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Adapt & Play Holistic Cost Effective and user-friendly Innovations

with high replicability to upgrade smartness of existing buildings with legacy equipment

Self-Consumption Optimization Service

User Guide

This project has received funding from the European Union's Horizon 2020 Framework Programme for Research and Innovation under grant agreement no 893079.

Introduction

The Self-Consumption Optimization service of the Phoenix platform provides to its users useful recommendations on how to exploit better their EV chargers and/or battery in order to achieve lower consumption of energy from the grid when there is a photovoltaic present.

The available optimization use cases are:

- PV with EV chargers
- PV with battery
- PV with battery and EV chargers

There is an extra service provided to the users of the KAMA pilot, regarding blackout support. Given that the building manager is aware of a possible blackout at the next day, he/she can trigger the service during the previous day.

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PV with EV charger

First optimization solution for demos with PV and EV charger (with possibility to charge an EV)

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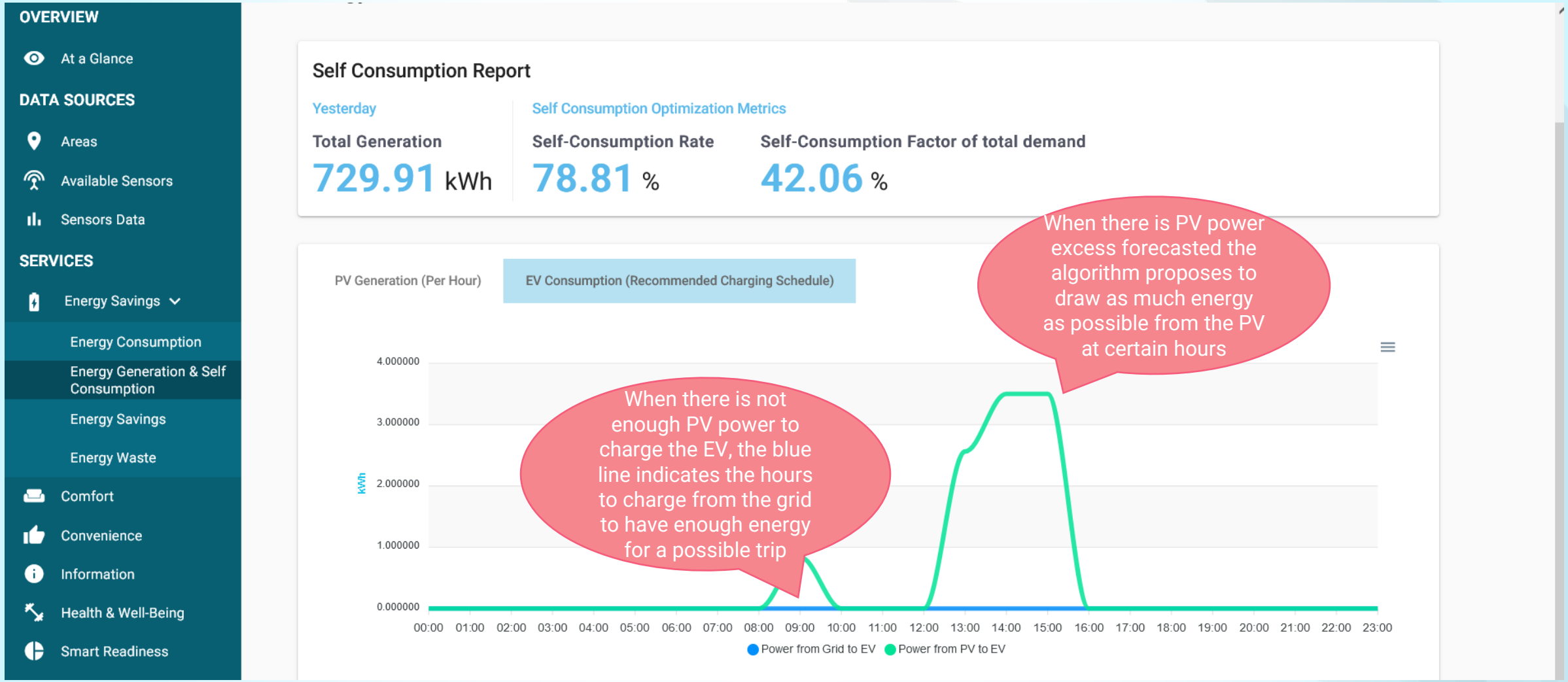
PV with EV charger



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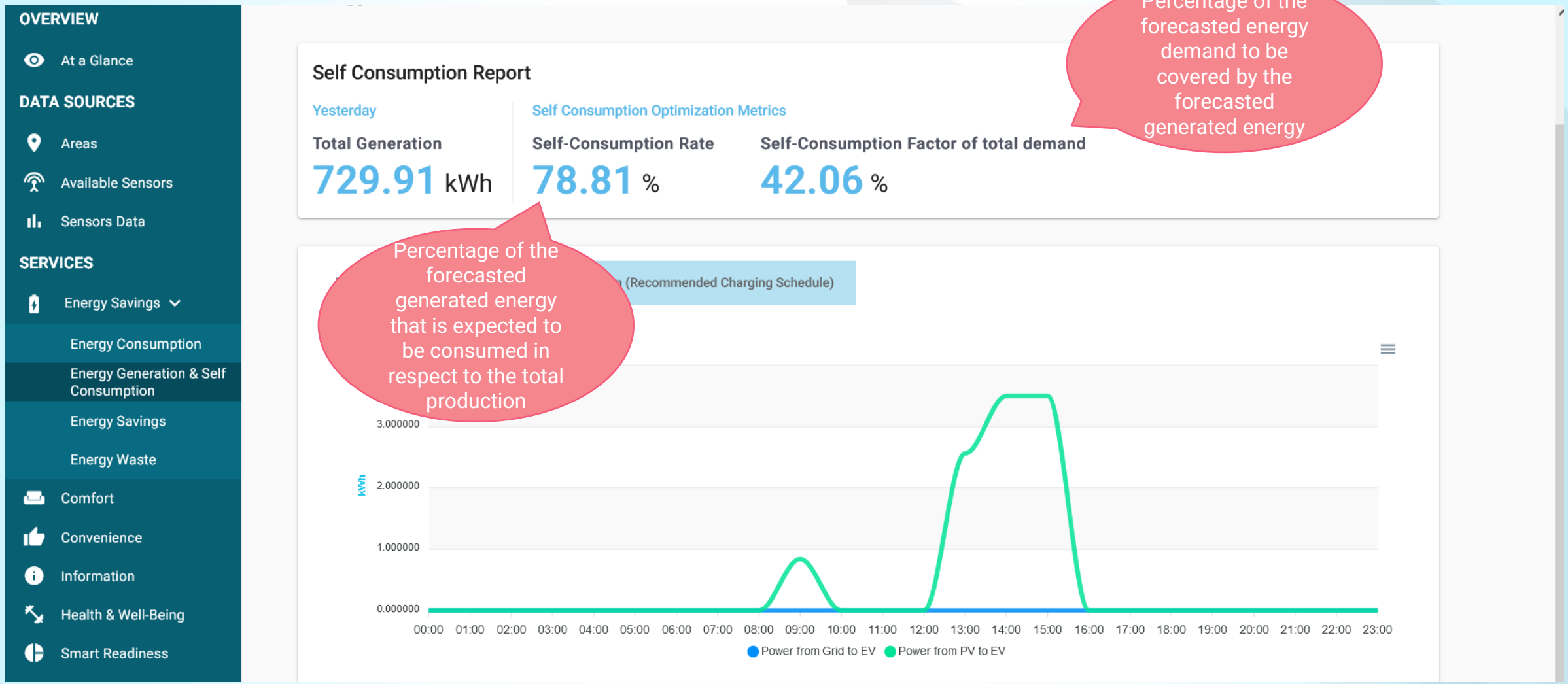
PV with EV charger



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PV with battery

Second optimization solution for demos with PV and battery storage installed

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PV with battery

KAMA-Building

OVERVIEW
- At a Glance

DATA SOURCES
- Areas
- Available Sensors
- Sensors Data

SERVICES
- Energy Savings
  - Energy Consumption
  - Energy Generation & Self Consumption
  - Energy Savings
  - Energy Waste
- Comfort
- Convenience
- Information
- Health & Well-Being
- Smart Readiness

Energy Generation

Percentage of the PV and battery power expected to be exploited in respect to total demand

Battery status can take different values such as: OFF, CHARGING, DISCHARGING

Self Consumption Report

Yesterday

Total Generation
58.7 kWh

Self Consumption Optimization Metrics

Self-Consumption Rate
100 %

Self-Consumption Factor of total demand
32.91 %

Battery Status

HOLDING
7 %

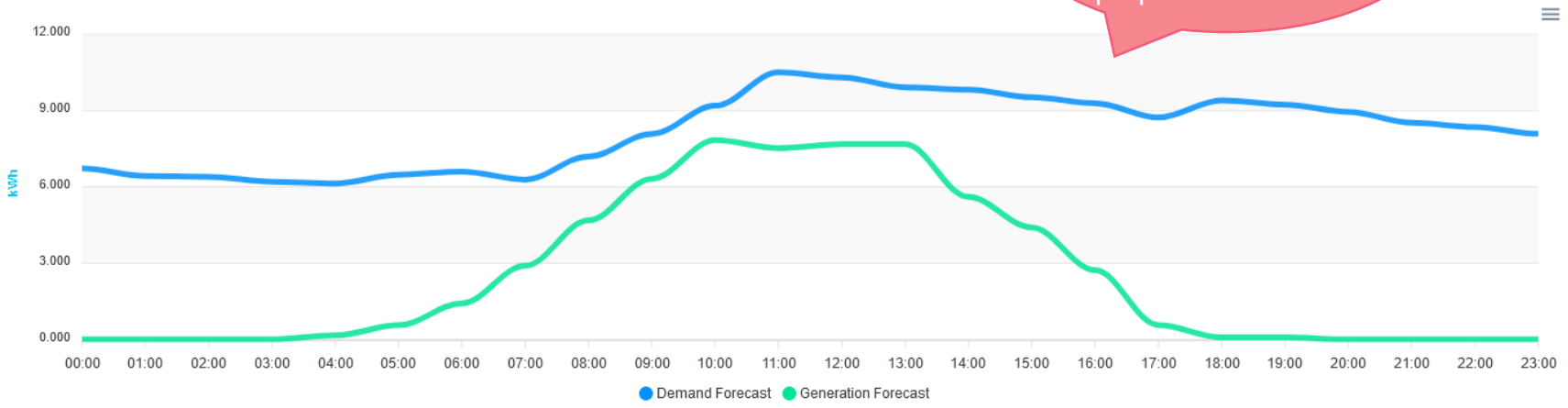
Battery Status
CHARGING
7 %

PV Generation (Yesterday) | Optimal Battery Usage | Solar DHW Consumption (Yesterday)

Relevant demand and generation forecasts that were used for the proposed schedules

Without EV

Forecasts



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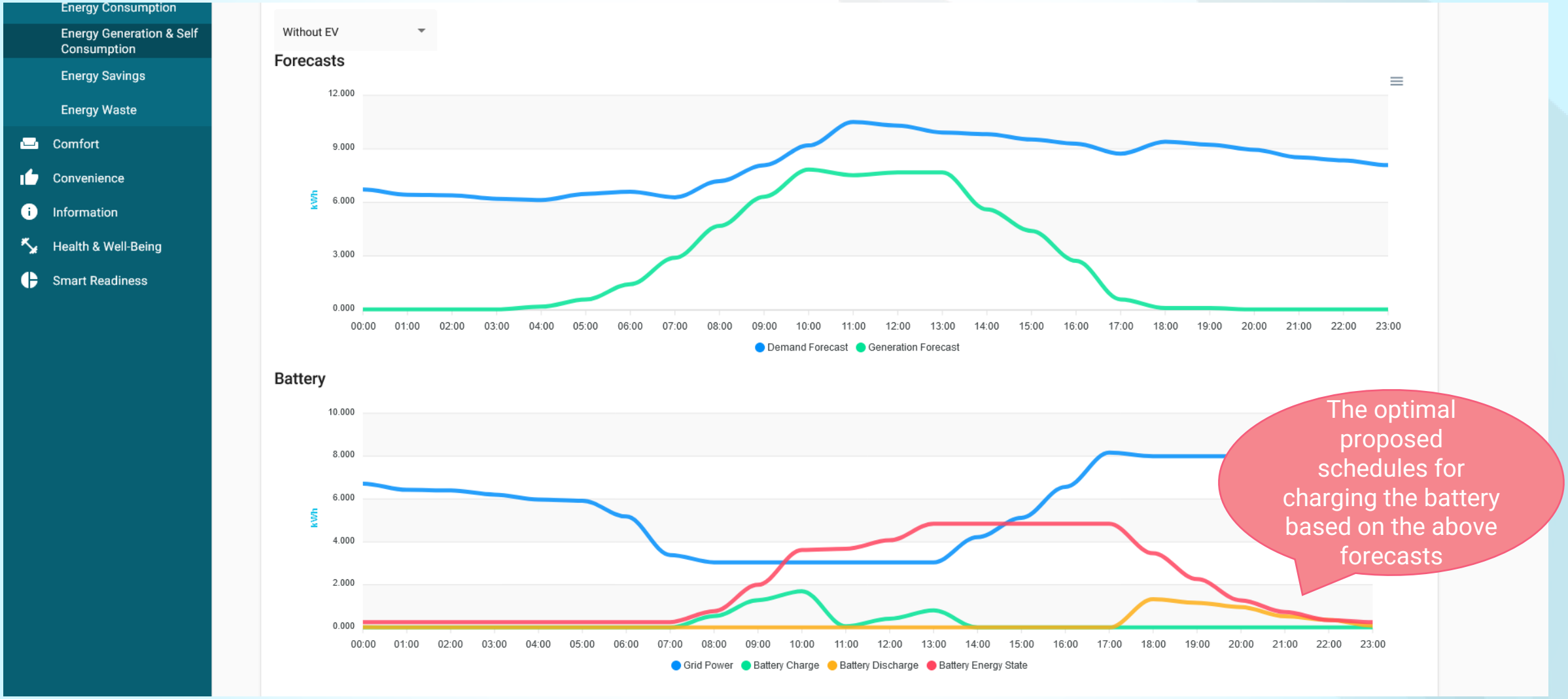
PV with battery



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PV with battery and EV

Third optimization solution for demos with PV, battery storage and EV charger (with possibility to charge an EV)

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PV with battery and EV

- Energy Consumption
- Energy Generation & Self Consumption
- Energy Savings
- Energy Waste
- Comfort
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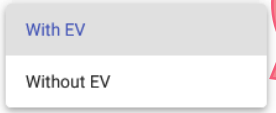
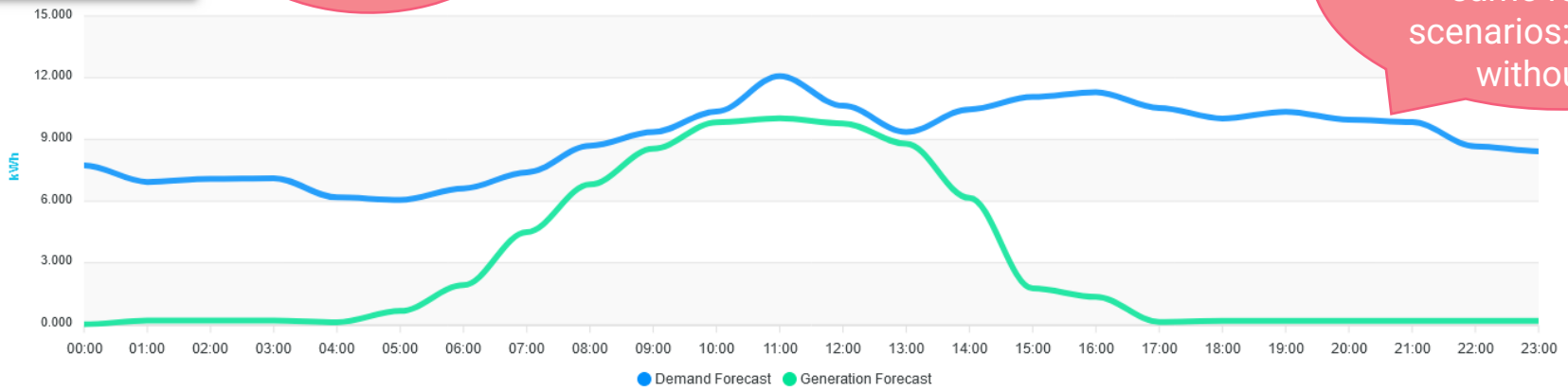
- Smart Readiness

From the dropdown, choose the option “with EV”

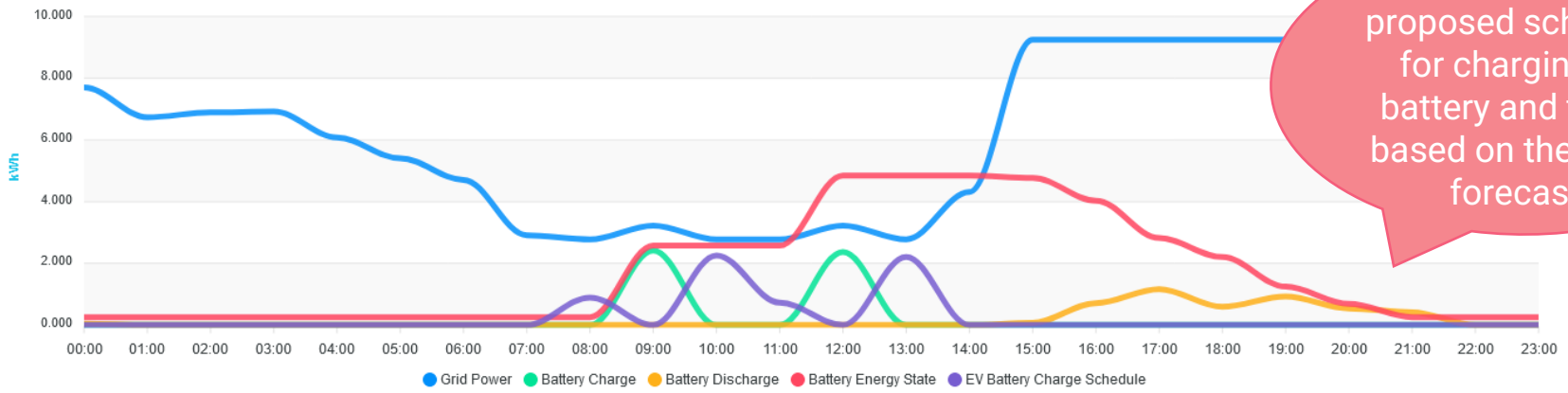


The demand and generation forecasts are the same for both scenarios: with and without EV



Battery

The optimal proposed schedules for charging the battery and the EV based on the above forecasts



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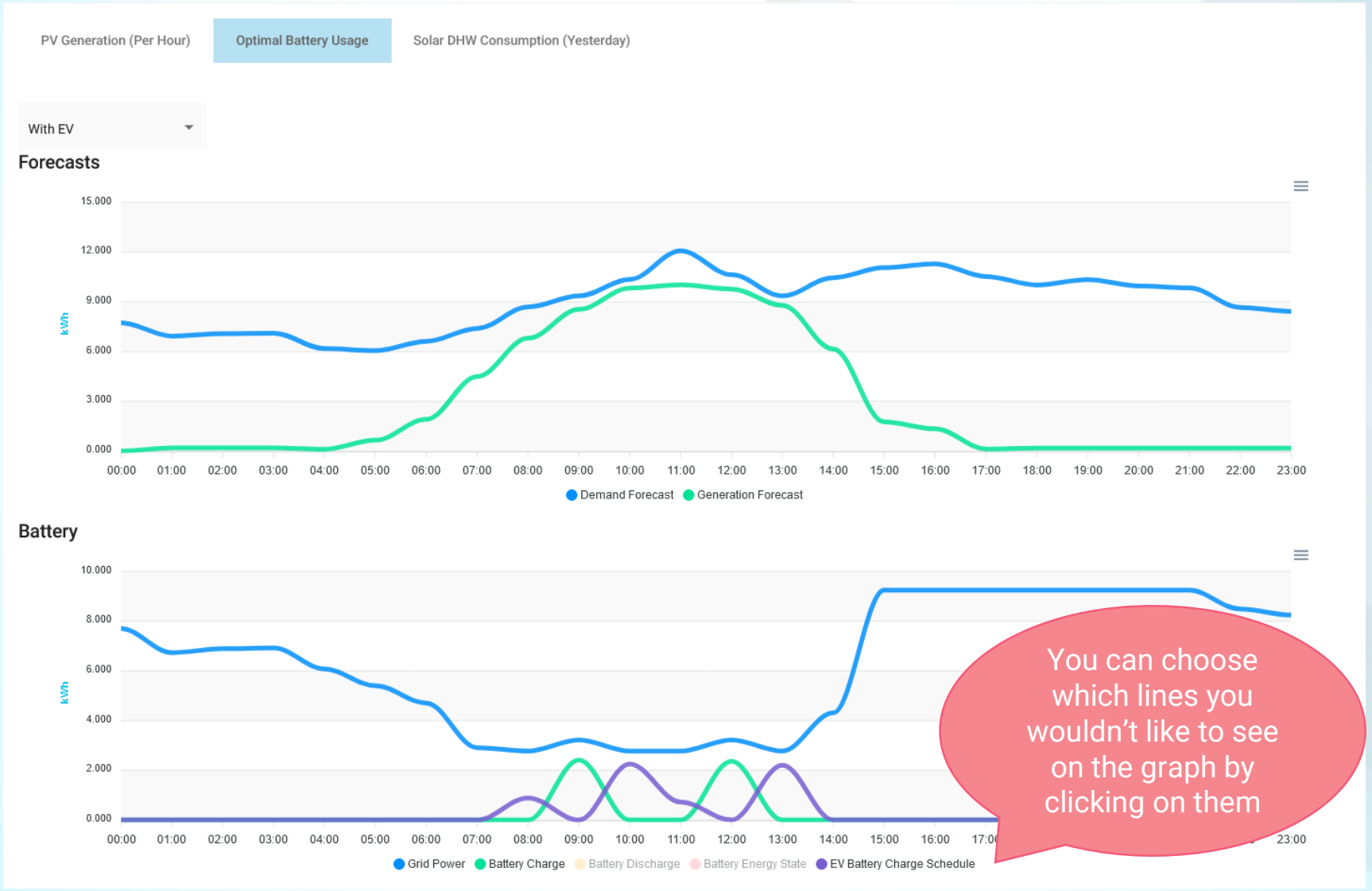
Choosing graph lines



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Blackout Support Service

The blackout support service does not offer a dedicated visualization but a triggering option on the dashboard

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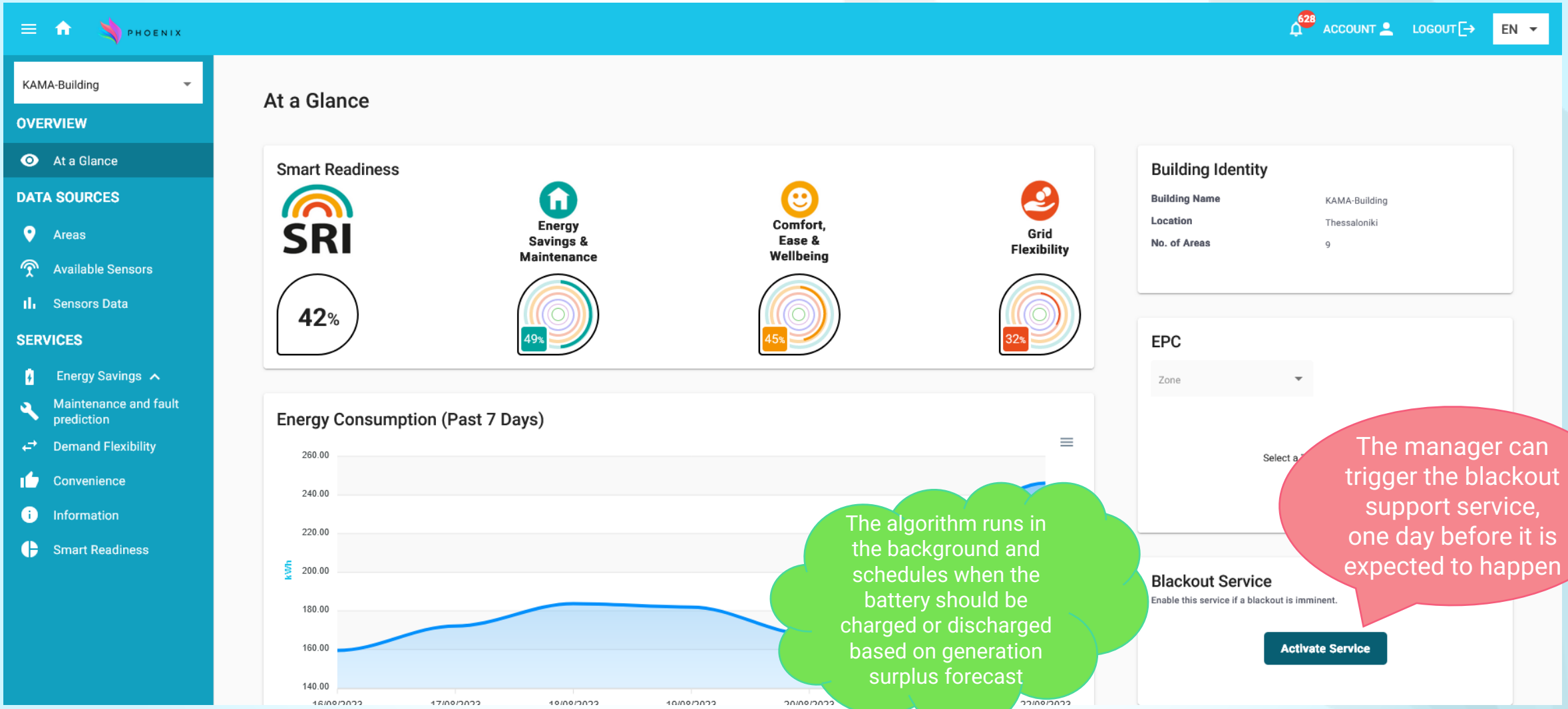
Blackout Support Service



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Thank you

If you have any further question or you need assistance, contact:

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