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July 3, 2012

All hands on deck – Green building seminar on board HMS Belfast!

June 18, 2012, London, UK

Right in the middle of the River Thames, and framed by London icons such as the Tower Bridge, the cruiser *HMS Belfast* made a dashing sight on the afternoon of June 18th. In other words, a fantastic setting for a Swegon Air Academy seminar.

Ventilation for the ship was a serious consideration for the designers of the 1930s, the Royal Navy required 10 CFM/ person (roughly 5 l/s/person). There was no cooling installed for people, just machinery, and the working area in the engine rooms was used as huge air intake plenum for supplying the boilers with air, rather chilling if one was on arctic patrols. Heating was provided by using spill heat bled from the turbine's saturated return steam then piped into local heat

exchangers placed around the ship. After her last refit in the 1950s, the ship's ventilation system was equipped for NBC (Nuclear, Biological and Chemical) warfare conditions. During World War II the *HMS Belfast* saw convoy protection and battles in the North Atlantic and bombardment during D-Day, and then continued to participate in the Korean War. But it had yet to see a seminar on the topic "Why it is important to Build Green".

The well attended seminar started with a presentation by Professor Emeritus Brian Edwards on the topic "Green buildings pay: design, productivity and ecology". Based on case studies in Europe as well as the US, the presentation showed how the costs for building green can be well compensated by benefits to users, companies and building owner, including improvements in health and productivity, image and recruitment, building value and life cycle cost. Questions from the audience gave rise to discussions on trends in the world of green building certification, where among other things Professor Edwards pointed out the strong American influence in the developing countries thanks to the LEED scheme often being widely recognized.

Second speaker was Sally Johns on the topic "Experiences from building passive house schools in the UK", a presentation full of hands-on experiences from a holistic design perspective. Schools make very good green building projects, due to the inherent long time perspective, the mainly communal ownership and the additional concerns that are natural with regards to a building in which we let our children spend the better part of their days. The design and building of schools should in other words be able to pioneer green building innovation. In order to reach the green building targets, the architects and engineers need to focus on a number of key areas; one of them being form, where the wishes for interesting architecture must be combined with minimized outer building surface, another being air tightness. Additional care is also needed in how to apply insulation, where examples of smartly constructed walls proved the possibility to eliminate thermal bridges all together. Here computer aided analysis tools, with multi-coloured diagrams, could be a great help in predicting heat losses, etc. But as Sally jokingly pointed out, they are a constant hazard in its rewards to the aesthetically driven designers, since "the prettier the picture, the worse the heat loss"!

The final speaker for the evening was Dr Ian Knight with a presentation on "Europe and energy efficiency in HVAC systems", providing the background and targets for the current iSERV project. With HVAC consuming about 11% of the electric energy in the EU, it is a most vital area for savings efforts, and Ian presented a very interesting toolbox for how to direct these efforts. Many energy conservation efforts today are poorly monitored and evaluated, something that the iSERV project is trying to change – with the axiom being that what is properly measured is also improved. By detailed monitoring of a large number of buildings of different categories, a substantial benchmark database is collected which can not only point out to the building owner if the building is performing better or worse than its "peers", but can also act as a vital reference for policy makers in setting relevant and realistic targets for building regulations and certifications. The iSERV project can hopefully contribute to moving the agenda away from the muddle of complex policies, lawyer involvement and public confusion, by the industry itself contributing to the development and making sure the policies are based on facts and best practice knowledge. A comment during the closing Q&A-discussion summed it up aptly as "after all, we are engineers and designers, we create value".

A number of members of the audience expressed an interest in participating in iServ at the end of the event. Usually, this would involve logging on and registering on the iServ website – www.iservcmb.info – but if they want to contact Ian directly on his email address – knight@cf.ac.uk – then he will help get them onto the system.

Photo by Henrik Paulsson

☐ TELL A FRIEND

Author: Henrik Paulsson and John Woollett

Tags: GreenBuilding, iServ, passive house, schools, seminar, UK

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Upcoming

Soon to lecture



View profile

Petra Vladykova

Petra Vladykova, Ing., Ph.D, Swegon Air Academy, Sweden Petra was recently employed as a project manager in Swegon Air Academy. She



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