

Machine Learning Enabled Disaggregation of Solar Power Generation from Smart Meter Data

Publieke samenvatting / Public summary

Aanleiding

Disaggregation of the full solar PV profiles in LV grids give more robust insights into the energy performance of buildings and available capacity on the network for both consumption and power generation. Potentially this could lead to smoother integration of decentralized renewable energy sources and make buildings more energy sustainable.

Doelstelling

By unveiling the intricate details of solar energy production within a specific context, MESSM aims to empower energy stakeholders, grid operators and homeowners with valuable insights for enhancing energy efficiency, facilitating well informed decision-making, and ultimately promoting sustainable practices in using renewable energy.

Korte omschrijving

MESSM is divided into four work packages (WPs). Every work package is further subdivided in several tasks (T). Project management and dissemination is done in WP1. In WP2 acquisition and organizing of data (GDPR compliant), analysis of data and quality checking is performed. WP2 will deliver a data acquisition and organization plan, ensuring GDPR compliance (D1) and a report that describes the data collected, data collection methods, privacy measures and data quality assurance (D2). WP3 involves development and comparison of various machine learning techniques and performance validation. WP3 will deliver a report that describes

Projectinformatie / Project information

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Algemene informatie / General information

Penvoerder / Secretariat
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the machine learning techniques used and evaluation metrics (D3) and a comparative analysis report on machine learning methods performance and their validation using actual use cases in the NL (D4). In WP4 definition of implementation potential and business case(s) for different stakeholders will be developed.

Resultaat

MESSM delivers comprehensive insights into PV generation patterns, employing descriptive and diagnostic analytics. It develops predictive analytics models for effectively disaggregating solar PV profiles, validating them through real-world case studies within Dutch LV grids. The resulting business plan informs implementation potential and enriches business cases for participating energy companies.

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.

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