

# Press Statement

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## Buildings are Europe's first fuel New report highlights the importance of an energy efficient building stock to a sustainable energy supply

Measures to reduce energy demand in buildings could reduce electricity needs and peak loads by nearly 57 gigawatts<sup>1</sup> (GW) and cut CAPEX requirements in the power sector by between €89-153 billion by 2050 according to the latest Ecofys report. The study entitled "*The role of energy efficient buildings in the EUs future power system*", calls for a more holistic modelling of public policy cost/benefit analysis that includes the estimation of the economics of energy efficiency in buildings including deep renovation strategies.

The European Commission is currently working on a strategy to reduce energy wasted in buildings from heating and cooling and in parallel reviewing the impact of the EU's two legislative pillars on buildings: the Energy Performance in Buildings Directive (EPBD) and the Energy Efficiency Directive (EED) with a review to revise both Directives in 2016.

*"The results of the latest Ecofys study on role of energy efficient buildings in the EUs future power system reveal some important considerations at a very opportune moment. They show that an energy efficient building realised by deep renovation not only brings energy demand reduction and delivers multiple benefits to meet our growth and climate ambition, it includes the potential to reduce costs and increase efficiencies on the supply side" This is also very important in the context of the upcoming heating and cooling strategy"* said Jan te Bos, Director General at Eurima.

The report adds to the well-known benefits of an efficient building stock and the wider economic and societal impacts, such as lowering energy bills; reducing energy dependence, lowering CO<sub>2</sub> emissions and creating jobs through deep renovation programmes.<sup>2</sup>

### The report also finds that:

- Energy efficient buildings need and consume less energy. Noteworthy is that this actually translates into a reduction of the system peaks (and helps avoid oversized capacity). If we reduce the peak, we reduce investments needed in generation and grid infrastructure, which means less energy, needs to be generated and transported, which results in cuts to system operational costs and losses.
- Highly efficient and well insulated buildings can keep desired room temperatures stable over a longer period, also when the heating system is turned off, which is essential for thermal comfort. The impact of this on the flexibility of the power system can lead to an additional reduction of around 12 GW.
- The reduction of peak loads increases flexibility adding up to 89-153 billion EURO of potential CAPEX reduction in the power sector by 2050.

The full report can be found on the Ecofys and [Eurima](http://www.eurima.org) websites.

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<sup>1</sup> Equalling current total electricity production capacity of Netherlands and Austria.

<sup>2</sup> See : Ecofys 2012 Renovation tracks for Europe up to 2050. Building renovation in Europe - what are the choices ? and Ecofys 2014 Deep renovation of buildings. An effective way to decrease Europe's energy import dependency

## Background Information

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### Eurima

Eurima is the European Insulation Manufacturers Association, representing the interests of all major mineral wool insulation producers throughout Europe. Eurima members employ over 21,000 people across Europe with the installation of insulation products accounting for an estimated 300,000 man-years.

Eurima members manufacture mineral wool insulation products. These products are used in residential and commercial buildings as well as industrial facilities. Glass and stone wool insulation secure a high level of comfort, low energy costs and minimised CO<sub>2</sub> emissions. Mineral wool insulation prevents heat loss through roofs, walls, floors, pipes and boilers, reduces noise pollution and protects homes and industrial facilities from the risk of fire.

### Buildings in the EU

Buildings are responsible for the largest share of European final energy consumption (40%) and they represent the greatest potential to save energy - as 75% of buildings standing in the EU were built during periods with no, or minimal, energy-related building codes and the energy intensity of heating per floor area is two times higher than any other region of the world (except Russia).

Buildings are long-term assets expected to remain useful for 50 or more years and 75-90% of those standing today are expected to remain in use in 2050.

For further information on energy efficiency in buildings, please visit [www.eurima.org](http://www.eurima.org) or contact:

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## Ecofys Report Key Messages

- 1. A highly energy efficient building stock, realised by deep renovation and efficient new buildings, brings multiple benefits** such as reduced GHG emissions, reduced dependence from (fossil) fuel imports<sup>3</sup>, job creation triggered by investments specifically in building renovation<sup>4</sup>, reduction of fuel poverty, and increased comfort. Next to these recognised benefits, efficiency on the demand side, materialised in a highly performing building stock, also has the potential to reduce costs and increase efficiency on the supply side, thus supporting a resilient future energy system.
- 2. Energy efficient buildings, under the expected electrification of the heat sector, reduce electricity demand and peak loads.** Energy efficient buildings, typically optimising the envelope insulation and performance of equipment, indeed need and consume less energy. This translates into a reduction of the system peaks, and thereby a reduction in needed investments in generation and grid infrastructure. It leads to a reduction in the amount of energy that needs to be generated and transported, thereby reducing system operational costs and losses. In a high efficiency scenario<sup>5</sup>, 57 GW in peak load can be saved compared to a low efficiency scenario by the year 2050, which equals the current total electricity production capacity (renewable and non-renewable) of Austria and the Netherlands combined.
- 3. An energy efficient building stock offers higher flexibility for electricity supply.** Highly efficient and well insulated buildings have a higher capability to shift heating operation in time, as those buildings have the ability to keep the desired room temperature stable over a longer period, also when the heating system is turned off. This increased flexibility can be translated into a reduction of the peak demand and to a reduction of the electricity system losses, while maintaining thermal comfort for its occupants. The impact of energy efficiency on the flexibility of the power systems leads to an additional reduction in peak load of the EU power system of around 12 GW (respectively up to approx. 60 GW when considering national/regional boundaries).
- 4. Clear financial benefits through investment savings.** The potential reduction of peak loads and increased flexibility, considering a high efficiency scenario, translates into 89-153 billion EURO of CAPEX reduction in the power sector until 2050. Those additional savings in peak load capacities and grid infrastructure, usually not taken into account or neglected in cost/benefit analysis, should be part of the estimation of the economics of energy efficiency in buildings including deep renovation strategies.

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<sup>3</sup> Deep renovation of buildings - An effective way to decrease Europe's energy import dependency, Ecofys for EURIMA, 2014 [2].

<sup>4</sup> Renovation tracks for Europe up to 2050; building renovation in Europe - what are the choices?, EURIMA, 2012 [3].

<sup>5</sup> High energy efficiency ambition level: ~ 53% reduction of useful energy demand for space heating by 2050 compared to 2012 including new buildings.