

Application Note – Europe
SolarEdge Inverters –
Automatically Pause
Production due to Negative
Utility Rates

Version 1.4

June 2025

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Revision history

- Version 1.4. June 2025: Added supported countries.
- Version 1.3. April 2025: Added support for zero export when export rates turn negative. Added updated screens for pause production in mySolarEdge.
- Version 1.2, July 2024: Updated firmware versions
- Version 1.1, June 2024: Updated compatible inverters

Overview

Having a SolarEdge system is an excellent way to save money and reduce your environmental footprint. However, in regions where electricity rates can become negative during certain periods, SolarEdge system owners must optimize their energy consumption and grid interaction.

A SolarEdge system can help with the following:

- When import rates are negative, our system helps to manage your loads.
- When export rates are negative, our system protects you from paying for exports.
- When rates go back to normal, our system adjusts and keeps saving you money.

This application note outlines how to configure your SolarEdge inverter, using mySolarEdge, to pause production during negative utility rates, thus ensuring a cost-effective operation.

Background

Electrical utility companies in certain countries offer dynamic electricity rates. This implies that both import and export rates can become negative. Under these conditions, grid operators pay consumers for using power from the grid and penalize consumers if they export power to the grid when export rates are negative. To maximize savings during these periods, it's beneficial for system owners to pause solar inverter production.

Supported countries

The following countries support Negative Rate Optimization (NRO).

Negative Rate Optimization (NRO)
Austria
Belgium
Bulgaria
Czech Republic
Denmark
Estonia
Finland
Latvia
Lithuania
Norway
Poland
Slovakia
Slovenia
Spain
Sweden
The Netherlands

Compatible inverters

Pause production V1 works with all LCD or SetApp-enabled single and three-phase residential and commercial inverters with firmware versions 3.x.x, 4.x.x or higher.

Pause production V2 is only supported for the following FW versions:

- Residential inverters support pause production V2 for firmware version 4.23.22.
- Commercial inverters support firmware version 4.23.520.

Prerequisites

Before implementing the procedure outlined in this application note, ensure that you meet the following prerequisites:

- A SolarEdge PV system is installed and commissioned.
- Install a SolarEdge energy meter to operate version 2 of Pause Production.



NOTE

The energy meter must be directly connected to the inverter.

- All inverters are required to run the minimal supported Firmware version.
- The latest version of the mySolarEdge application is installed on your smartphone or tablet.
- You have a working knowledge of mySolarEdge.
- You are in a country in Europe that offers day-ahead dynamic rates.



IMPORTANT

- When production is paused, the installed PV system does not supply AC power to the site.
- DC-coupled devices continue to operate via the DC bus. For example, a DC-coupled battery can continue charging, even though the inverter is not producing AC power.
- The pause production feature is also available for PV-only sites.
- The pause production feature does not overwrite other backup or battery mode settings. It runs in parallel with other settings, and pauses production when electricity rates are negative.

Pause production or zero export

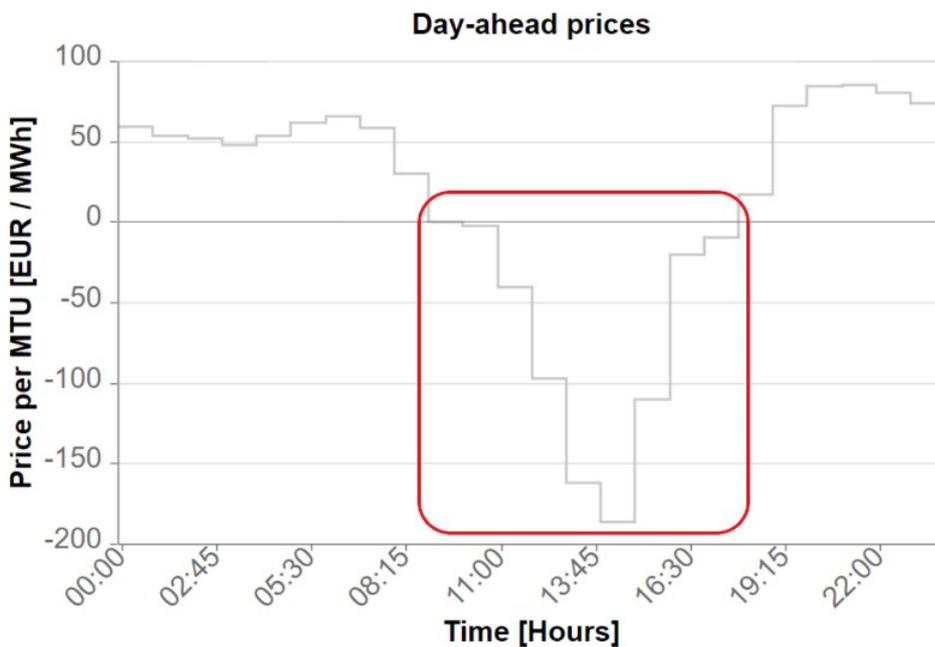
To take advantage of the fact that grid operators make available day-ahead dynamic rates, SolarEdge can automatically pause or regulate production while the rates are negative.

The following table displays pause production operating modes:

Export rate	Import rate	Pause production V1	Pause production V2 ¹
Negative	Positive	Stop production	Zero export
Negative	Negative	Stop production	Stop production

¹Pause production V2 requires an import/export meter and the latest firmware version.

Typical day-ahead dynamic rate charts are displayed in the following image. The highlighted areas indicate the times and the duration when you can expect negative prices for imported energy.



! **IMPORTANT**

Site owners are fined for exporting energy to the grid under negative export rates.

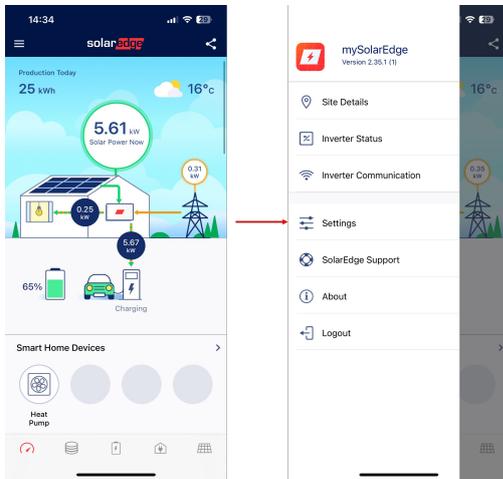
Activate pause production in mySolarEdge

The following procedure enables you to view and set:

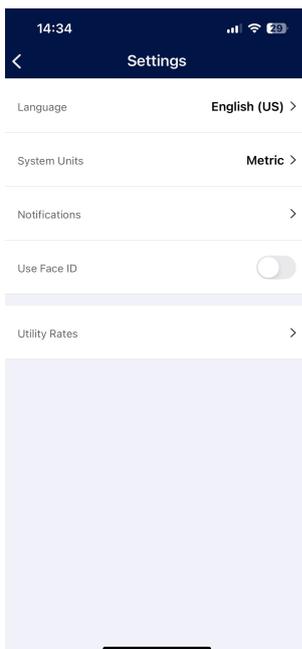
- [Import rate \[9\]](#): Cost of imported energy
- [Export rate \[11\]](#): Cost of exported energy
- [Effective From \[13\]](#): Start date of the contract for bill-saving calculations
- [Negative Rate Optimization \[14\]](#) (NRO): Pause production when export rates are negative
- [Daily Rate graphs \[15\]](#): Visualizes hourly rate changes over 24 hours

To activate pause production:

1. Open the mySolarEdge application.
2. Where there are multiple sites, search for and select the applicable site.
3. Tap menu  > **Settings**.



The **Settings** screen is displayed.



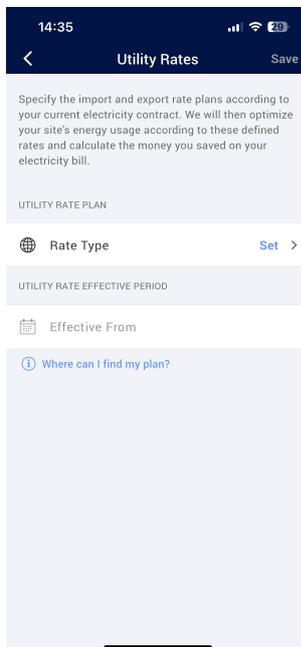
4. Select **Utility Rates**.

**NOTE**

The Utility Rates screen gradually displays the following information, depending on your configurations:

- Import Rate Plan
- Export Rate Plan
- Utility Rate Effective Period
- Dynamic Rate Settings, including Negative Rate Optimization (NRO) and Additional Fees settings.

The **Utility Rates** screen is displayed.

**NOTE**

Dynamic rates are based on EPEX or ENTSO-E Aggregator rates, depending on your location.

**NOTE**

The selection of import and export rate plans are dependent on specific in-country parameters.

Import rate plan

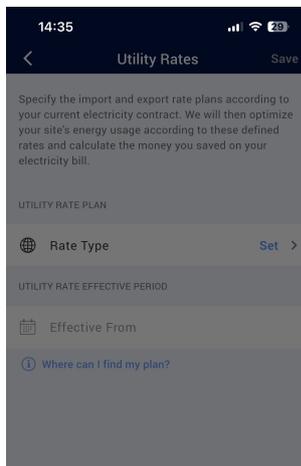


NOTE

- You can find the additional fee amounts on your electricity bill or by contacting your electricity supplier. Your electricity bill displays an example base rate and fees to help you decide what additional fees you want to add to your import/export utility rate plan.
- Utility rates are provided by EPEX or ENTSO-E.
- Additional fees are added so you can determine your actual total fees, and when we should activate pause production.

1. In **UTILITY RATE PLAN**, tap **Set**.

Dynamic Rate Type is displayed.



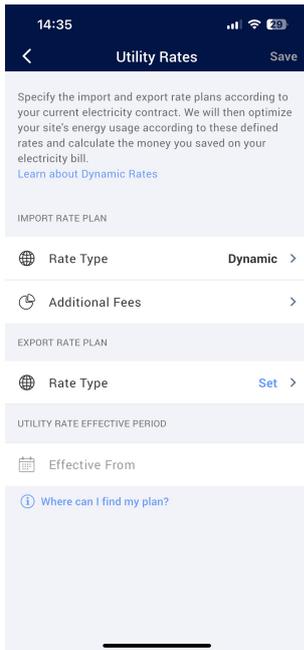
Rate Type

Dynamic
Day-ahead rates based on wholesale market prices

Flat
Rates remain the same along the day, for all days

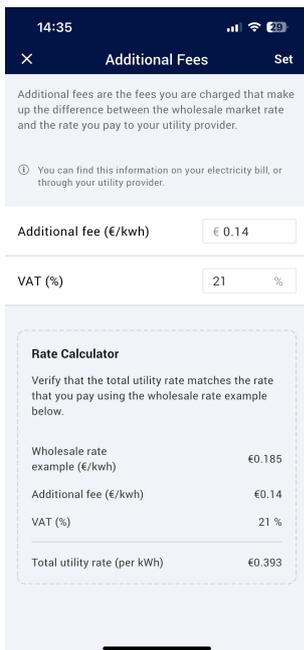
2. Tap **Dynamic**.

The **Utility Rates** screen is displayed.



3. Tap **Additional Fees** >.

The import **Additional Fees** screen is displayed.



4. In the **Additional fee (€/kwh)** field, type your additional import fee. Your Additional Fees are configured and On. Tap **Set**.



NOTE

Your import and export fees can be set as the same, or different.

Export rate plan

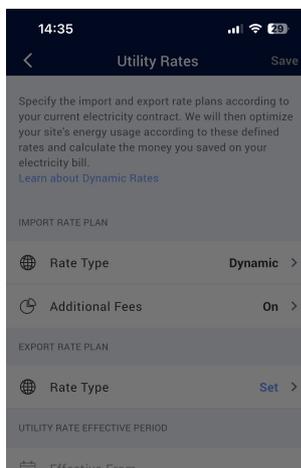


NOTE

- You can find the additional fee amounts on your electricity bill or by contacting your electricity supplier. Your electricity bill displays an example base rate and fees to help you decide what additional fees you want to add to your import/export utility rate plan.
- Utility rates are provided by EPEX or ENTSO-E.
- Additional fees are added so you can determine your actual total fees, and when we should activate pause production.

1. In **EXPORT RATE PLAN**, tap **Set**.

Dynamic Rate Type is displayed.



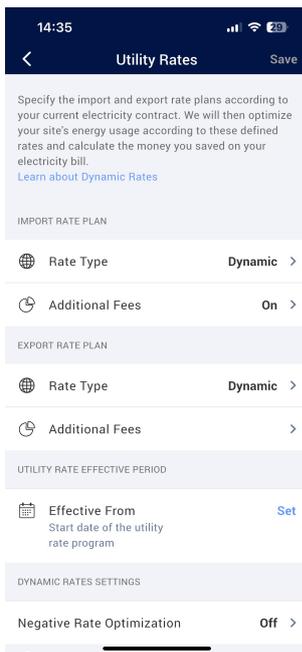
Rate Type

Dynamic
Day-ahead rates based on wholesale market prices

Flat (Feed-In Tariff)
Rates remain the same along the day, for all days

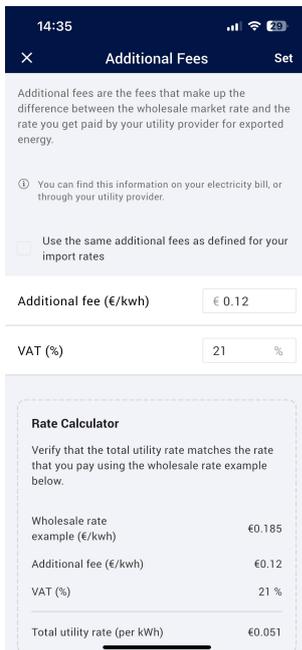
2. Tap **Dynamic**.

The **Utility Rates** screen is displayed.



3. Tap **Additional Fees** >.

The export **Additional Fees** screen is displayed.



4. In the **Additional fee (€/kwh)** field, type your additional export fee. Your additional export fee is configured and **On**. Tap **Set**.



NOTE

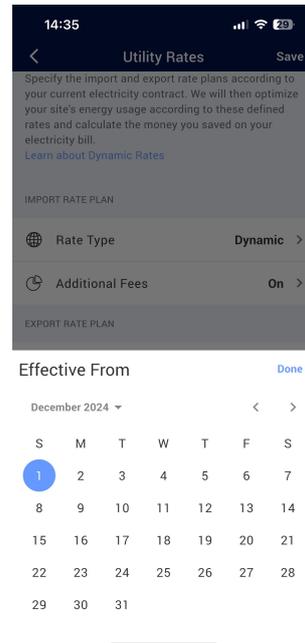
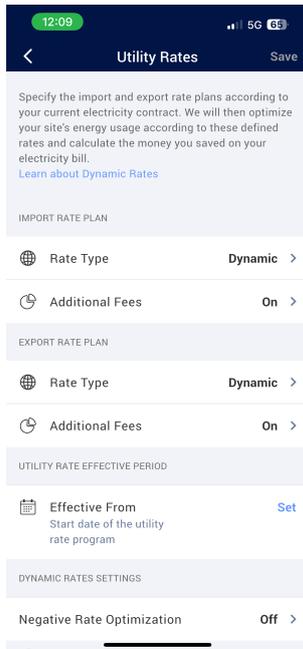
Your import and export fees can be set as the same, or different.

Effective From

When you have set your import and export rate plans you can select an Effective From date on the calendar.

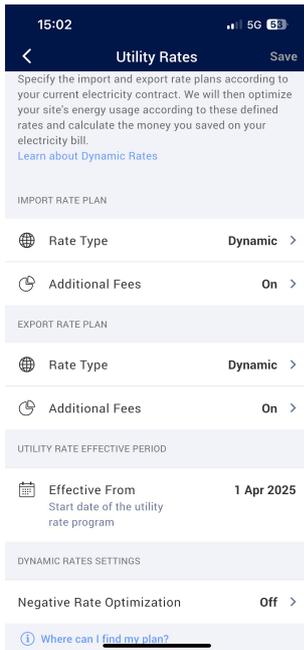
To set an Effective From start date:

1. In **UTILITY RATE EFFECTIVE PERIOD**, tap **Set**. The Effective From calendar is displayed.



2. Select your **Effective From** date.
3. Tap **Done > Save**.

Your start date for the utility rate program is saved.



Negative Rate Optimization

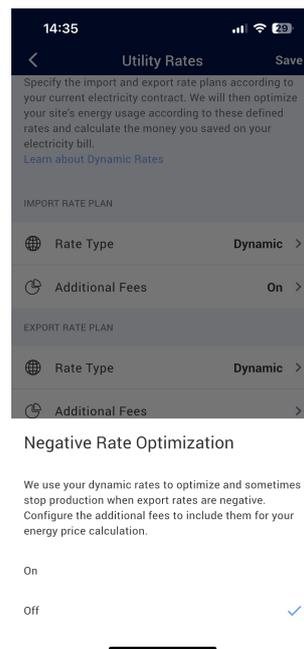
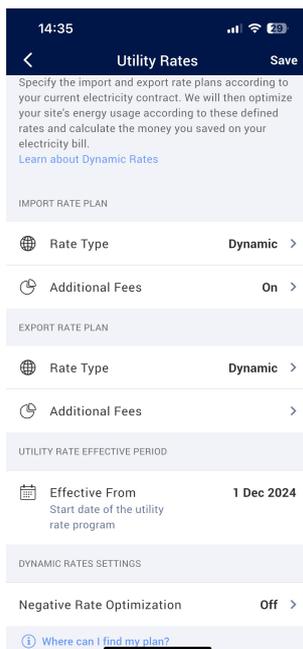


NOTE

Negative Rate Optimization (NRO) is the same as Pause Production. For the following procedure, we refer to Negative Rate Optimization.

To set Negative Rate Optimization:

1. Under **DYNAMIC RATES SETTINGS**, tap **Off**. This is the default setting. NRO is displayed.



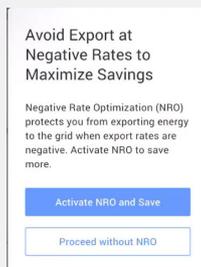
2. To switch on your NRO, tap **On** > **Save**.

NRO is now set.



NOTE

If you leave NRO Off and tap **Save**, the following pop-up window is displayed.



To proceed with NRO, tap **Activate NRO and Save**.



NOTE

Dynamic rates are based on EPEX or ENTSO-E Aggregator rates, depending on your location.



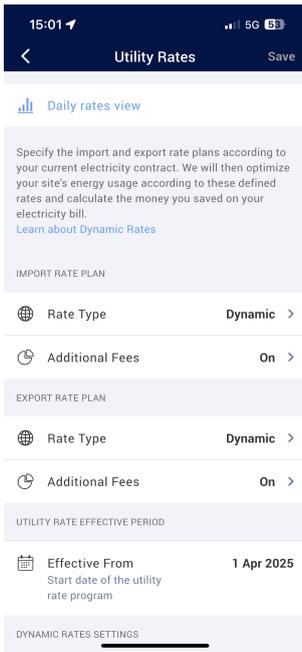
NOTE

The selection of import and export rate plans are dependent on specific in-country parameters.

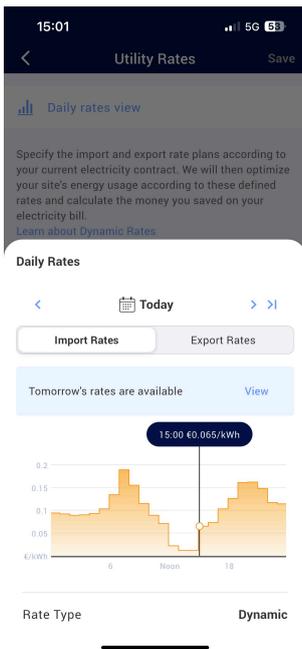
Daily Rate graphs

To view your daily rates on a graph:

On the **Utility Rates** screen, tap **Daily rates view**.



The **Daily Rates** graph is displayed.



You have the option to view the following on the graph:

- **Import Rates:** Tap **Import Rates**
- **Export Rates:** Tap **Export Rates**
- **Change the date:** Select a date in the calendar, or tap **<** **>** to move the date forward or back.



Bidding zones

Some countries have divided their area into separate Bidding Zones. These zones may have slightly different import or export rates compared to other Bidding zones. If this feature is available in your country, it appears in the Utility Rates screen where you may select your Bidding zone in place of the default value.

