SANDY FORECAST SERVICE:

Photovoltaic Surplus Forecast

SANDY
Energized Analytics

An innovation of EnBW

MORE INTELLIGENCE FOR YOUR ENERGY STORAGE THROUGH PROGNOSIS-BASED CHARGING

The law limits the infeed of solar energy to up to 70 % of the installed system output. Anyone who wants to make use of funding through the KfW is obligated to limit the feed-in power to a maximum of 50 % of the installed PV output. Further intensification of these laws is not improbable.

This requires intelligent solutions from the system and component suppliers that consume this energy locally or store it intermediately. The SANDY **"Photovoltaic Surplus Forecast"** makes the energy storage fit to face this challenge – entirely without the use of additional measuring technology!

"The current statutory framework conditions require intelligent solutions from the system and component suppliers to consume energy locally or store it intermediately."

PRODUCT BENEFITS IN DETAIL

Today, intelligent power stores have the capability to store the power in such a way that throttling of the system at 70 % of the installed PV output as per statutory directive by the EEG practically does not become necessary. The basis for this is the knowledge of the consumption of the household and the photovoltaics production. Cost-intensive measuring technology is used for this purpose.

However, the costs for the use of such measuring technology correspond to approximately the monetary advantage that can be generated by increasing the self-consumption and/or by avoiding losses with excess production.

The SANDY **"Photovoltaic Surplus Forecast"** is carried out without the use of additional measuring technology. Data from the battery and the bidirectional counter is sufficient to predict the customer-specific PV excess. The Photovoltaic Surplus Forecast makes an anticipatory and intelligent battery charge possible for all controllable energy stores.

"The SANDY 'Photovoltaic Surplus Forecast' is carried out without the use of additional measuring technology. Data from the battery and the bidirectional counter is sufficient to predict the customer-specific PV excess."
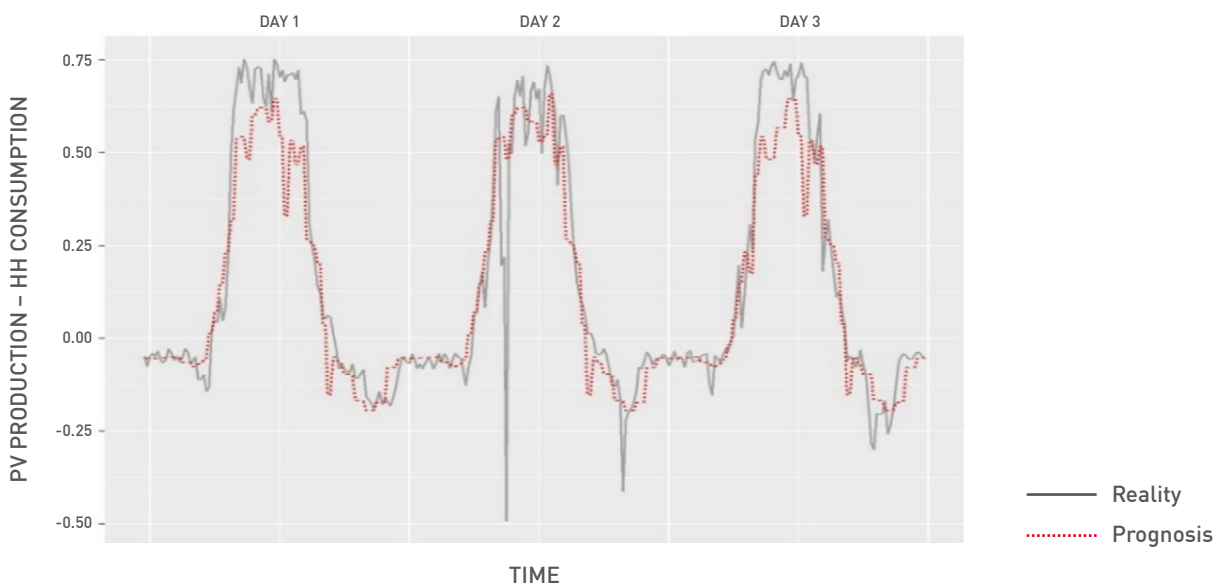

Fig.: Demonstration of the prognosis quality on the example of three consecutive days

TARGET GROUP

> Battery manufacturers, manufacturers of PV systems, manufacturers of control units for PV systems

ADDED VALUES FOR YOUR CUSTOMERS

> contemporary product in compliance with all statutory requirements
> Prevention of throttling losses by integration in the energy storage system
> high economic efficiency of the overall system

ADDED VALUES FOR YOUR COMPANY

> intelligent and innovative enhancements for your products
> new functionality without the use of an additional sensor system
> Increase of the economic efficiency
> quick and easy integration
> all of the benefits of "Software as a Service", for instance high availability, automatic updates, no maintenance expense
> no transmission of personal data necessary

"Optimal availability, automatic updates and no maintenance expense thanks to the software as a service."

TECHNICAL DETAILS

> Cloud service with support for temporary Offline operation
> Communication via state-of-the-art RESTful API
> Input:
  – quarter-hourly the energy quantities in/from the battery and in/from the public network (bidirectional counter)
  – Postal code (location of the PV system)
> Output:
  – Prognosis of the PV excess in 15 minute intervals for the next 27 hours
> Security:
  – encrypted data transmission via HTTPS
  – authorization via individual API key
  – reliable operation in the Microsoft Azure Cloud
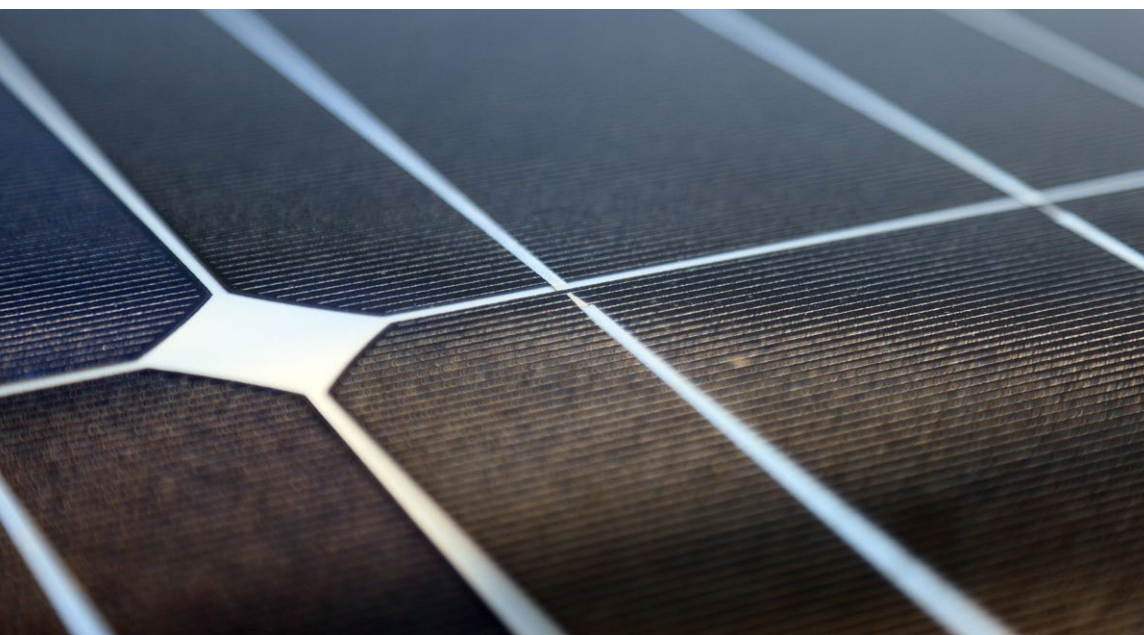
"We provide the prognosis of the PV excess in 15 minute intervals for the next 27 hours."

USE SCENARIO

A customer has a PV system and a battery. It is a sunny workday.

Early charging

-30%

"Due to the 70 % regulation, up to 30 % of the production is lost unused."

Without knowledge of the PV excess production that will occur in the next few hours, it suggests itself to feed the power that is not required for the self-consumption into the battery until it fully charged. The battery will be charged fully until 1:00 pm. The sun continues to shine very bright until 6:00 pm while very little power is consumed. However, because the battery was already fully charged at 1:00 pm, the power that was produced in the meantime has to be fed into the network. Due to the 70 % regulation, a share of the produced energy is lost unused. The PV system and the battery are not used with optimal economic efficiency.

Intelligent charging

"The battery is fully charged in the evening in this case as well, no energy was lost throughout the day."

In this example, the prognosis of the PV excess makes an anticipatory charging strategy to charge the energy storage possible. This occurs by that the excess is fed into the network until 1:00 pm, which keeps sufficient capacity open to take in the peak over 70 % in the energy storage. No energy is unnecessarily lost and can instead be used efficiently for future self-consumption. The battery is fully charged in the evening in this case as well, no energy was lost throughout the day.

If the prognosis for the PV production changes on the next day, it will be taken into account in the charging strategy of the battery storage.

WE ARE HAPPY TO ASSIST YOU!

Take advantage of the innovative SANDY concept and contact us today!
We look forward to your inquiry:

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"We look forward
to your inquiry!"

SANDY TURNS DATA INTO VALUES

SANDY Energized Analytics supplies companies with innovative, cloud-based analytics as a service solution. We deliver realtime data based decision-making recommendations to our customers for the continuous increase of the value of their products, services and processes – quick, precise and safe. Our young dynamic team unites the functional competence from IT expertise and business model development and shares the passion to discover great things in small things. From complete solutions to an individual Carefree Service Package, we have the perfect answer to your digital challenge – for your decisive competitive edge.

New perspectives for your business

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