

Insulate - Tackling Climate Change Cost-effectively

The case for insulation as a cost-effective measure to tackle climate and energy security has been clear for some time. However, the wider competitiveness impacts of these improvements, on for example improved energy security, reduced air pollution and job creation have not been as clear. The European Insulation Platform (EIP), commissioned the Centre for European Policy Studies (CEPS), to analyse the wider competitiveness effects of different solutions to deliver climate change objectives. The results confirmed the key role of insulation as the most cost-effective solution. The EIP has come up with four recommendations to turn these results into concrete actions.

EIP RECOMMENDS – TAKING AN ACTIVE APPROACH TO VERY LOW ENERGY BUILDINGS

WHAT IS AT STAKE – The technology exists today to make buildings energy neutral in terms of heating and cooling. With 40% of all Europe's energy used in buildings and with 60% of all energy in buildings used for heating alone, constructing all new buildings to very low energy buildings' standard has the potential to dramatically reduce energy use and greenhouse gas emissions.

WHAT NEEDS TO BE DONE – Although the technology and techniques exist to make very low energy buildings, there remain significant barriers to this becoming the norm across the EU. A lack of requirements to go to a very low energy level, a lack of knowledge and understanding of the benefits of very low energy buildings and lack of skills and training within the building chain are some of the major barriers to a greater take-up of this approach to buildings.

- **A lack of requirements** – Currently there are no EU countries where it is a national obligation to construct new buildings to a very low energy level. Several EU countries are considering how to move towards such requirements but there needs to be an EU-wide plan to ensure that all countries are moving in a step wise fashion towards very low energy building standards for new build.
- **A lack of knowledge and understanding** – Although many people are aware of the very low energy houses concept, there is still a significant lack of understanding of what it means and the benefits of such buildings. From a technical standpoint, consumers are far from clear of the benefits in terms of improved comfort and living conditions. From the economic standpoint most consumers and lenders do not understand the long term financial benefits and limited additional upfront cost that going to a very low energy level entails. Given this, any strategy to promote very low energy buildings must also consider how to fill the basic information gap that still exists in this area.
- **A lack of skills and training** – One of the most significant challenges to going to very low energy buildings is the need to develop skills and training programmes among the building chain. Many of the techniques for designing and building very low energy buildings are outside the normal training programmes for architects and builders. Given the urgency to move towards very low energy buildings it will be important to engage both existing and newly trained architects and builders. Actions should include:
 - Revision of national curricula for builders and architects: Given the importance of energy efficiency in buildings to a low carbon future for Europe, understanding and being able to deliver very low energy houses should be an essential requirement of national training courses and university curriculum within the building sector.
 - Development of training courses for existing professionals: With the huge step change in building techniques that are needed to deliver very low energy houses and in particular very low energy renovations, current building professionals need to be retrained. All EU countries need to therefore put in place major programmes if they are serious about improving Europe's climate and energy security.

WHAT WILL IT ACHIEVE – a very low energy house has an energy saving potential of 50% to 90% compared to a standard new build or existing building. With new build only representing 1% on average of the current building stock, the sooner Europe moves to this standard the sooner this potential can be realised. With it also possible to dramatically reduce energy use in existing buildings, a major effort to improve skills and knowledge across the building chain will also help to ensure this potential is realised more quickly.