GrowSmarter
Transforming cities for a smart, sustainable Europe

Active House - private home energy management system

Smart solution 3
Smart, energy saving tenants

Measured impacts

54
homes had the HEMS installed

RAISES
awareness of energy consumption

EMPOWERS
residents to discover and change consumption patterns

Stockholm

Technical partners

Fortum:
Larz Pohl
Larz.Pohl@fortum.com

City contact

Mika Hakosalo:
mika.hakosalo@stockholm.se

What is it?

Deployment of a smart home energy visualization system to lower the environmental impact of the energy demand in the residential sector by influencing tenants' behaviour with individual energy data. The tool is linked to lights and thermostats that allow the user to control lighting and radiators remotely on top of monitoring consumption (electricity, hot water, space heating) in real-time. It is also possible to access a function that combines price data with environmental data, so the tenant can optimise the household's energy consumption accordingly.

What did GrowSmarter do?

A start-up within the Swedish utility company Fortum has developed the Active House application (a smart home solution) and installed it in 54 apartments in Valla Torg that have undergone energy efficient refurbishment as part of GrowSmarter (see factsheet 6). The tool is managed by a

tablet and an app and presents customized individual energy data, temperature, etc.

The implementation of Active House requires several preliminary activities: get consent from tenants, installation of meters and dimmers and connect them to a smart hub for collecting the information data, installation and adjustments of the tablets in the apartments, and teaching the tenants to use the Active House tool.

Overall, this solution was a new business area for Fortum and these first implementations were an opportunity to start developing the market for this solution. The company is now planning to start a commercial project in Stockholm and has attracted customers from large building operator companies.

Lessons learnt

Teaching the tenants how to use the Active House solution is an essential activity in the deployment of this measure and the associated costs of these information campaigns are necessary. The basis for energy reduction is raising users' awareness and increase their willingness to become more environmentally friendly.

Upscaling & replication potential

The solution has already been further developed with new features such as burglar alarm, motion alarm and flooding alarm. Fortum intends to sell this solution by integrating it with other services for households in order to make the solution economically feasible.

It is important to use the tool to tackle behaviour-awareness-change & teach tenants how to live eco-friendlier.

How did the measure work?

Technical feasibility ● ● ○

In solutions that involve the use of so many sensors, improving battery life presents a challenge, as batteries normally need to be changed by the tenants or the building managers, thus the longer they last the more convenient for its technical feasibility.

Economic feasibility ● ○ ○

If the implementation is done only to save energy, it is not economically feasible. If a bigger picture is taken with the future lack of power in urban grids, the potential economic benefits of this kind of tool are broadened.

Replication potential ● ● ○

The more people who uses this solution, the easier it is to scale up (more potential clients). Using the tool for demand-response at the overall building level (and not at the apartment level) is seen as a promising service that this solution can provide which would increase its replication potential.