POSINTRA

A system for real-time energy monitoring

Climate action and reducing greenhouse gases has become a top topic in EU and all over the world. But how can an individual consumer reduce his or her energy consumption, if he does not even know how much energy he or she is consuming and when? Or how can he know if an electrical device is not working properly and needs to be fixed to avoid extra electricity bills or other harms? One solution is to make the invisible energy consumption visible, by visualizing the consumption on the web.

In the Housing Eco-Monitoring Service (AsEMo) project funded by the EU's Regional Development fund, Southern Finland program, the STOK electrical building services center in Porvoo (Finland) and the Lahti center of the Aalto University (Finland) are developing an energy monitoring system that visualizes the actual energy consumption of a house or a flat in real time. A resident may instantly "see" his or her energy consumption as a constantly updating graph on a web page. The graph makes it easy to understand the effect of various energy savings measures. One instantly gets feedback on how energy consumption is affected by switching on and off electrical devices, for instance a television set. The users of the system can also write blog-type comments, and share them with other users.

The system itself is flexible and cheap. It is a stand-alone, plug-and-play type of solution, based on off-the-shelf consumer hardware supplemented by software created in the project. The system reads data from an electricity meter, channels it through the Internet using the residence's broadband connection, and stores the data in a database.

This energy monitoring system will be used to monitor energy usage in Finland in Porvoo's new Skaftkärr housing area, where this system will be set-up in residences, or LivingLabs. Currently we are in the initial testing phase with half a dozen LivingLabs. The residences are inhabited by real families, so that we can get user-centered experiences on the usability of the system we are developing.

In the future, energy monitoring will also include district heating and energy produced locally by solar panels. Business models for securing the commercial viability of this system have been developed.

See more at:
www.stok.fi

STOK

Vipuvoimaa EU:lta

Euroopan unioni
Euroopan aluekehitysrahasto