

Round table of the 2012 AIVC-TightVent conference

The balance between energy conservation, indoor air quality and comfort in future energy efficient buildings

Copenhagen, Denmark

October 10 2012, 10:00-10:45

Synopsis

The round table participants were industry representatives with a clear mid- and long-term vision on research priorities, opportunities and bottlenecks for industry. They have shared their views on challenges in the building sector to meet the 2020 and 2050 objectives for greenhouse gas emissions, energy use and renewable energy. The balance between energy conservation, indoor air quality and comfort in future energy efficient buildings - both new and existing building stock - has been discussed with the audience.

Panel

Mrs. Lone Feifer

Strategic Project Director
The VELUX Group

Mr. Lars-Åke Mattsson

Research and Development
Manager
Lindab Ventilation

Claus Bugge Garn

Vice-President
Group Public Affairs
Rockwool International

Moderator

Mrs. Kirsten Englund Thomsen, Senior Researcher, Sbi, Aalborg University in Denmark

Acknowledgements

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The Air Infiltration and Ventilation Centre:



TightVent Europe and its partners:



The VELUX group:



The Technical University of Denmark:



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Panel: What is of special importance concerning “finding the balance between energy conservation, indoor air quality and comfort in future energy efficient buildings”?

Lone Feifer

Lone Feifer stated that the key issue is to acknowledge that the buildings of the future have already been built. 99 % of the buildings of tomorrow are the buildings we are already looking at today. The VELUX project Model Home 2020 has shown that we are able to meet the future challenges today.

She explained that the VELUX Group is still monitoring the Model Home houses and that the results confirm that we can meet the challenges of 2020 with existing technology.

Lone Feifer stressed the need to renovate the existing building stock, and said that comfort and livability should be central goals of future renovations.

Lars-Åke Mattsson

Lars-Åke Mattsson agreed with Lone stating that the future is already here.

He said that there is an increasing focus on building airtight houses, but that we also need to pay attention to air renewal in our houses 12 times a day. At the same time, we need to secure low energy consumption as well as satisfactory acoustic levels.

We already have the technology to achieve this – the problem is insufficient education, space (to install an appropriate ventilation system) and money.

Claus Bugge Garn

Claus Bugge Garn agreed with Lone Feifer and Lars-Åke Mattsson that the problem is not the inability to supply the technical solution, but the implementation of the solutions.

He emphasised that we will not be able to reach our goals without taking a deep look into the building sector. We have to decrease energy consumption by 50 % in the existing building stock – which means we need to triple the current renovation rate.

At the same time, there is not enough focus on a holistic approach in the construction business and that is a key challenge we need to deal with if we want to create a positive change.

Panel: What are the ways to explore to overcome the barriers?

Lone Feifer

Lone Feifer stated that we first need to find out what will make people ask for solutions that will meet tomorrow's challenges. In other words, the demand is not there yet.

Lone Feifer emphasised that energy saving is rarely the first thing people think of when they wake up in the morning. Talking about the livability factor of buildings (for example summer comfort and winter comfort) could be a way to increase homeowners' awareness.

Lars-Åke Mattsson

Lars-Åke Mattsson noted that there are a lot of challenges to be met. One of the barriers is that people often experience problems with the use of building technology.

He admitted that the building industry is not very good at making solutions easier to use for the customers. To overcome this problem, he finds that cooperation in the building industry will help improve the services offered.

Claus Bugge Garn

Claus Bugge Garn stated that one of the major barriers lies in building traditions. They vary widely throughout Europe, so the basis for a common approach to change is weak. Overall, the building sector is reluctant to change the construction process and customs.

He explained that home building is always a risk: the owners often have to take on a big and long-term debt, which makes both contractors and customers unwilling to take risks.

Claus Bugge Garn emphasised that this causes us to adhere to local traditions – nothing more or less—which he characterised as the main barrier.

Audience: We should not repeat the mistakes of the 70s in the renovation sector, which has created the field of indoor environmental science. How can we avoid that?

Lone Feifer

Lone Feifer said that this was definitely something we should bear in mind, in particular the shortcomings of the tunnel vision of the 70s focussing on energy savings. We should take a more holistic approach to ensure the quality of our homes. But it is extremely important that we do not try to achieve short term goals.

Lars-Åke Mattsson

Lars-Åke Mattsson stated that we needed more regulation regarding the training of craftsmen; they should be certified to work e.g. on ventilation or airtightness of buildings. He gave the example of plumbers in Sweden who have to be certified for their work to be covered by insurance.

Claus Bugge Garn

Claus Bugge Garn agreed and added that craftsmen should be required to learn about the holistic approach. This is a job for the governments.

Audience: We need to allow solutions to be carried out by a less trained workforce – otherwise we cannot do it. Either we pay the constructor of our building or we pay through our energy bills. What is your opinion on that?

Claus Bugge Garn

Claus Bugge Garn said that it is important that renovation work is done in a good manner. If performed correctly, it can be cost-effective. If we fail to do something right now, we will not have the opportunity to change for many years.

Lone Feifer

Lone Feifer stated that we have to think long-term, remember the holistic approach and not only focus on energy consumption per square meter. Imagine if costumers could demand a certain living comfort and get it through a simple design.

Audience: 5-10 years ago we talked about decreasing the energy consumption and we are still talking about the same problem today. Is the consumer's awareness too short?

Lone Feifer

Lone Feifer explained that the VELUX project LichtAktiv Haus - which has been built in Germany - shows that small changes in energy consumption can make a big difference.

In her opinion, the motivation to drastically reduce energy use while improving livability is a key factor.

Claus Bugge Garn

Claus Bugge Garn wondered if there is something wrong with our political consciousness. When we are told to pay for a particle filter for our car - because the law requires it - we do it even though we would rather save the money. We do it because we know it is for the common good of society. Why can we not make similar rules for housing?

Obviously, this requires a mind change.

Panel: What are to your mind the major barriers to innovation?

Lars-Åke Mattsson

Lars-Åke Mattsson said that money is a major barrier to innovation. There are a lot of

intermediate steps like suppliers, distributors, installers, entrepreneurs and building owner before the customer gets a new product and these steps cost money.

Standards and laws are other barriers to innovation because the installers learn that the most cost-efficient way of building is to be right on the limit and no more. The customer has to be very proactive and ask for something new before it becomes available or referenced to on the market.

Claus Bugge Garn

According to Claus Bugge Garn, history shows that we only make changes in the building sector when we are forced to do so. With millions of small contractors, changes need to be compulsory to take place.

Lone Feifer

Lone Feifer thinks we have to look at the quality of a house as a whole. The assessment system is too simple for the complexity of our buildings. An alternative could be to measure the livability factor. This should be reflected in our regulations and laws.

Audience: How do we ensure that homeowners use their house as efficiently as possible? How do we educate the users?

Claus Bugge Garn

Claus Bugge Garn mentioned the idea of increasing tax rates with increasing energy consumption.

Lars-Åke Mattsson

Lars-Åke Mattsson stated that we have to look at the users and make systems easy to use.