



Two aspects of energy consumption reductions in real buildings: iSERV and nZEBs

Real energy reductions in real buildings | **iSERV – serving up continuous monitoring and benchmarking**

Keep it simple: operating nZEB buildings

Real energy reductions in real buildings

The European Union is committed to reducing energy consumption in the built environment. As heating, ventilation and air-conditioning systems (HVAC) account for around 11% of the total electricity consumption in Europe (according to figures from the EC Joint Research Centre), these systems are an important element in the EU's commitment. In this article, we find out more about two specific aspects of HVAC energy-efficiency; both focus on how important it is to understand how commercial buildings operate in real life as the first step on the road to reducing energy consumption.

Firstly **benchmarking of in-use energy data**. To understand, improve and legislate on energy consumption in commercial buildings, proper quantifying of existing energy performance of HVAC components in-use is vital. This is where the **iSERV** project comes in. Funded by the EU's Intelligent Energy Europe, iSERV provides continuous monitoring and benchmarking of HVAC systems. Participants will be able to link energy use at HVAC component level to the activities served. To find out more, we interview Dr. Ian Knight, Reader at Cardiff University and iSERV project coordinator.

Dr. Knight has been involved in research into the performance of buildings and building elements for over 20 years, particularly in the area of reducing Carbon emissions from the built environment. Dr. Knight holds a BSc(Hons) degree in Fuel and Energy Engineering and a Physics PhD.

Another area of focus for the EU is new buildings that overall consume almost no energy. **These nZEB or nearly zero-energy buildings** could be viewed as an important part of the solution to improving HVAC energy-efficiency. EU Directives already require that new buildings occupied and owned by public authorities must qualify as nZEB buildings by 2019, and that all new buildings must be nZEBs by 2021. But as we hear, unless designers remember to 'keep it simple', nZEBs will not provide a simple solution to reducing energy consumption.

We hear more about nZEBs from Prof. Dr. Jarek Kumitski from SITRA, the Finnish Innovation Fund and at Tallinn University of Technology. Professor Kumitski has been involved in working to improve the energy efficiency of the built environment for many years. Before coming to SITRA, he was Professor at the Helsinki University of Technology, where he led the Indoor Climate and Energy Performance Centre research. He is also a Vice-President and Board Member of REHVA, The Federation of European Heating and Air-conditioning Associations.

Grundfos met both men at the REHVA Annual Conference and Meeting 2012 on HVAC Technology and Energy Retrofitting, held in Timisoara, Romania.

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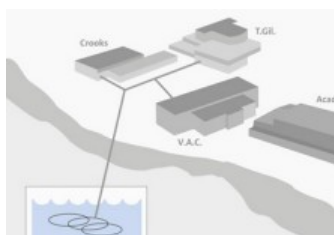
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