Energy Board and Power Flow in SolarEdge ONE for C&I - Application Note

This application note is intended for installers and site owners.

Revision History

Version 1.0, August 2024: Initial Version

Contents

SolarEdge ONE for C&I overview

SolarEdge ONE for C&I is an orchestrated platform for monitoring and managing PV fleets, storage, EV-charging stations, and load optimization. You can optimize all your energy assets using live data analytics to save costs.

Energy Board overview

The Energy Board dashboard provides detailed insight into your site's energy management. It displays energy distribution in real-time and aggregated energy consumed over a given period.

To open the Energy Board dashboard:

1. Log in to the Monitoring platform.
2. To access your site, click the **SITE NAME**.
   The **ONE for C&I** dashboard is displayed.
3. On the **Main Menu**, click ⚙ .

   The **Energy Board** dashboard is displayed.
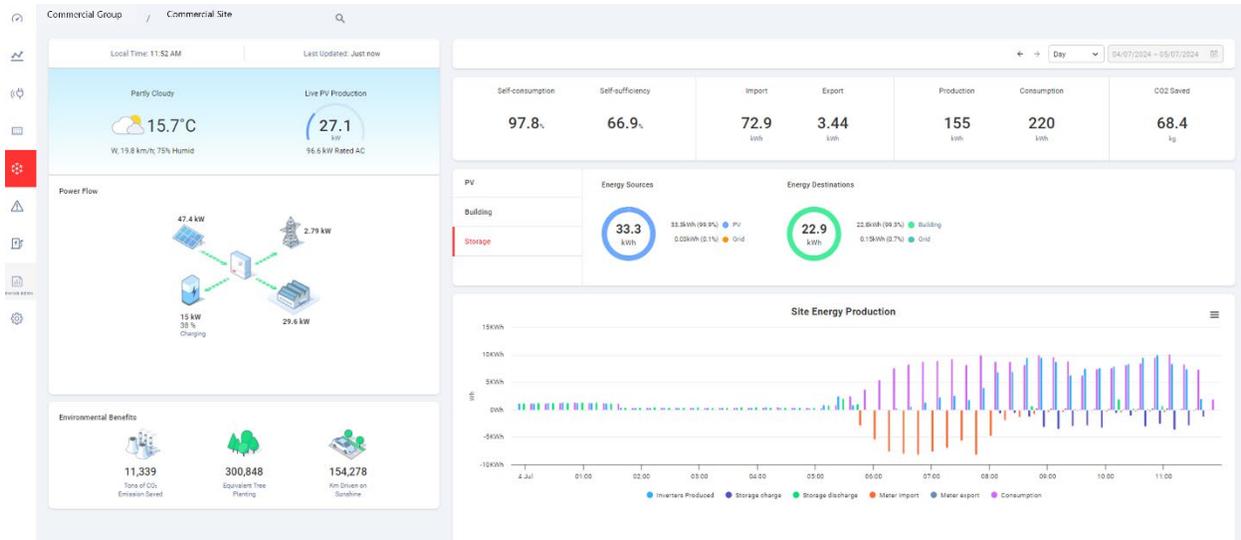
To change your portfolio or site name:

From the **Search** 🔍 dropdown lists, select from the options available, or type in the names of the portfolio and site you are searching for.

Power Flow

Power Flow general information widget
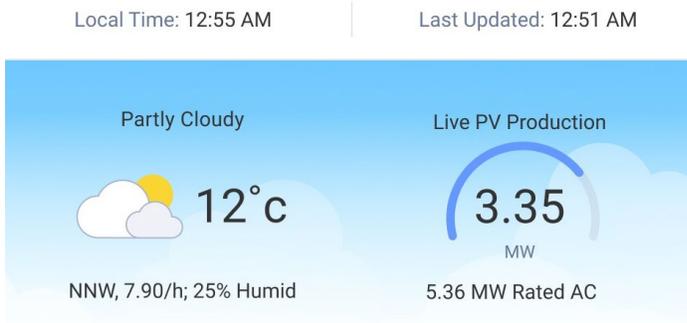
General information on the widget displays the local time, the time the widget was last updated, and the weather. It also displays the live PV power on-site in kW or MW, and the time of the last telemetry update.

Power Flow diagram
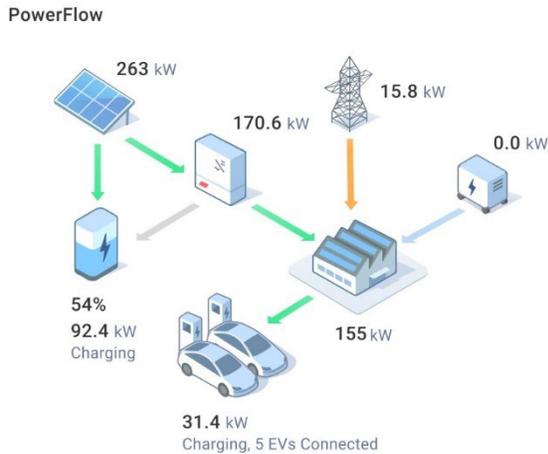
This diagram displays the flow and distribution of power within the site in real time. For each component in the system, you can view the direction of energy flow, such as in, out, and none; all indicated with arrows. Power is measured in MW or kW.

Components of the Power Flow widget:

- Solar DC production
- Inverter power AC
- Building load (non-EV)
- Grid connection
- Storage
- Total EV charging load
- Generator

NOTE
To view a tooltip hover over any of the components.

The following information is displayed in the Power Flow diagram:

- The EV charging status, and total EV charging load.
- Site import, or export of energy from the grid.
- Power and charging status of the batteries.
- Total PV production = Total DC production
- Building load - Total site load including EV consumption.

The arrows on the Power Flow diagram indicate the following:

- **Green**: The energy generated by PV or the battery.
- **Orange**: Imported energy or energy from generators.
- **Orange and green**: Mixed sources of imported energy, for example, PV and grid.
- **Gray**: Energy is not being generated.
- **Arrow direction**: Energy is being generated, imported, or exported, depending on the arrow's direction.

Environmental Benefits

Environmental Benefits

6,488
Tons of CO_2
Emission Saved

19,330
Equivalent Tree
Planting

21,500
Km Driven
on Sunshine

> **NOTE**
> Users can change their settings, for example set kilometers or miles, in **User Settings>Display Units.**

Your environmental benefits are calculated on your PV production and the CO_2 factor on the grid:

Energy Board

Energy Board KPIs

Self-consumption	Self-sufficiency	Import	Export	CO_2 Saved	EV Charged	Production	Consumption
50 %	37 %	106.4 kWh	43.6 kWh	11.7 kg	65 kWh (~390 km)	74 kWh	190 kWh

Energy Board KPIs enable you to assess and track the efficiency, reliability, and productivity of the site's operations. Based on the information in the KPIs, you make informed decisions and identify areas for improvement. For further information on all KPIs, hover your cursor over the KPI to view a tooltip.

> **NOTE**
>
> KPIS are displayed according to the devices on-site, if there are no meters on site, only Production and CO_2 are displayed.

The following are descriptions of KPIs in Energy Board:

KPIs	Description
Self-consumption	The percentage of solar energy consumed at the site.
Self-sufficiency	The percentage of consumption from solar energy.
Import	The amount of energy consumed from the grid, as measured by the meter in kWh/MWh.
Export	The amount of energy exported back to the grid, as measured by the meter in kWh/MWh.
CO_2 Saved	The amount of carbon dioxide emissions saved by generating electricity power from PV Production.
EV Charged	The amount of energy delivered to Electric Vehicles (EVs) in km/miles.
Production	The amount of energy produced from the solar panels (AC).
Consumption	The amount of energy consumed through the energy meter.

Energy Sources and Destinations
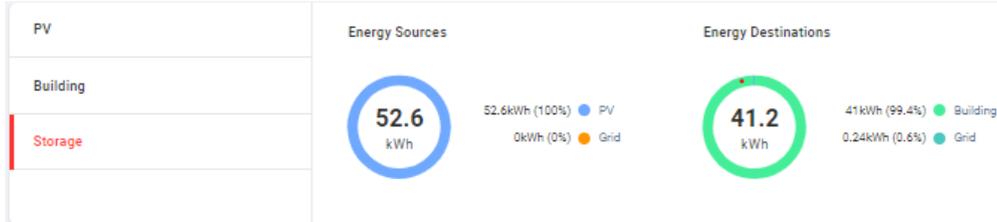
The Energy Sources and Energy Destinations section displays a detailed view and breakdown of energy usage and energy distribution throughout the site, from its source to destination.

> **NOTE**
>
> For a PV-only site with no meter, energy sources and energy destinations are not displayed.

To see where your site's energy is distributed, click any of the following tabs on the chart:

Tabs	Description
PV	Displays the percentage of energy produced by the PV system that powers building loads, EV charging, storage, or export to the grid.
Building	Displays where the energy for the building loads is sourced, for example, PV, Storage (battery), or the grid, and displays where the energy is targeted.
Storage	Displays the summary of the energy that was sourced from solar or imported from the grid. It also determines the destination of the energy storage: building loads, EV charging, or grid export.

Tabs	Description
EV	Displays the percentage of EV charging energy sourced from solar, battery, or the grid.

Site Energy Production chart
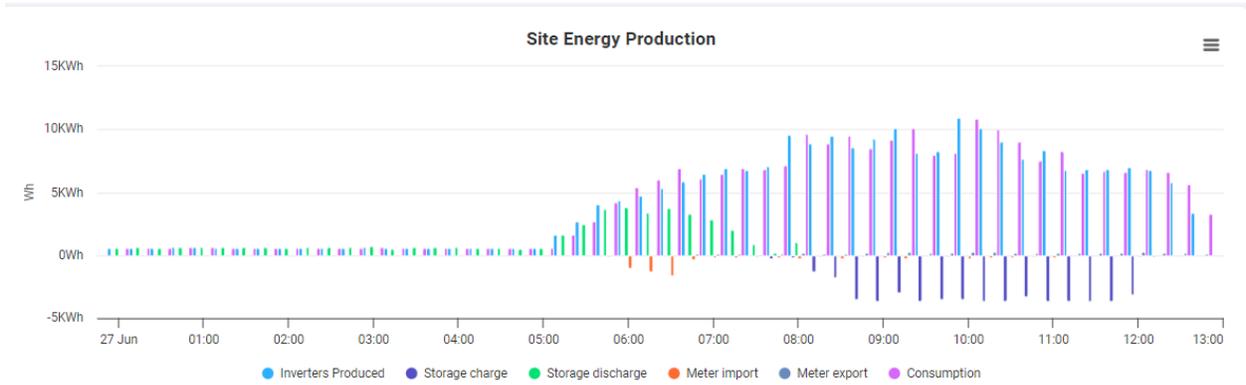
The Site Energy Production chart enables the user to track energy production and view how much energy an inverter is producing, meter imports, and how much energy is consumed on-site.

To change the period of time:

From the Time field on the dashboard, select Day, Week, Month or Year.

All parameters are displayed by default. To deselect a parameter on the chart:

Click the parameter.

To reselect the parameter.

Click the parameter.

You have the option to do the following:

To zoom into the chart:

Click and drag your cursor along a selected section of the chart.
The selected section is displayed.

To reset the chart:

Click **Reset zoom**.

To enlarge or download the chart:

Click ☰ .

To view additional information.

Move your cursor along the chart.