

Insulation and the Positive Effects on Outdoor Air Quality

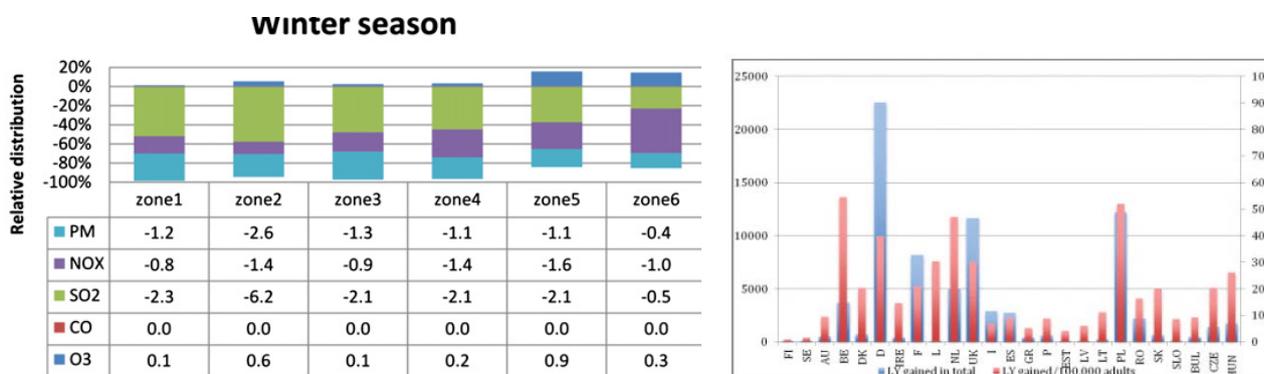
In a Eurima commissioned report carried out across the EU25, an improved insulation scenario with an annual retrofit rate of 2% was compared with a business as-usual one from the period 2005 to 2020. The report looks at the effects on outdoor air pollution, and how this translates into avoided health problems and related societal costs.

This retrofit rate will also benefit the 80 million Europeans living in damp and leaky buildings, which create mould and mildew. The risk of infection almost doubles when mould is present and it can also trigger asthma attacks. Renovating buildings - where Europeans spend 90% of their time - to take indoor climate into account can boost indoor air quality, in parallel to outdoor air quality, and general comfort.

As the EU sets out to review the energy efficiency Directive (EED) and energy performance in buildings Directive (EPBD), it is essential that the multiple co-benefits such as air quality are adequately assessed.

Key messages

1. **An annual EU gain of 70000 Life Years came as a result of the diminished emissions.** This does not take into account the loss of quality during the other life years.
2. **The NEC directive emissions are addressed.** The first part of this research was on the main air pollutants (the ones tackled in the Emissions Ceiling Directive), i.e. ozone, particulate matter, sulphur dioxide, nitrogen oxides and carbon monoxide throughout six European climate zones.
3. **The largest total reduction of emissions of pollutants was found for North-Western Europe.** Especially the effects on emissions of particulate matter and sulphur dioxide are significant, respectively up to 9 and 6.3% reduction compared to a business-as-usual scenario. As example underneath the results for the winter season for the 6 different zones.



4. **Insulation brings more than energy savings.** It is well-known that building insulation can bring energy savings; greenhouse gases emission reductions; higher energy security; higher employment and competitiveness. It is however not as well-known that building insulation reduces the use of energy used in domestic heating and cooling and as a consequent the related outdoor air pollution - thereby triggering significant public health benefits and thus reduces related societal costs.
5. **Economic savings of ≥ 6.65 billion €/year.** Through improved insulation there are enormous societal savings, both in term of health and life expectancy as well as related economic savings which can be above 6.64 billion €/year. As a point of comparison the Belgian health expenses are 30 billion €/year.

The studies are available at the following links:

<http://www.sciencedirect.com/science/article/pii/S1352231012000738>

<http://lodel.irevues.inist.fr/pollution-atmospherique/index.php?id=4780>

Background Information

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 CO₂ 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 benefits of insulation in buildings, please visit www.eurima.org or contact:

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