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Smart thermal storage could cut bills and increase use of renewables

Reading, U.K., Dublin, Ireland and Arnhem, The Netherlands --- (METERING.COM) --- March 4, 2013 - A new **smart electric thermal storage (SETS)** system offering electric heating customers efficiency savings of up to 20 percent could play a key role in Europe's transition to a smarter, low carbon energy system, by storing up renewable energy when demand is low and supply is high, according to a new study from DNV Kema.

Commissioned by U.K. energy supplier SSE and appliance manufacturer Dimplex, the report looked at the potential impact of the new SETS technology, brought to market by the two companies through their new Quantum storage heater.

The study found that, as well as providing significant comfort and cost benefits to those using storage heating, SETS could provide as much as 54 GW of additional flexible storage capacity across Europe by 2050, enabling renewable electricity to be stored up when output is high and used to heat homes and water when needed.

SETS is mainly intended to replace traditional night storage heaters, but could be installed by any electric heating user. Old night storage heaters store up energy overnight for use during the day, but are generally inefficient and provide limited control over how and when a room is heated. The new Quantum product, which is up to 20 percent more efficient, offers better control over room temperature, and has inbuilt controls designed for smart grid integration.

"No matter what the energy supply mix looks like in the future, it is clear that there will be more renewables on the system, which means it will be crucial to find new ways to balance the variability of supply in a smarter electricity grid," said Ian Marchant, chief executive of SSE. "This report shows that smart electric thermal storage has huge potential to help in this area, as well as saving people money and giving them much better control over their heating."

According to the report, SETS could provide 54 GW of controllable demand by 2050 if the EU-27 countries replaced all the current installed base of night storage heaters. This could be increased to 148 GW if all electrically heated homes switch to SETS.

In the U.K. SETS has potential to create 13 GW of storage capacity by 2050. This is equivalent to 12 percent of the country's current total installed capacity and could help the U.K. harness output from its renewable energy sources more effectively.

Mein Kommentar (Dr. F. Hein, 04.03.2013): Offenbar wird an anderen Stellen in der Welt die Elektrische Speicherheizung neu erfunden und entdeckt, dass damit die erneuerbaren Energien recht sinnvoll und komfortabel in Wärme für die Menschen umgewandelt werden kann. Die einzige Neuerung, die ich dabei erkennen kann, ist eine mikroprozessorgesteuerte Ladung und Entladung direkt an den einzelnen Heizkörpern. Aber in Deutschland wird diese Chance weiterhin ignoriert.

ETS OFF-PEAK HEATING
ETS SYSTEMS

http://www.steffes.com/off-peak-heating/ets.html = **Werbung einer amerikanischen Firma**

Off-Peak Heating with Electric Thermal Storage (ETS)

Electric Thermal Storage (ETS) is the technology of converting off-peak electricity to heat and storing this low cost heat for use in satisfying comfort requirements of a home or business 24 hours a day.

An ETS system contains electric heating elements which lie within special, high-density ceramic bricks. These bricks are capable of storing vast amounts of heat for extended periods of time.

Power is cheaper when demand is low

Electricity is more expensive during certain times of the day when we use a lot of it due to operating dishwashers, washers and dryers, computers, blow dryers, heating and cooling systems… it's a long list. A power company may refer to the hours when the demand for electricity and associated costs are high as on-peak hours. In the commercial and industrial market, on-peak times are when their electric consumption is at its highest point, usually during daytime hours.

Off-peak hours are the times of day or night when the power companies have excess energy supply due to low demand. In commercial and industrial applications, it is those hours when "demand free" power is available and generally when consumption within the facility is low. Some power companies offer reduced rates or substantial discounts on electricity consumed during off-peak times. These rates are called "off-peak rates."

During hours a power company deems as off-peak, the electric elements generate the heat that will be stored in the bricks of the ETS Heating Systems. This stored heat is used to satisfy immediate heating requirements and to provide total comfort during peak hours.

Environmentally Friendly

Today, there is great interest for energy efficiency, conservation, and preservation of our environment. Steffes ETS Heating Systems make the most efficient use of power generation, transmission and distribution. These innovative heating products allow for full utilization of power from renewable energy sources such as wind and solar. Steffes ETS heating systems are your green heating solution that brings benefit to consumers, power companies and our environment.

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