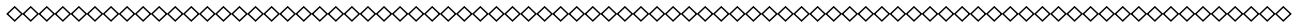


Interview of REHVA board members on nearly zero energy buildings

REHVA journal interviewed the REHVA board members their take on Nearly Zero Energy Buildings in their country. We had three specific questions for our Board members:

- 1. What is the biggest challenge to reach 20-20-20 target in EU?**
- 2. What is the most important action taken in your country towards Nearly Zero Energy Buildings?**
- 3. What is the most important technology to be developed to reach Nearly Zero Energy Buildings?**



Francis Allard, France:
REHVA president 2008-2011

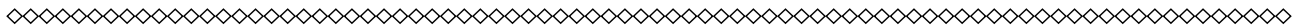
1. In Europe, building sector represents more than 40% of the energy demand and 30% of the Green House Gas emission. It is obviously the first target of 20-20-20 policy. However, if most of

European countries are clearly addressing the issue of new Nearly Zero Energy Buildings, the main challenge remains the refurbishing of the existing building stock. It remains the biggest potential of energy savings and reduction of CO₂ emission.

2. The main evolution in France in the following months will be the new building energy regulation (RT2012), it has been launched already and it is focusing on low energy buildings. The average target is to limit the

energy consumption of new residential buildings to 50 kWh/m².y of primary energy for the five main end uses: heating, cooling, ventilation, lighting and domestic hot water. It is also addressing the issue of the quality of the building design itself introducing a specific target on the energy needs.

3. I am not sure that a specific technology is enough to reach Nearly Zero Energy Buildings. At the contrary, in my opinion the main issue is the design methodology. We absolutely need an integrated design for low energy buildings since the very beginning of the project. Another element which is not sufficiently addressed may be the need for education and training of the various actors of the construction industry; we certainly need to upgrade the qualifications of most of them in order to improve the quality of the final work.



Michael Schmidt, Germany
REHVA president elect

1. In Germany the biggest challenge to reach the 20-20-20 target is an economic challenge. All targets and requirements are only mandatory if they are cost effective. So the biggest challenge is to get the necessary money and to get harder legally bounds for investments in the 20-20-20 target.

2. There are public subsidies for refurbishing residential building to make them Low Energy Buildings, that program is run by the state-owned Kreditanstalt

für Wiederaufbau Frankfurt (KfW). The current requirements are KfW 70, KfW 55 and KfW 40. The primary energy demand of these buildings has to be 70%, 55% and 40% of the reference building. In addition, there is also a subsidy program for “Passiv-Häuser”, which is defined in accordance with the Passiv-Haus-Institute as “KfW-40-buildings with an annual heat demand lower than 15 kWh/m²”. Next step of enforced requirements in 2012 will be another 30% reduction for both residential and non-residential buildings.

3. Nearly Zero Energy Buildings are achievable with the existing and available technologies.



Karel Kabele, Czech Republic
REHVA vice - president

1. To find solution, this will bring better buildings not only in view of energy efficiency but also in view of better indoor environment quality.

2. First action is to find such national application of the definition, which will be accepted by professionals and

users. Next step is to implement this definition into the legislation and to find cost-effective way to build such buildings.

3. To reach nZEB in the Czech Republic, it is necessary to continue in the development of renewable sources, building services systems and of course building envelope. The control systems enabling to achieve real energy efficiency are very important technologies.



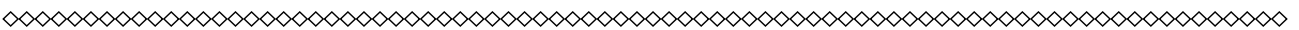
Maija Virta, Finland
REHVA vice - president

1. Biggest challenge to reach 20-20-20 target in Europe is to reduce energy consumption of buildings. It is going to be difficult to find financial resources for refurbishing existing building stock, especially related to thermal insulation and operation of ventilation systems.

2. In Finland we have launched the new regulation for energy efficiency of buildings, which will reduce the minimum energy use of our new buildings average by

20% from 2010 regulation level. This means that our residential buildings with electrical heating will use 50% less energy than five years ago. There are also many voluntary actions taken by industry. Most of major construction companies are building today only A-level apartment houses and also several office buildings are built to A-level.

3. The most important technology is the integration of building management system, day light control and active solar shading for commercial buildings. In residential buildings the higher efficiency heat recovery systems are needed.



Donald Leeper, United Kingdom
REHVA vice - president



Derrick Braham, United Kingdom
member of REHVA TRC

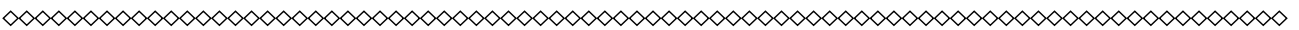
Donald Leeper consulted with Derrick Braham before responding the questions.

1. The financial cut backs in the annual National Budgets and the lack of significant growth in the National Economies. People do not realise the full energy saving potential of Thermal Insulation improvements. The lack of independent EU wide reporting of measured data plus the inherent delay between financial budget approval and installation, will mean that even current approval given in 2011 for energy saving programs and information won't be credited and publicised until near 2020.

These are some of the biggest challenges to reach 20-20-20 target in EU.

2. Successive UK governments have established a roadmap of progressively improving the National Building Regulations, in response to the original EPBD and its recent Recast. This will ensure that all new Buildings will be nearly net Zero Carbon by 2020. In-addition the Government has published a CARBON PLAN which reaffirms the timetable and will require all non-domestic commercial buildings to display their actual, i.e. as measured, energy performance in an annual Display Energy Certificate (DEC). It is also proposed to improve the content, format and quality of the Energy Performance certificate (EPC) required by all new buildings over 500 m² area, before any detail design work commences and then recalculated when the detail work is completed i.e. before the construction work starts on site.

3. Light Emitting Diode (LED) technology to replace Fluorescent tubes, metal halide, halogen and high pressure Sodium lighting in all domestic, commercial and industrial lighting applications (including street lighting). This is estimated to have the potential to reduce the UK's annual lighting energy consumption by 18 GW hours. In addition the savings in maintenance time due to the 25 times longer operating life will be another financial benefit.



Zoltan Magyar, Hungary
REHVA treasurer

1. In Hungary the biggest energy saving potential is the renovation of the existing single family houses. In 67% of all the housing stock, the annual energy consumption is higher than 250 kWh/m², a. Some financial support is needed to renovate the single family houses.

2. Based on the EPBD recast, the requirements will be changed in 3 steps. From 2020 the requirements will be to fulfil the nearly zero energy buildings. In Hungary the passive house education is on-going, books and software are available. This is the first step to achieve the nZEB's.

3. The passive house education is on-going, using better building envelop, heat recovery in the ventilation and the heat pumps. In 2012, only condensing boiler must be used for heating. 3E