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New Report Proves Potential of 33% Energy Reductions Through Smart Meters

A report published today by the Finland based VaasaETT Global Energy Think-Tank, predicts that by combining smart meters with smart home automation in existing homes, householders can realistically expect to reduce their electricity consumption by tens of percent, depending on the nature of the technology used and the consumer's own consumption behaviour. What's more the report finds that such savings are possible with relatively affordable existing technology. Gas savings are also predicted to be large.

The report, the largest such survey ever conducted, analysed the results of 114 pilot projects conducted in Europe, the USA, Canada, Australia and Japan, in collaboration with utility companies and researchers around the world. The research focused on residential pricing, feedback and home automation schemes, referred to collectively as 'Demand Response Programmes'. Traditional energy efficiency measures such as insulation were excluded from the study.

The report called Respond 2010, found that while savings varied greatly, a large proportion of the success rate depends upon the way programmes are implemented. According to Dr Philip Lewis, CEO of VaasaETT, "Communication and the development of a trusting relationship with the customer are keys to effective programmes. We need to change the way utilities (energy companies) relate to and interact with their customers. In future, customers will become partners in the efficient use and production of energy. This is something that represents a big mindset shift for both utilities and customers alike, but evidence shows that it is possible. It is already being achieved by a few utilities."

More specifically the report found that the greatest savings, up to 33% are possible at peak consumption times, through the use of 'critical-peak' pricing (prices that are substantially higher when the demand on the network is especially high) in combination with the use of home automation such as the use of home heating/cooling systems. If average savings found in the analysis of the most successful pilot studies were applied to Denmark for instance, a typical customer would save over €220 on their annual electricity bill. They could also save on water and gas. Through the use of additional home automation of smart appliances (such as fridges, washing machines, dishwashers and lighting) even higher savings would be possible.

According to Dr Lewis, "the fact is that these in-home solutions are available now, some leading utilities are already planning to roll them out commercially within two years. Within five years, the smart home will to some extent be a reality for millions of customers in Europe, North America, Australasia and Asia. It is vital that we do it well so that we don't waste an excellent opportunity". "We can either achieve an energy efficiency revolution or a technological flop".

The report, which is made up of nearly 40 sub-reports, written by a total of 35 leading experts from 18 countries, also provides a clear vision for the future of the smart home, a home where low-cost wireless solutions enable a wide range of appliances to be turned on and off and automated in a way that ensure energy is used when it is available, and wasteful energy consumption is avoided. But such services will also provide added convenience and style. According to Dr Lewis, “for as little as 30 Euro per month, households will be provided greater security, convenience and lower energy bills – everyone will win, the customer, the utility and the environment.” “We’re not talking about heavy, expensive solutions here, but rather cost-effective, easy to install, cool solutions that you can interact with via something as cool as an iPhone, iPad or other preferred interfaces.”

The report indicates that smart meters, being rolled out across Europe and North America, will be an essential part of the infrastructure for such services. “Without accurate and timely measurement of energy consumption, such services will not be optimized. Telecom companies are already entering this space, and that is a good thing, but smart homes will need to be linked to smart pricing in order to maximize savings and thus benefits for the customer” says Dr Lewis.

Additional Selected Key Findings of Respond 2010

1. A lack of regulatory leadership and authority knowledge is inhibiting the success of demand response and other energy efficiency measures, in Europe the USA and elsewhere.
2. There is a need to develop and incentivise utilities and regulation toward a culture of conservation.
3. A successful social communication campaign is central to the success of DR. Media reaction should not be underestimated. Everyone needs to work together, benefit together.
4. Major investment private equity capital structure is needed to enable the upgrades required in buildings (e.g. for device to grid enablement). EU level regulatory certainty is needed in order to provide investment security for public investment.
5. Industry needs to create a thought leadership group surrounding demand response which cooperates over the boundaries of retail, distribution.
6. Demand Response and the smart home is typically seen as an add-on to the smart grid and consequently solutions for the customer are working from the outside in. This is especially a problem where distribution companies and integrated utilities are dominant. More representation is needed for the customer and retail end of the business.
7. Price structures are typically currently not suited to demand response programmes, and necessary changes represent a daunting marketing and communication challenge.
8. Smart home components remain far too expensive to enable a clear smart home business case, although prices are falling.

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About VaasaETT and The VaasaETT Global Energy Think Tank

The VaasaETT Global Energy Think-Tank is a unique collaborative concept based on a philosophy of mutuality. Through its network of thousands of senior executives, officials, researchers and other experts who are for the most part known and trusted personally, the Think-Tank provides value-to-all by combining an interactive community and collaborative projects.

The Think-Tank focuses broadly on practical strategic business and market issues, as well as envisioning state of the art innovations and developments.

VaasaETT has already established a world-leading reputation in certain fields, including Customer Psychology & Behaviour, Utilities Marketing, Smart Metering, and Demand Response (including Energy Efficiency, Demand Side Management, Eco Home and related issues). **More information** at: www.vaasaett.com