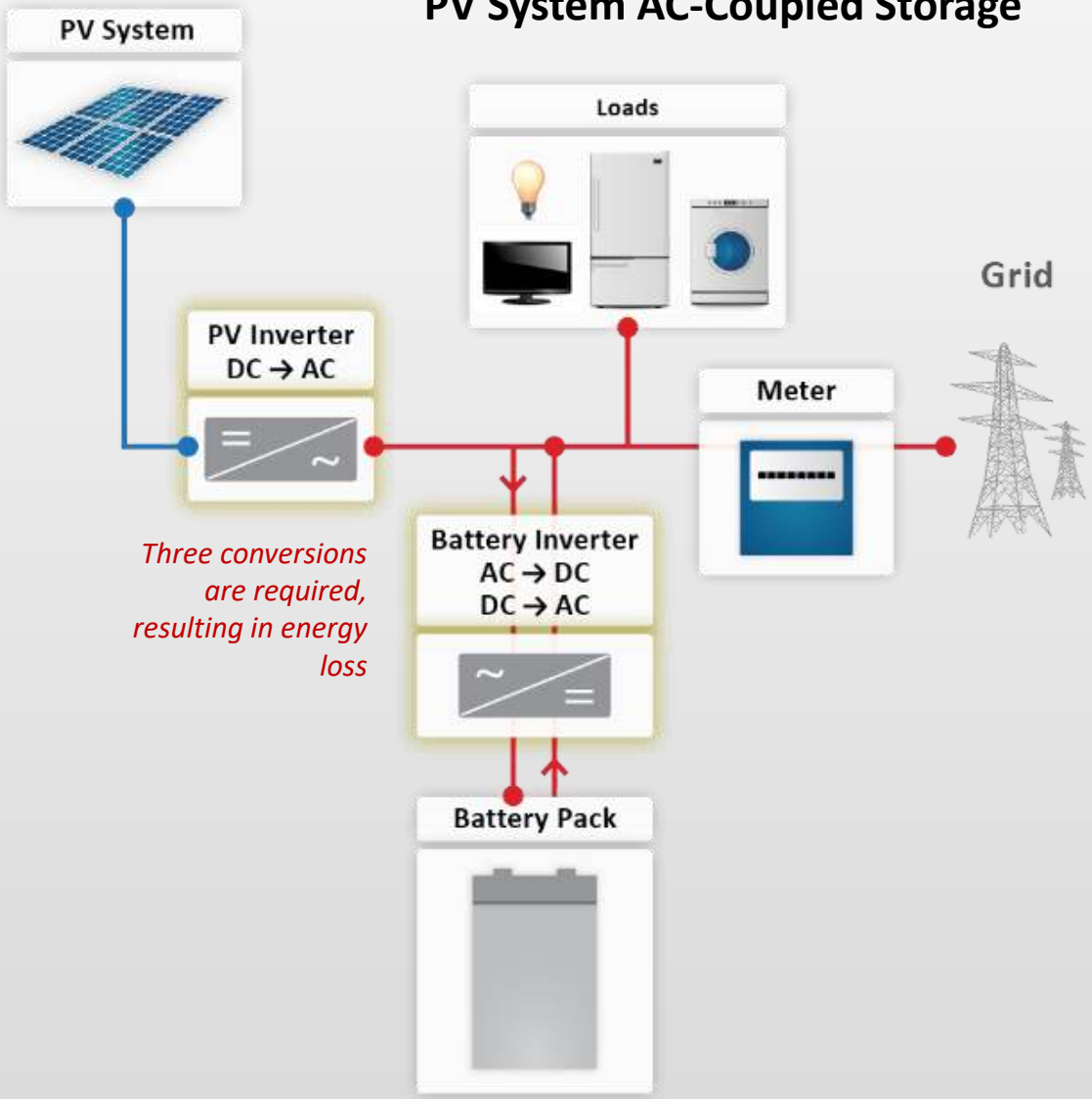
AC Coupled vs. DC Coupled

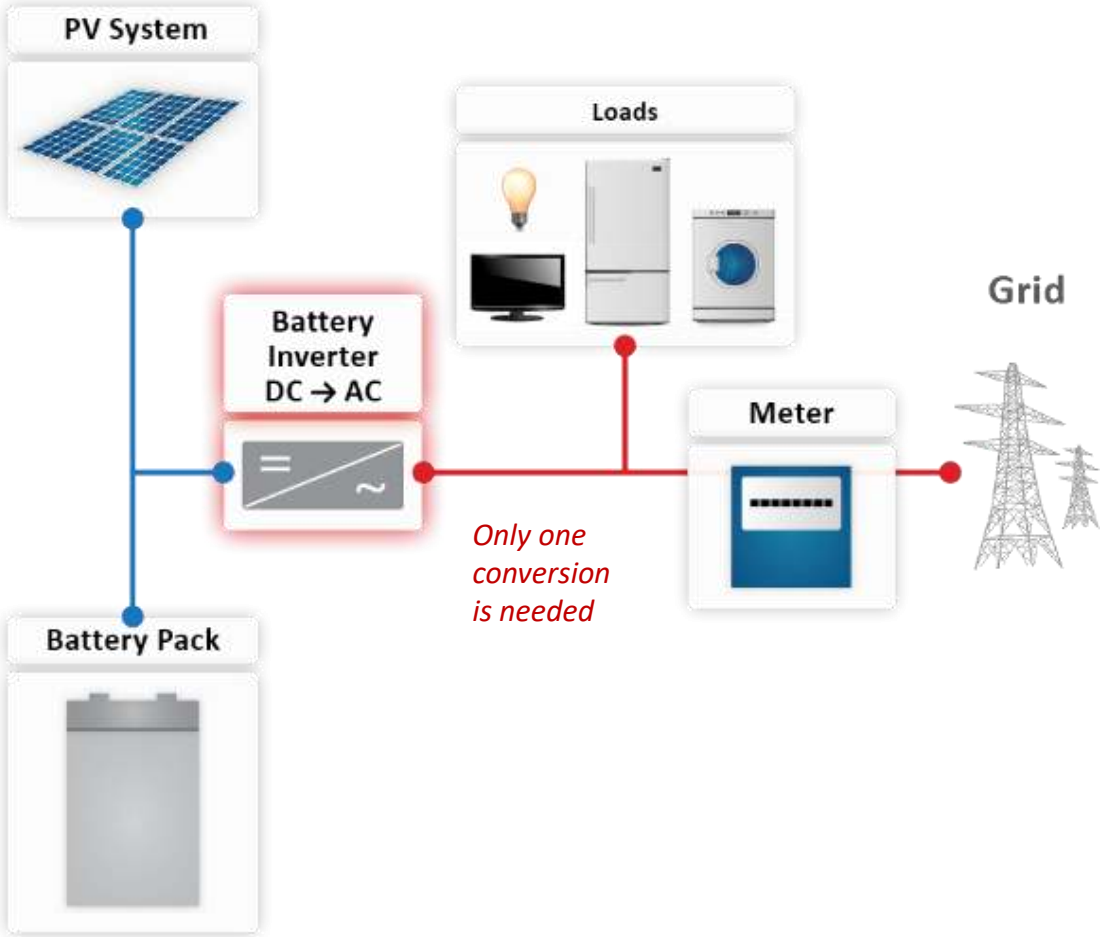
PV System AC-Coupled Storage



Three conversions are required, resulting in energy loss

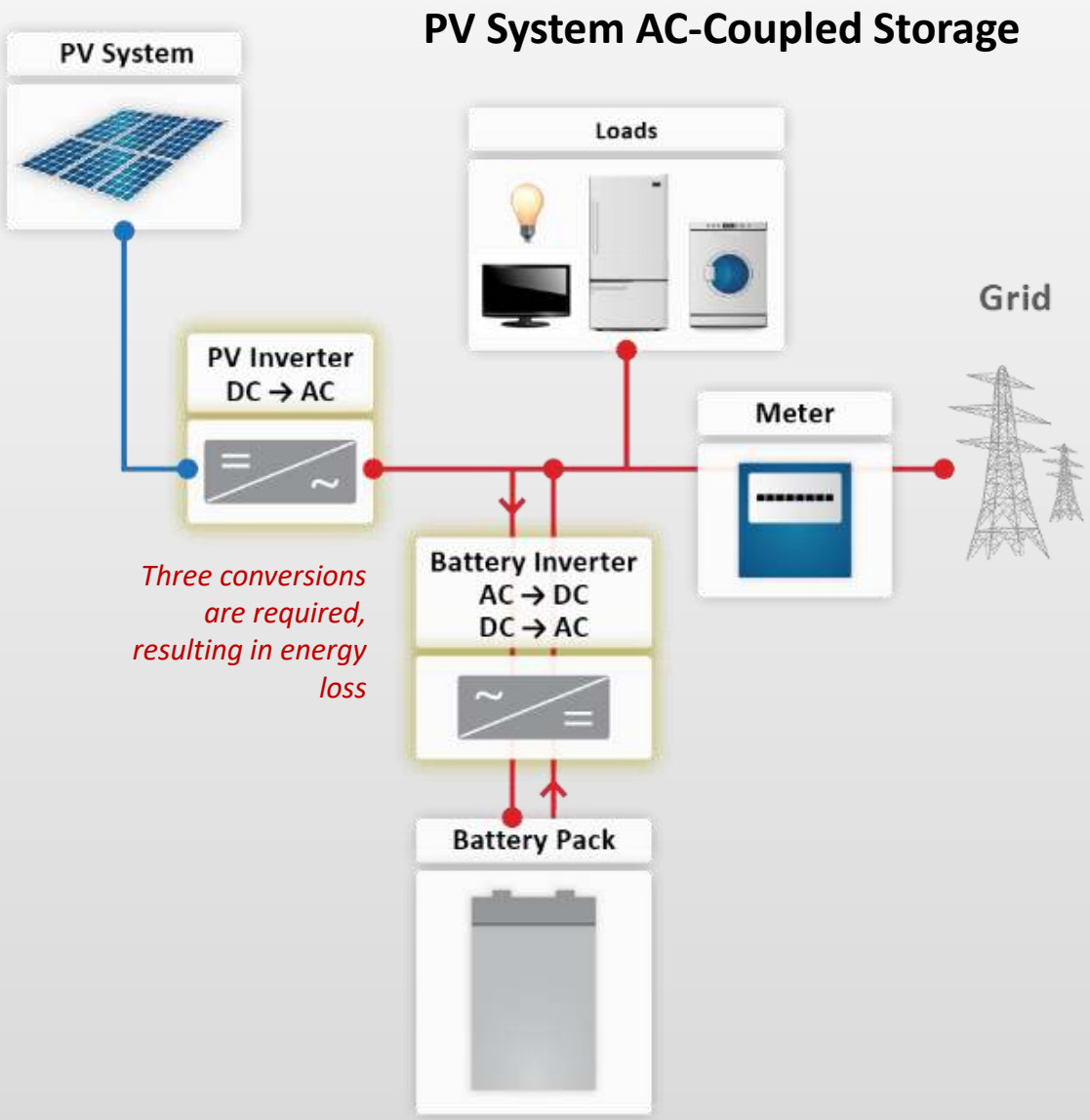
VS.

PV System DC-Coupled Storage

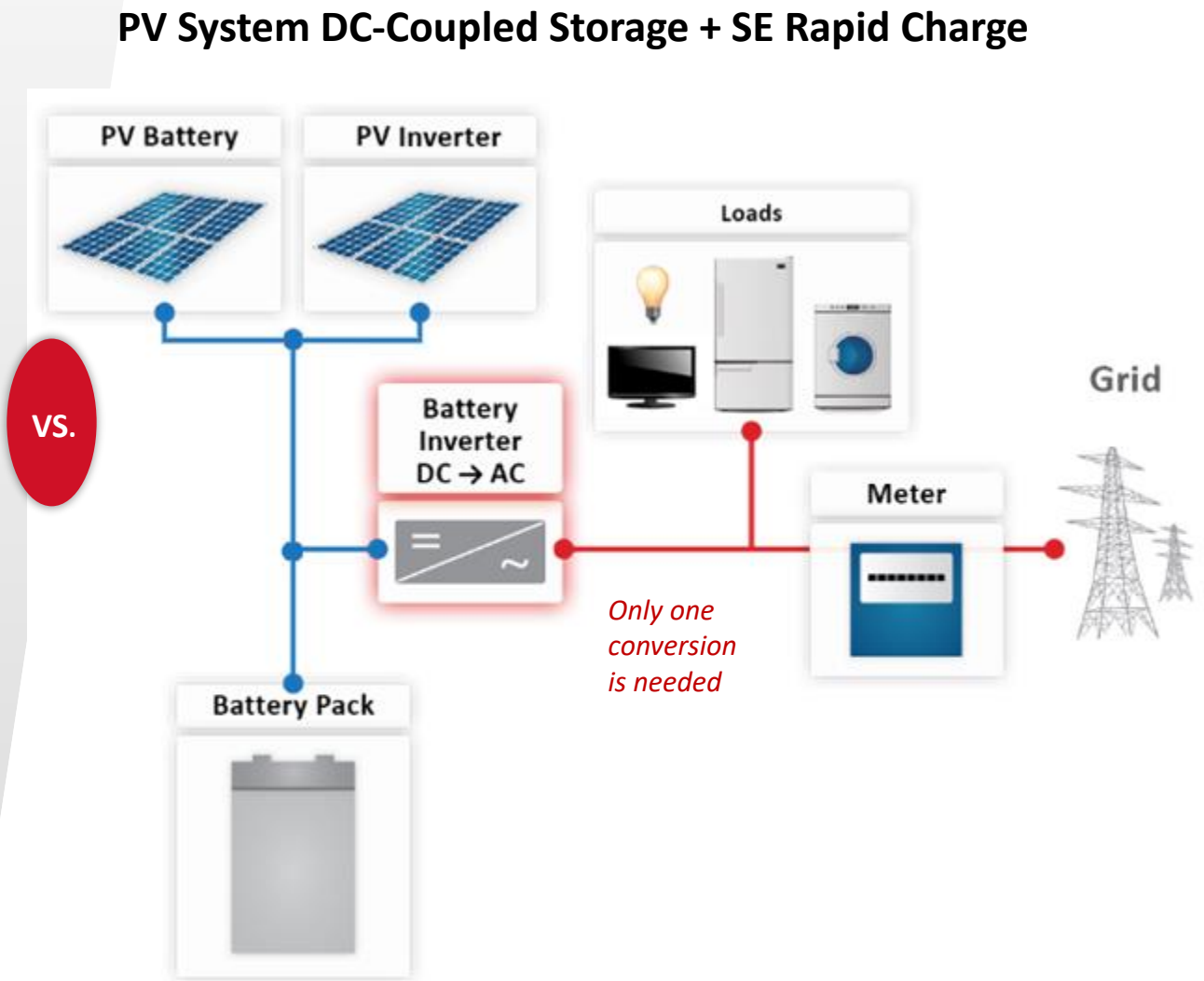


Only one conversion is needed

AC Coupled vs. DC Coupled



VS.



Sell More Modules with DC Coupled Storage

The technical details

Sell More Modules with DC Coupled Storage

- The new PV Charge Capacity increase – how to install up to 5kWp of additional PV
  - SolarEdge's StorEdge interface within the SESTI and Backup inverters, manages battery charging independent of the AC inverter.
  - DC Coupling permits both the inverter AND Storage Interface to operate at 100% capacity simultaneously, for a continuous combined PV power management of up to 12.3kW.
    - 12.3kW example: 7.3kW inverter and 5kW battery

- DC Coupled PV Sizing rules:
  - Inverter rated PV Array capacity, plus 100% charge rate of the StorEdge Interface OR battery - whichever is lower

Sell More Modules with **DC Coupled Storage**

- Examples:
  - 5kW High Powered Backup inverter + LG RESU10H
    - 5kW Inverter @ 135% = 6.75kW
    - 5kW Interface + 5kW battery = 5kW
      - Total PV capacity = 11.75kW
  - 5kW HD Wave Inverter + 5kW SESTI S-4 + LG RESU10H
    - 5kW Inverter @ 155% = 7.75kW
    - 5kW Interface + 5kW battery = 5kW
      - Total PV capacity = 12.75kW
  - 7.3kW Inverter + 5kW SESTI S-2 + LG RESU10H
    - 7.3kW Inverter @ 135% = 9.855kW
    - 5kW Interface + 5kW battery = 5kW
      - Total PV capacity = 14.855kW

- NOTE: Does not apply to AC Coupled Inverter/battery systems!

Sell More Modules with DC Coupled Storage

- Opportunities:
  - Sell more PV and claim STC's on new PV+ Storage systems
  - Revisit existing customers and upsell additional PV to StorEdge and Backup sites
  - Comply with DNSP design rules for inverter/generation capacity
  - Enable your customers to fully utilise the storage capacity of their systems

- Advantages:
  - No DNSP inverter limitations for storage systems – eg ACB Inverter + PV Inverter
  - DC Coupled for Black Start recovery and extended blackout/continuous running
  - Rapid battery recovery, even in low light or high AC load conditions
  - Increased system PV capacity for progressive site upgrades

DC Charging: Claiming STC's

- 133% sizing rule and why it doesn't apply:
  - The 133% sizing ratio is imposed by the CER, and based on the CEC guidelines
  - CEC Guidelines are for "*Grid Connected Solar Systems (no battery storage)*"

  - The 133% is derived from section 9.4 which states: