EUROPE'S BUILDING REQUIREMENTS ARE FALLING BEHIND THE TIMES

With rising energy prices and the need to drastically reduce carbon dioxide emissions, a new study finds that current thermal performance requirements for buildings are no longer adequate.

Out of 100 European cities studied, almost all were shown to have inadequate energy efficiency requirements for buildings, according to a new study - *U-values for Better Energy Performance of Buildings* - commissioned by the European Insulation Manufacturers Association (EURIMA). Whilst thermal insulation has been identified as the most cost-effective solution to tackling climate change\(^1\), the evidence from this new study is clear - Europe's building requirements are currently failing to seize the potential for cost savings and climate security.

“This study provides for a worrying assessment of the current state of Europe's building requirements,” explained Jakob Sørensen, Eurima’s President. He continued, “Homeowners are being left out in the cold; current national requirements mean they are losing money and putting our climate in jeopardy.”

The amount of money being wasted is extraordinary. Calculated under a $70 a barrel of oil scenario there is an energy savings potential of 270 billion Euro a year and an annual carbon dioxide reduction potential of 460 million tonnes, simply from extending the current Energy Performance of Buildings Directive to cover all buildings. This new study shows that going beyond this and implementing tougher thermal insulation requirements would increase the energy and climate savings; savings which would be even further increased if calculated on the most recent peak oil price of $98 a barrel.

Carried-out by Ecofys, an independent and international consultancy on energy efficiency, renewable energy and climate policy the study provides a number of findings:

- **Climate and cost match**: The study found that at 70 US dollars a barrel, the optimum standard from a cost perspective would also deliver the reduction levels needed to achieve Europe's climate change objectives.

- **Insulation works whether it is hot or cold**: To get a real grasp of the cost and climate impacts, the role of thermal insulation to reduce the need for cooling during hot weather was examined. The results demonstrated that thermal insulation can have a major impact on reducing the need to cool a building in hot climates.

- **It is time to rethink requirements**: With individual results from 100 cities across Europe, the conclusions to be drawn from the study are clear - it is time to rethink current building requirements in light of Europe's climate and competitiveness goals. Every city covered by

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\(^1\) A Cost Curve for Greenhouse Gas Reduction, The McKinsey Quarterly, 2007 Number 1
the study can now examine their current requirements and discover how far they are from the cost and climate optimum.

“Our shared challenge is to turn Europe's political commitment to a low carbon future into reality,” said Jan te Bos, Director General of Eurima. He continued, “It is important that stakeholders show the way to this future and Ecofys VII provides exactly that for building requirements. A clear objective is proposed which will hopefully trigger a step change in Europe’s thermal insulation requirements.”

Crispin Dunn-Meynell, secretary general of Eurisol, the UK association of mineral wool insulation manufacturers, said: “The UK is definitely among the leaders in Europe in recognising the need for new house design that cuts energy use and reduces carbon dioxide emissions. However, we must not ignore the potential for existing housing stock and need to apply the same rigour to bring those up to scratch.”

A full copy of the report is available at www.eurima.org

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For further editorial information contact:
Crispin Dunn-Meynell, General Secretary, Eurisol on 020 7935 8532 or email info@eurisol.com or
Ken Harrison, HPR Marketing, on 07801 649045 or email kharrison@hprmarketing.co.uk
Background Information

1. Eurima
- Eurima is the European Association of Insulation Manufacturers and represents the interests of all major mineral wool insulation producers throughout Europe. Eurima members employ over 20,000 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.

2. Eurisol
- Eurisol is the UK association of mineral wool insulation manufacturers. It provides an authoritative source of independent information and advice on energy efficiency, fire safety, acoustic performance and sustainability and the benefits of mineral wool products.
- Within the construction industry Eurisol plays a valuable part in highlighting the abilities of mineral wool insulation to meet the increasing thermal, fire, acoustic and environmental performance requirements of building, industry and commerce. Mineral wool offers unparalleled ‘4-benefits-in-one’ products to meet these ever-more testing demands, both during use and then its whole-life impact on the environment is assessed.
- On a wider front Eurisol works with Government, industry bodies and the construction industry itself to ensure that the mineral wool manufacturing industry plays a full and positive role in helping to meet national, European and global targets for sustainability and carbon performance.

3. The Eurima Ecofys studies
Since 2002, Eurima has been working with the independent energy and environment research institute, Ecofys, to develop a deeper understanding of the potential from buildings. These studies have revealed that:
- Buildings account for 40% of Europe’s CO₂ emissions but thermal insulation could cut these emissions in half [Ecofys I, 2002]
- In its current form the Energy Performance of Buildings Directive (EPBD) will capture only 10% of the potential from buildings but a fully extended EPBD could reduce total emissions from buildings by 460 million tonnes a year [Ecofys II, 2004 and V, 2005]
- Capturing the potential from buildings would save Europe 270 billion Euro a year in energy costs, based on recent energy prices (70 US dollars a barrel), [Ecofys III 2005, IV 2005 and VI 2006], whilst creating up to an estimated 530,000* jobs

4. Energy Use in Buildings
- Currently over 40% of all Europe’s energy is used in buildings, this is more than is used in either transport or industry.
- Measures such as roof and wall insulation can cut this energy use in half, reducing energy use across the EU by 20%, saving the equivalent of 3.3 million barrels of oil a day.

5. Cost Savings from Action
- A concerted effort to reduce energy use in buildings across the EU 25 would save Europeans, at recent energy price levels, approximately 270 billion Euro a year in energy costs.
- This figure is based on a finding of the Ecofys VI (2006) study, which used the then peak price of 70 US dollars a barrel of oil as a basis for the calculation; the most recent peak price, 6 November 2007, was 98 US dollars a barrel.
6. Environmental Benefits
- The major environmental benefit from reducing energy use in buildings is a decrease in carbon dioxide emissions.
- The technical potential from buildings across the EU is a CO₂ emission reduction of 460 million tonnes (Mt) per year, which is more than the EU's total Kyoto commitment.
- If a concerted action was launched today to improve energy efficiency in buildings, a CO₂ emission reduction of 83 Mt per year by 2010 could be achieved with this figure rising to 144 Mt per year by 2015 and the technical potential of 460 Mt per year being reached by 2032.

7. Job Potential
- Improving energy efficiency in buildings would require a major effort to renovate existing homes, which has the potential to create significant jobs across the EU.
- It is estimated that a concerted effort to improve energy efficiency in buildings would lead to the creation of the equivalent of up to 530,000* full time jobs across the EU 25.
- These jobs would remain for the entire period of the renovation cycle, e.g. 30 years.

* Eurima estimate