



A European urban transition project towards more sustainable cities through innovative solutions, in the fields of mobility, energy and digitality.

Smart City

Global Project

Coordination: CARTIF
European grant: 18M €
30 partners, 6 countries

Period: Dec. 2016 - Nov. 2021
Demonstrators:
Hamburg, Helsinki, Nantes

@mysmartlife_EU
<https://mysmartlife.eu/>

Helsinki Demonstrator Site

Coordination:
The City of Helsinki
European grant: 5,6M €
7 partners

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Energy

Citizens' Engagement

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Helsinki

ACTION OVERVIEW

Visualisation Of The Suvilahti District's Energy Performance

This action was implemented by Helen Oy. Full reports on Suvilahti's action group (D 4.6, D 4.7 and D 4.8), written in English, November 2019, are available on <https://mysmartlife.eu/publications-media/public-deliverables/>

▶ OBJECTIVES

- › To create a nearly real-time webpage to offer a visualisation of the project's energy actions
- › To ensure that the results are communicated in a comprehensive manner
- › To offer easy-to-understand information for engaged citizens towards further energy savings

▶ IMPLEMENTATION



Solar power plant in Suvilahti

CHALLENGE / CONTEXT

Energy management and the development of Renewable Energy Systems (RES) are becoming two important levers for reducing greenhouse gas emissions to solve pending climate challenges. In order to bring a change in the energy system and consumer behavior, information needs to be visualised so that the residents in the area can be more committed to energy actions.

Nordic countries' first energy system that combines a solar power plant (1194 pcs), an electric storage (max 600 kWh) and an electric car charging station was completed in Suvilahti, during the mySMARTLife project. The large electric storage makes Suvilahti's energy system unique as it can react immediately to electricity power peaks, and balance changes in electricity consumption and production. What is more, the electric car charging points do not cause energy peaks due to the electric storage. In addition, the electric storage supports and balances the entire Nordic energy system and improves the usability of solar energy.

PROGRESS

Results of the project taking place in Suvilahti in Helsinki were presented on a webpage in an easily comprehensible form. To do this, the goal was to produce automatically updated information in a visual format. The site was built onto Helen Oy's website because the company produces energy in the area and is responsible for implementing Suvilahti's energy actions.

The webpage called *Suvilahden energijärjestelmä (Suvilahti energy system)* offers a visualisation of the electrical energy storage, the electric car charging station, the solar power plant and RES production share. Among other things, the visualisation presents the degree of charge of the electricity storage, the CO₂ emissions of an electric car in relation to a petrol car, and the estimated savings and emission reductions achieved by a solar power plant in an example condominium.

The figure below shows the real-time power of the solar power plant (167 kW) and the CO₂ emissions avoided during the day (80,69 kg). As the readings may be difficult to understand, the amount of solar energy produced during the day (460,79 kWh) has been converted into 92158 smartphone charges, 1396 hours of TV watching and 271 washing machine usage time. Currently, the webpage is only available in Finnish.

In addition to the webpage, a short video of Suvilahti's energy system was also made. The video describes the functioning and impact of the solutions on the environment and the grid. The video is available in Finnish on the same website as other visualisation of energy information.



The power of solar power plant one day in the spring 2021. Screenshot from the webpage.

FURTHER DEVELOPMENT

Solving the global climate challenge requires a number of means and contribution from everyone. The increase in solar and wind power, which varies according to the weather, requires flexibility in both energy production and usage. A carbon-neutral future is made with innovative and customer-oriented solutions and services. Customers will become energy producers of solar and electricity storage solutions, as well as various hybrid heating systems become more common. The elasticity of demand is needed among other things, to balance consumption and production peaks. Getting people involved requires them to understand how the change can be made. Helen continues to inform citizens in various ways about how the change is happening in order to engage people in the common mission.



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