EM-Power Europe

Munich, May 7–9, 2025

TREND PAPER: BENEFITS OF PROSUMER MARKET ACCESS IN GERMANY

Munich/Pforzheim, March 2025 – The number of prosumers using their PV installations to simultaneously produce and consume electricity is growing fast. With a total capacity of over 40 gigawatts (GW), these "producer-consumers" are already making a significant contribution to the energy system. For example, their feed-in could cover up to 50 percent of the load at midday during the summer in Germany – a very welcome development indeed. But the EEG feed-in tariff's rigid framework has so far prevented prosumers from operating in a way that benefits the system, and from flexibly adjusting their power consumption according to market conditions. The challenge now lies in facilitating prosumer access to the electricity market and tapping into their potential to benefit the system as a whole. This trend paper explores how this can be achieved and sets out the advantages of integrating residential storage systems.

Many electronic household appliances can be controlled using digital energy management systems, enabling users to shift consumption to periods when their own solar installation is generating electricity. Fortunately, residential storage systems are now the standard among prosumers. It is hard to find an installation in Germany that is not linked to a storage system with at least a few kilowatt hours of capacity. Storage systems enable further flexibilization when it comes to demand, as periods without any PV generation can be bridged. During the day, storage systems are charged with electricity from the solar installation and this electricity is then released during the evening and overnight, when the PV installation is no longer generating electricity. So far, so simple. However, the full flexibility potential is not being utilized in Germany, as storage systems that are connected to a PV installation and subject to the EEG feed-in tariff are not permitted to draw any grid-supplied electricity. They are only allowed to feed into the grid, and they will lose their EEG feed-in tariff status if they breach this regulation. This means that the potential to help the grid remains untapped.

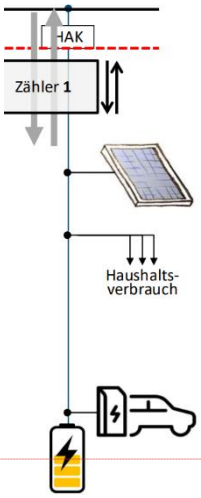
1.6 million residential storage systems go unused during winter

In Germany, there are currently around 1.6 million residential storage systems with a total storage capacity of approximately 15 GWh. 2024 alone saw the installation of new residential storage systems with a capacity of around three GW. But these are still decoupled from the electricity market, which means that they go largely unused during the winter months when solar irradiation is low. During the summer, on the other hand, they cannot store any excess photovoltaic solar electricity from the grid.

In that regard, residential storage systems could also benefit the electricity market, as well as optimizing self consumption. In turn, the system owners can make money by providing flexibility. The possibilities for this are now being created, and it is about time! From 2025, suppliers must also offer variable tariffs. A suitable pricing structure would allow prosumers to adjust both their power consumption and their supply according to market conditions, and maximize their revenue. New regulations for prosumer marketing are also under discussion. Until now, prosumers have only been able to make profits if they have opted for direct marketing.

Flat fee model: Direct marketing should be easy for prosumers

A look at the current bill (Parliamentary Paper 20/14235) shows that it should be made easier for prosumers to opt for (subsidized) direct marketing. That is why the legislator has come up with a simple, less bureaucratic suggestion in the form of the flat fee model. This would allow PV installations with connected storage systems to feed in and draw grid-supplied electricity. The operator then receives an EEG feed-in tariff, whereby every kilowatt of installed capacity from the solar installation can be EEG-compensated up to 500 kWh per year. Electricity over and above that amount can be sold via a direct marketer. Since it is assumed that all amounts over 500 kWh are temporarily stored gray electricity from the grid, the prosumer will be reimbursed for all statutory levies, grid charges and much more for these amounts. In this model, it does not matter whether the electricity comes from the grid, from e-cars or from roof-mounted PV installations. The system operator does not require any complicated metering concept; for this to work, all they need is a bi-directional meter at the connection.



As a result, those who were purely consumers in the past, and who have now installed a PV system with a battery storage system, a wallbox or other electrical devices, are not just producers and consumers. The sheer number of these installations means they can also make a big impact on the entire electricity system.

Kommentiert [BP1]: Fehlt hier noch „inklusive Speicher" ?

EM-Power Europe, and the parallel events Intersolar Europe, ees Europe and Power2Drive Europe, will take place from May 7–9, 2025 as part of The smarter E Europe, Europe's largest alliance of exhibitions for the energy industry, at Messe München.

Further information on this topic can be found at the following events and exhibitors:

EM-Power Europe / Intersolar / Power2Drive Conference

Truly Smart Solar Prosumers: Managing Energy Bills & Supporting the Grid
Tuesday, May 6, 2025, 11:30am - 01:00pm
ICM München, Room 14B

Smart Electrification of Demand
Tuesday, May 6, 2025, 2:30pm - 04:00pm
ICM München, Room 13A

How to Best Leverage EV Flexibility with Smart and Bi-directional Charging?
Tuesday, May 6, 2025, 2:30pm - 04:00pm
ICM München, Room 13B

The smarter E Forum

Optimising Grids Through Demand-Side Flexibility
Thursday, May 8, 2025, 01:00pm – 02:00pm
Messe München, Hall B5, Booth B5.550

Turning energy flexibility into money
Friday, May 9, 2025, 12:00pm – 01:00pm
Messe München, Hall B5, Booth B5.550

HEMS and their pivotal role in modern energy management and grid stability
Friday, May 9, 2025, 1:30pm – 02:30pm
Messe München, Hall B5, Booth B5.550

EM-Power Europe Exhibitors: www.em-power.eu/exhibitorlist
Product categories: Energy Management / Flexibility Management

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