



SolarEdge Commercial Solution Overview for System Owners



SolarEdge Fact Sheet

About us

In 2006, SolarEdge revolutionised the solar industry by inventing a better way to collect and manage energy in PV systems. Today, we are a global leader in smart energy technology. By deploying world-class engineering capabilities and with a relentless focus on innovation, we create smart energy products and solutions that power our lives and drive future progress.

Vision

We believe that continuous improvement in the ways we produce and manage the energy we consume will lead to a better future for us all.

Award-winning technology



Product reliability

- 25-year Power Optimizer warranty, 12-year inverter warranty, extendable to 20 years
- SolarEdge products and components undergo rigorous testing, and have been evaluated in accelerated life chambers
- Reliability strategy includes proprietary application-specific integrated circuits (ASIC)

Global outreach

- Systems installed in over 130 countries across five continents
- Sales via leading integrators and distributors
- Follow the sun call centers
- Local teams of sales, service, marketing, and training experts
- Global manufacturing capabilities with tier 1 electronic manufacturing service companies

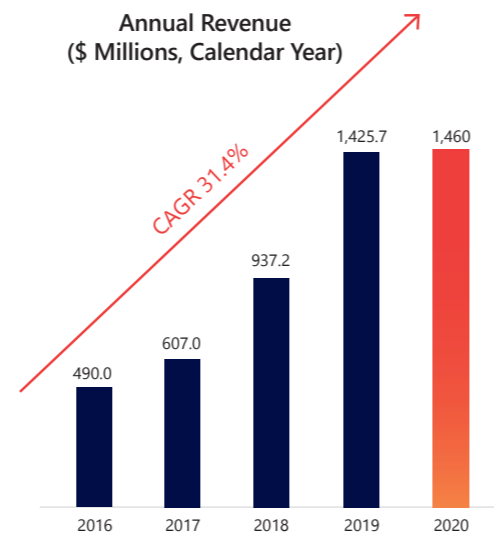


Bankability

- Approved by major banks and financial institutions worldwide
- SolarEdge (SEDG) is traded on NASDAQ
- A global leading PV inverter manufacturer, due to strong and stable finances combined with cutting-edge technology

Shipping since 2010

- Over 3 million inverters and over 74 million Power Optimizers shipped worldwide
- SolarEdge's Monitoring Platform continuously tracks over 2 million of installations across the globe



Corporate social responsibility

As a global leader in smart energy technologies, SolarEdge is committed to a sustainable world and is in full compliance with international standards on quality and control, ethical conduct, and environmental protection.



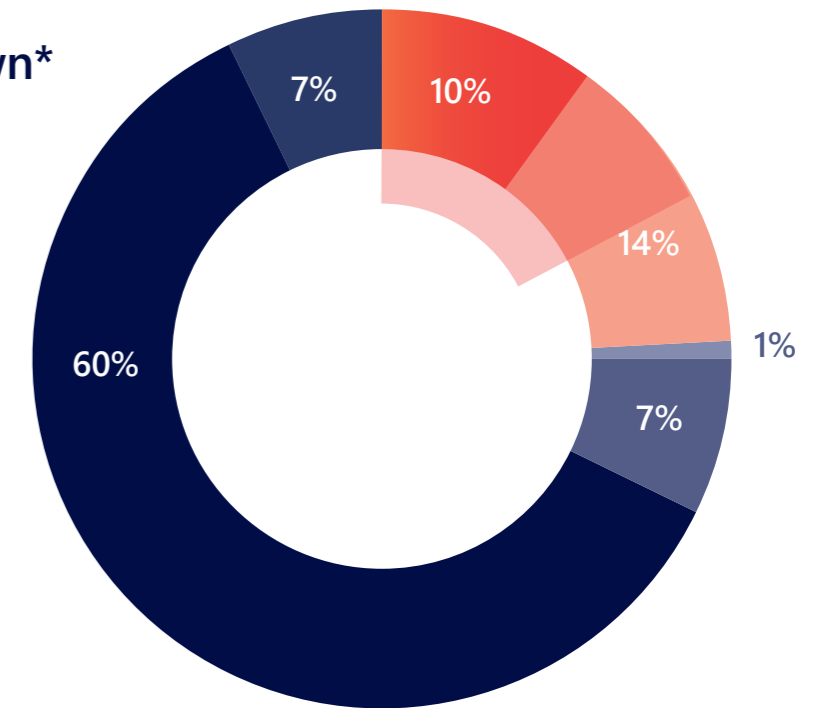
The Importance of Inverter Selection

Commercial rooftop installation cost breakdown*

Inverters account for less than 10% of the system cost but,

- Manage 100% of system production
- Influence up to 20% of system cost
- Control O&M expenses through PV asset management solutions

Therefore, the inverter selection is critical for the long-term financial performance of a PV system as it can maximise energy production and reduce lifetime costs.



- Inverter
- Electrical BOS
- Other
- EPC margin
- PV modules
- Structural BOS

* Based on SolarEdge market analysis, assuming total cost of ~€1/Wp

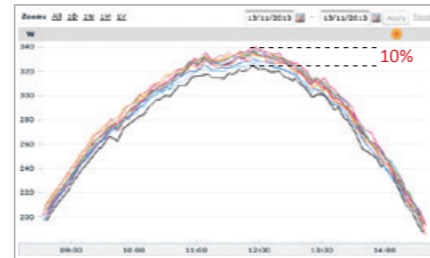
Maximum Energy Yield

Harvest more power from each module

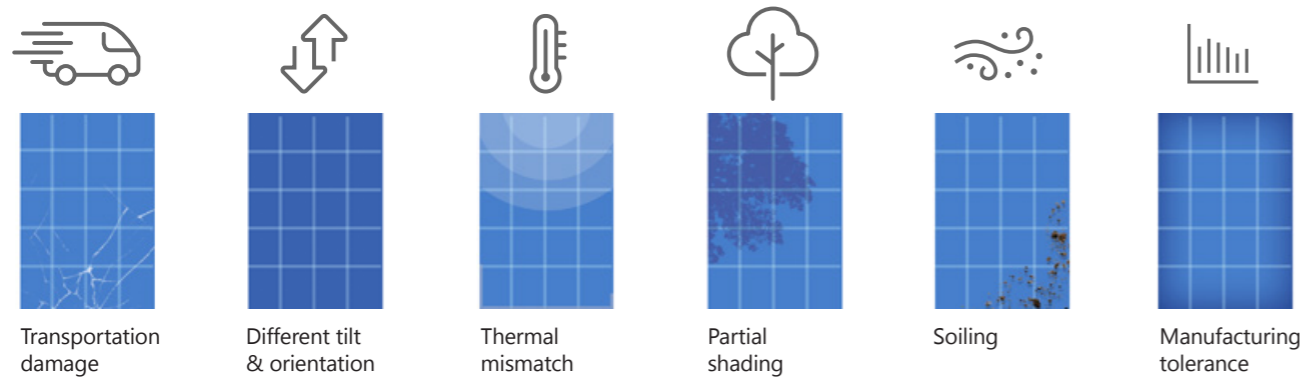
SolarEdge mitigates power losses due to mismatch between modules for maximum power generation from each module. With SolarEdge, weaker modules do not affect the strong ones.

Energy losses due to module mismatch

Screenshot from the SolarEdge Monitoring Platform, showing power curves of 10 adjacent modules in a string with 10% mismatch between highest and lowest performing modules.

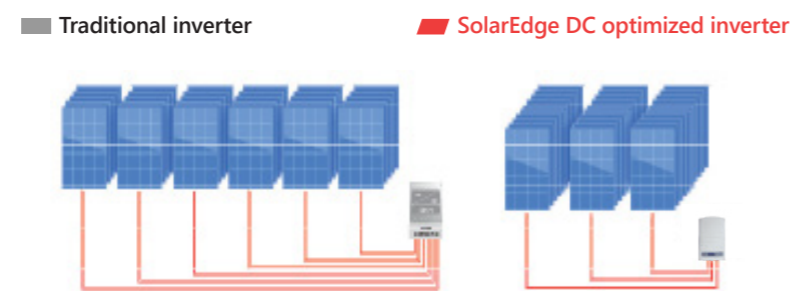


Common reasons for module performance mismatch



Cost saving by design

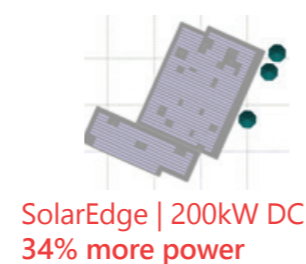
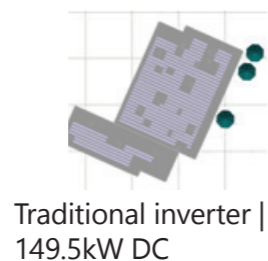
Save 50% on electrical BoS with longer strings
27-60 modules, up to 15kW per string



More energy by design

Increase your system capacity with more modules on the roof

Flexible site design > More modules on the roof > More power



Improved O&M, Advanced Safety

Cost-saving maintenance

- Free real-time remote monitoring at the module, string, and system levels, for 25 years
- Comprehensive analytics tracking and reports of energy yield, system uptime, performance ratio, and financial performance
- Pinpointed and automatic alerts for immediate fault detection, accurate maintenance, and rapid response
- Accurate and remote troubleshooting for fast and efficient resolution with minimal and shortened onsite visits
- The consumption monitoring feature shows data about electricity consumption, PV production, and self-consumption



As part of PV asset management planning, it is important to account for future costs that can impact the return on investment of a PV system. The SolarEdge DC optimized inverter solution effectively minimises these potential costs.

Forward compatibility eliminates expensive stock of spare panel inventory.

- Replacement: SolarEdge allows panels of different power classes and brands in the same string.
- Expansion: New Power Optimizers can be utilised in the same string with older models.

SolarEdge offers 25-year Power Optimizer warranty, 12-year inverter warranty, and free monitoring for 25 years. SolarEdge offers extended warranties at attractive prices.

SolarEdge provides low-cost inverter replacement out of warranty
~40% less than traditional inverters

Products are certified for ammonia resistance - suitable for agricultural areas



Advanced Safety

With millions of photovoltaic (PV) systems installed worldwide, this technology is designed to be relatively safe and reliable. However, as traditional PV installations can reach voltages as high as 1,500VDC, precautions should be taken to ensure the safety of people and assets. With traditional inverters, shutting down the inverter or the grid connection will terminate current flow, but DC voltage in the string cables will stay high for as long as the sun is shining. In addition, electrical arcs, which can result in a fire, create a threat to people and assets in the vicinity of the PV system.

The SolarEdge system provides a superior safety solution for both electrocution and fire risks.

SafeDC

SafeDC is a built-in module-level safety feature which minimizes electrocution risk. To maintain string voltage below risk levels, Power Optimizers are designed to automatically switch into safety mode, in which the output voltage of each module will be reduced to 1V in either of these cases:

- During installation, when string is disconnected from the inverter, or the inverter is turned off
- During maintenance or emergency, when the inverter or AC connection is shut down

The SolarEdge SafeDC feature is certified in Europe as a DC disconnect according to IEC/EN 60947-1 and IEC/EN 60947-3 and to the safety standards VDE AR 2100-712 and OVE R-11-1.

Rapid shutdown capabilities

SolarEdge's optional rapid shutdown feature supports fast DC discharge to safe voltage levels within just 30 seconds, for even greater protection.

Arc fault detection and interruption

SolarEdge inverters have a built-in protection designed to mitigate the effects of some arcing faults that may pose a risk of fire, in compliance with the UL1699B arc detection standard. Currently there is no comparable arc detection standard in the EU and therefore non-US SolarEdge inverters can detect and interrupt arcs as defined by the UL1699B standard. In addition to manual restart, a mechanism for auto-reconnect can be enabled during system commissioning.

Built-in temperature monitoring

Thermal sensors integrated into the system detect faulty wiring that can potentially cause electric arcs.

Favored by global solar insurance companies

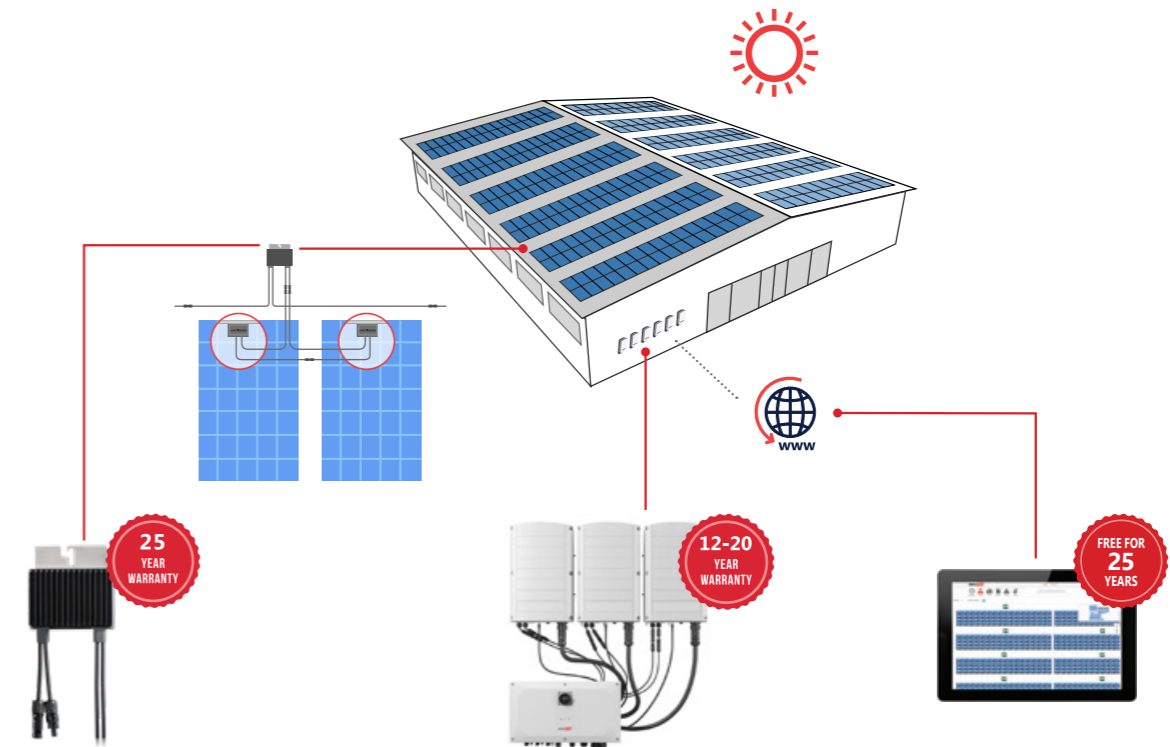
SolarEdge's multi-layered, holistic safety approach make it a favored PV solution of worldwide solar insurance companies. It also meets leading property insurance company FM Global's DS 1-15 engineering requirements.

Note: Safety functionalities described above may vary between different inverter models and firmware versions, and are applicable when inverter is turned on

Watch our Safety video



Commercial System Diagram



1:1 or 2:1 Power Optimizers

- Module-level MPPT - no mismatch power losses
- Strings of uneven length, modules on multiple azimuths and tilts
- SafeDC - designed for automatic module-level safety shutdown

15kW-120kW three phase inverters

- Specifically designed to work with Power Optimizers
- Superior efficiency
- Easy installation, including 2-person install for large capacity models
- Built-in communication gateway
- Simple, step-by-step inverter activation and commissioning with the Inverter SetApp mobile application

Monitoring Platform

- Full visibility of system performance
- Remote, module-level troubleshooting

Performance monitoring

- Calculate site performance ratio and measure environmental conditions, using environmental sensors or a satellite-based service

1.96kW Rooftop System Comparison

Comparison of a 1.96kWp SolarEdge system to an identical system with a traditional string inverter

The system comprises 1,000 × 480Wp modules. One system was designed with 14 x SE100K SolarEdge Synergy technology inverters and 2,040 x P1100 Power Optimizers in a 2:1 configuration. The second system was designed with 28 × 75kW traditional string inverters.

Energy comparison

PVsyst was used to simulate the yield of both systems in year 1 and year 20. The SolarEdge advantage grows with time due to uneven panel aging which increases mismatch between panels.

	Traditional String Inverter	SolarEdge System	SolarEdge Advantage
PVsyst year 1 yield (MWh)	3,237	3,318	2.5%
PVsyst year 20 yield (MWh)	2,789	3,018	8.2%

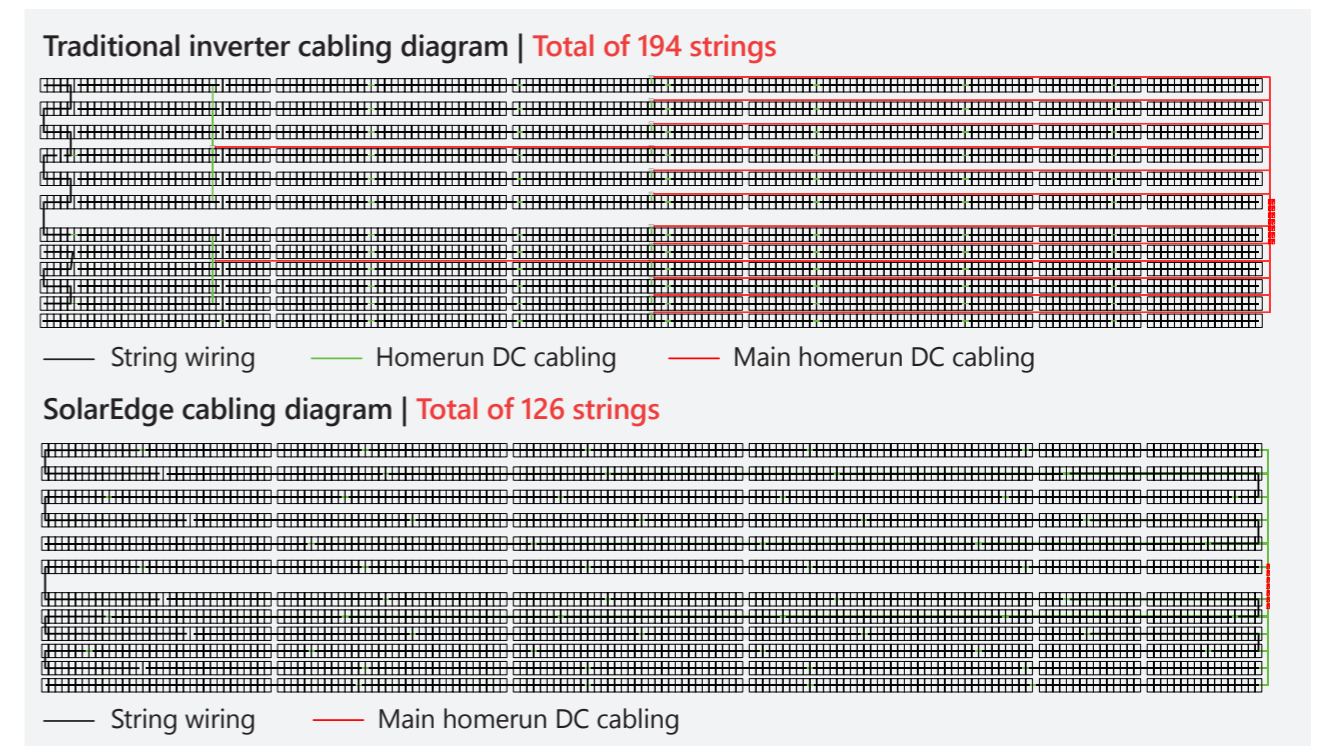


BoS comparison

	Traditional String Inverter	SolarEdge DC Optimized Inverter
DC power (MWp)	1.96	1.96
AC power (MVA)	1.5	1.5
Modules (480Wp)	4,080	4,080
Inverters	28	14
No. of strings	194	126
Modules per string	21	32/33
DC cable CU 1 × 6mm ² (m)	11,782	24,030
DC AL Cable 1 × 95mm ²	6,768	-
DC Combiner Box	28	-
AC cable N2XY 4 × 70mm ²	140	-
AC cable N2XY 4 × 90mm ²	-	70
AC Combiner Box	1	1
MC4 connectors (1 pair)	388	252
Datalogger	1	-
BoS cost	100%	42%
BoS cost saving*		2.6 c/w

* Estimated saving on BoS components based on typical market prices in €

Cabling comparison



25.7GW of Systems Shipped Worldwide

Ground mounts



Farms and agriculture



Industrial rooftops



Public buildings




Carports, floating systems and safety



SolarEdge is a global leader in smart energy technology. By leveraging world-class engineering capabilities and with a relentless focus on innovation, SolarEdge creates smart energy solutions that power our lives and drive future progress.

SolarEdge developed an intelligent inverter solution that changed the way power is harvested and managed in photovoltaic (PV) systems. The SolarEdge DC optimized inverter maximises power generation while lowering the cost of energy produced by the PV system.


Continuing to advance smart energy, SolarEdge addresses a broad range of energy market segments through its PV, storage, EV charging, UPS, and grid services solutions.

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The SolarEdge logo, featuring the word "solaredge" in a lowercase, sans-serif font. The "edge" portion is highlighted with a red underline that extends to the right.