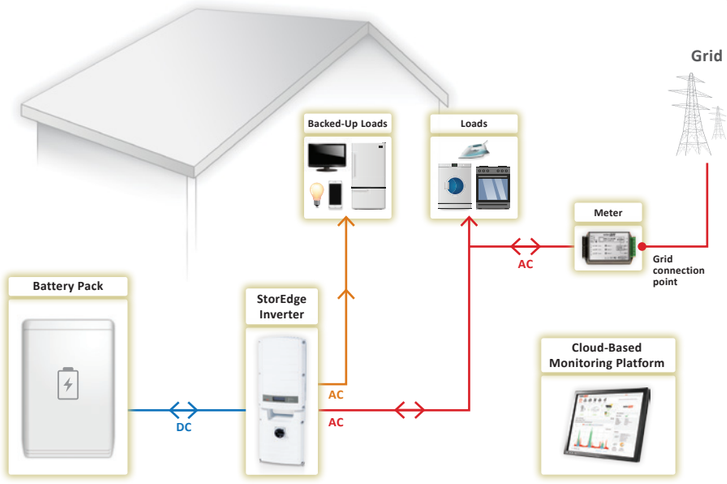


* Optional - needed for full system monitoring: consumption, self-consumption and inverter production

5 Time of Use without PV

A StorEdge system may be installed without a PV system, to take advantage of Time of Use (TOU) tariffs. Charge the battery from the grid when electricity prices are low, and discharge the battery to supply house loads and increase self-consumption when tariffs are high.





6 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.

* In supported regions only. Check with your local SolarEdge sales person.

StorEdge Case Study:
Increasing Self-Consumption

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

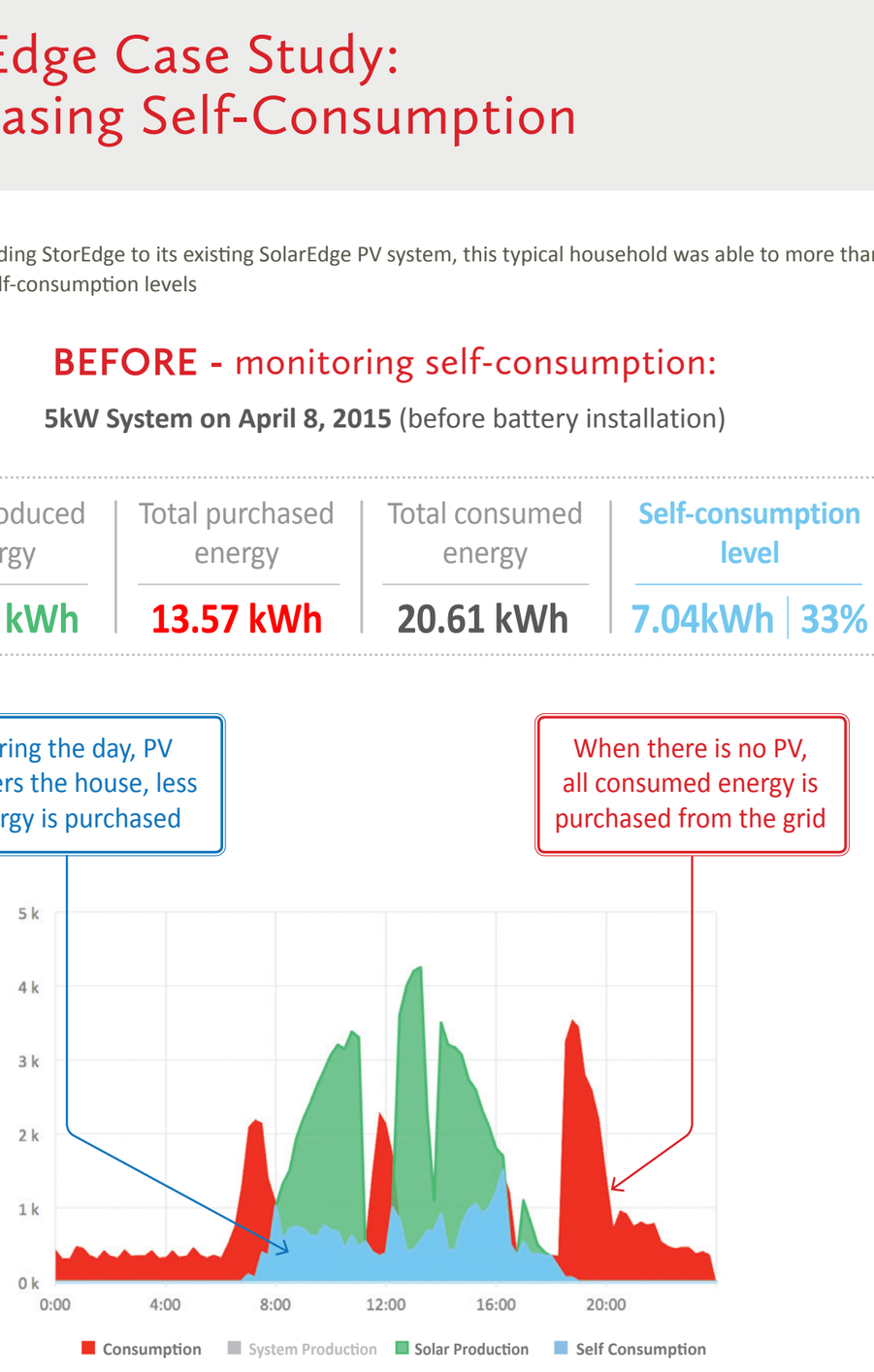
BEFORE - monitoring self-consumption:

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%

During the day, PV powers the house, less energy is purchased

When there is no PV, all consumed energy is purchased from the grid



*Based on a SolarEdge 5kW residential PV system

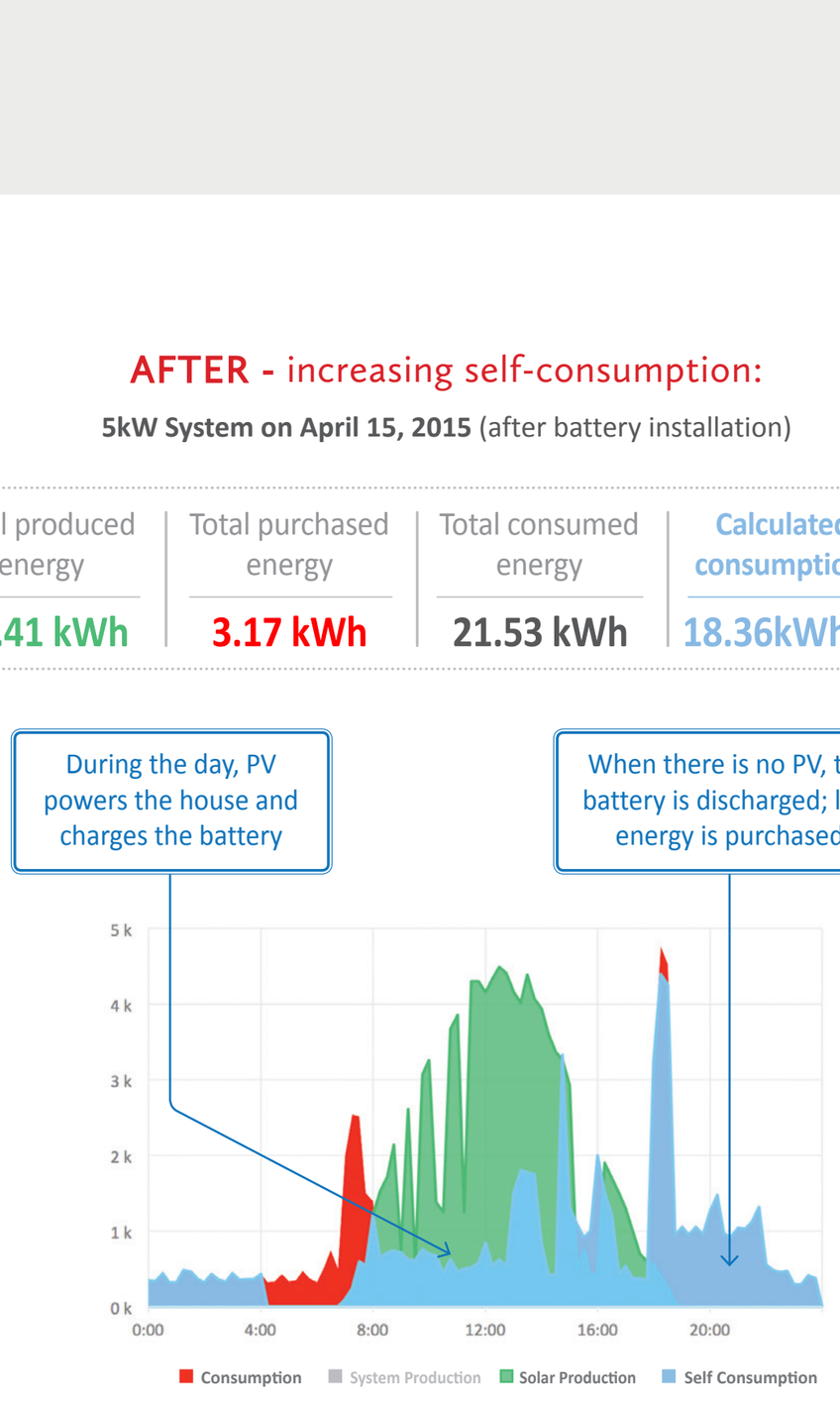
AFTER - increasing self-consumption:

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%

During the day, PV powers the house and charges the battery

When there is no PV, the battery is discharged; less energy is purchased



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:

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