

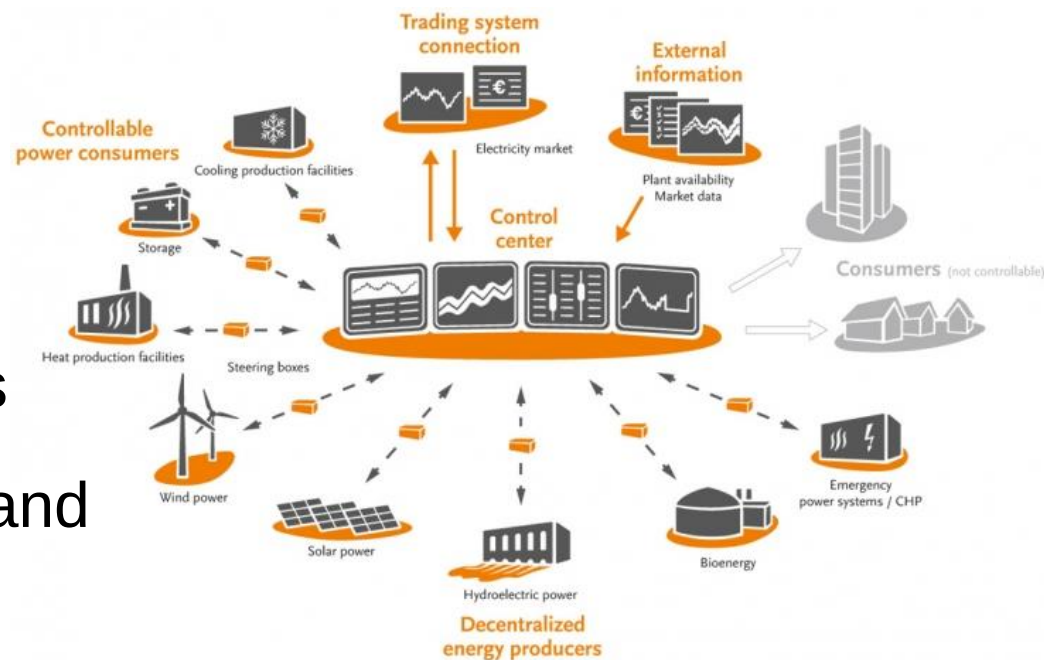
Forecasting and Market Participation for VPPs

Overview and Insights into Solar Power Forecasts

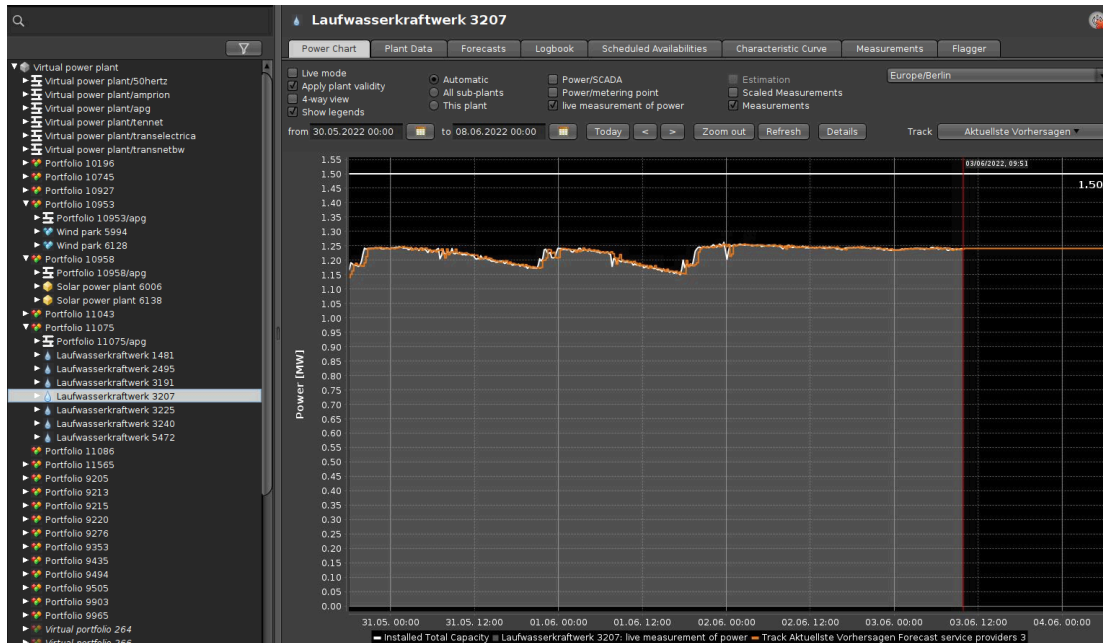
Lars Rohwer
ESIG
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The Virtual Power Plant

- Up to now, VPPs have been used mainly by traders
- But: VPPs become more and more important for system operators
- Regular control rooms aren't designed for communication with many small plants
- VPPs can fill this gap and act like a stand by control room



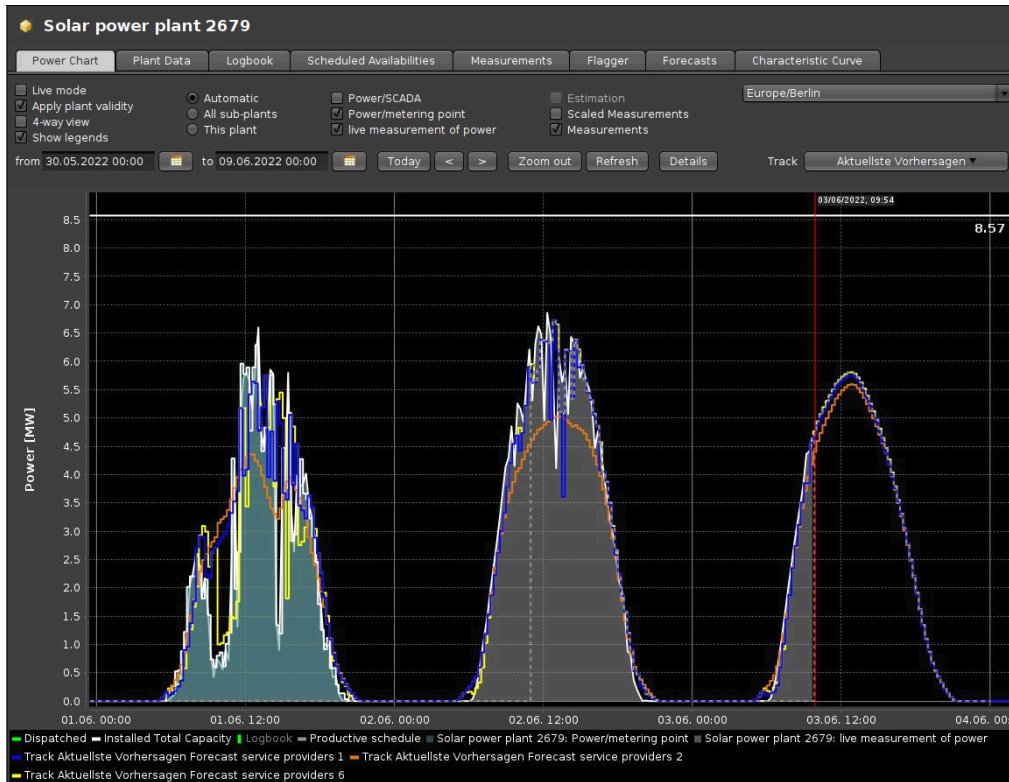
The Virtual Power Plant - Data



- Connecting different kinds of generators, storage systems and load

- Measurements: live, metering point and/or SCADA
- Real-time plausibility check
- Availability information center

The Virtual Power Plant - Forecasts



- Direct marketing of renewable energies
- Remote controlling of installations

- Different forecasts can be displayed:
 - With adaption to online measurements
 - Combinations of different providers
 - Meteorological power forecasts

Solar Power Forecasts

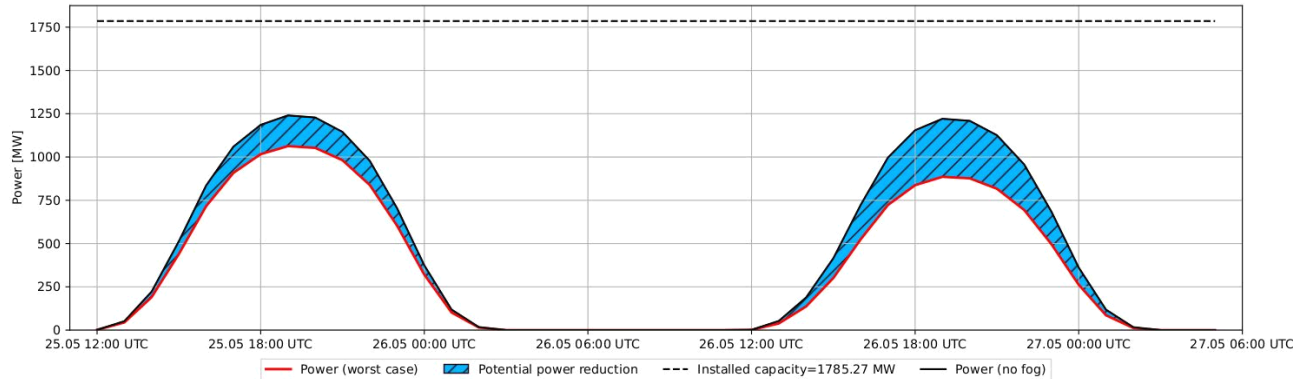
Individual plants

- Measurements of the plant
- Forecast for an individual plant (location)
- Specific master data

Behind-the-meter

- Estimates of power production (cooperation with companys for photovoltaic inverters)
- Forecast for x plants in a region
- Installed capacity based on estimates

Solar Power Forecasts – new Features



- Potential power reduction due to fog in the ID and DA
- Snow/snow-free adaption (meteorological data, measurements, ...)
- Integration of solar facility with integrated battery
→ Battery only charges from solar

Thanks for your attention!

Lars Rohwer
lars.rohwer@energymeteo.de

