

THE UPSETTING TRUTH

While the threat of global warming becomes more certain, the most effective measures to reduce greenhouse gas emissions remain unexploited

A LUKEWARM RESPONSE

Current EU rules on energy efficiency in buildings fail to capture 90% of the potential to reduce CO₂ emissions

UNLOCKING THE POTENTIAL

A new report by ECOFYS* demonstrates that the biggest potential for energy efficiency improvements lie in central and southern European countries

* The ECOFYS report was sponsored by EURIMA (European Insulation Manufacturers Association) and co-sponsored by EuroACE (The European Alliance of Companies for Energy Efficiency in Buildings).

For more information on the potential of insulation or to download a copy of the ECOFYS report, please go to www.eurima.org/pho.

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This guide is printed on printspeed offset 150g, a paper originating from sustainable forestry

Design: www.morris-chapman.com
02/2004



PUTTING OUR HOUSE IN ORDER

The evidence for
more action on
energy efficiency
in residential
buildings

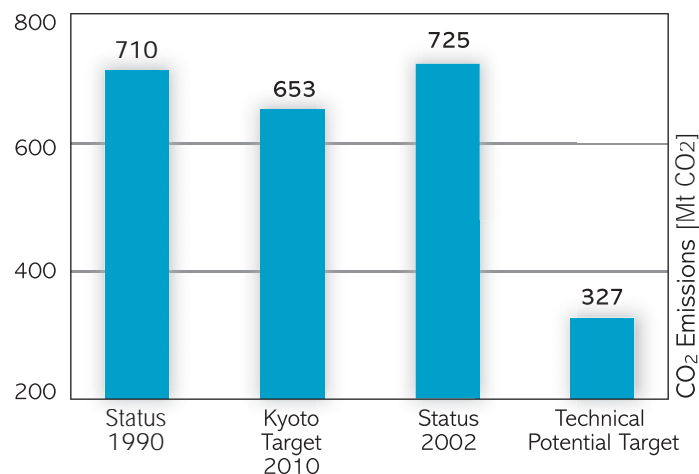
THE UPSETTING TRUTH



The global challenge

It is the upsetting truth that 2003 was one of the warmest years on record. Yet faced with the growing evidence that climate change is causing an increase in damage across the globe, international efforts to combat these threats have reached one of their lowest ebbs. **Action is needed to put our global house in order.**

CO₂ Emissions from Building Stock (EU-15)



Europe at risk

In the EU, the ideals of Kyoto are being watered down by legislative compromise. Far from setting an example to the world on how to implement cost-effective measures, we risk achieving far less than promised, whilst also putting our economies in danger.

A solution waiting to be seized

Energy use in buildings accounts for **more than 40%** of all CO₂ emissions in the EU. Yet measures exist today that could slash this figure.

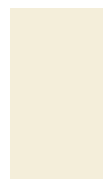
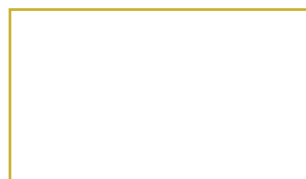
The evidence is striking. Using existing technology, such as proper insulation, Europe could reduce greenhouse gas emissions from the building sector alone by approx. 400 million tonnes – this is more than the total EU commitment made in Kyoto.

To put this into context, to achieve equivalent levels of emission reductions from other measures, we would need to:

- Take the 6 million cars that currently circulate in London off the road for 15 years
- Plant forests 3 times the size of France

Recognised but insufficient

Recent European legislation on energy efficiency from buildings has taken a small step towards capturing this potential for reducing emissions. However, a new report by one of Europe's leading institutes for energy efficiency, ECOFYS, shows that **90%** of the potential remains outside the new rules. The striking results of this new research call for more radical actions to **put our house in order.**



CHILLING FACTS

- The warmest years on record were 1999, 2002 and 2003
- European alpine glaciers shrank a record 3 metres during 2003
- The Earth experienced 160% more hurricanes than the average in 2003
- Europe's dependency on foreign energy supplies is expected to increase from 50% to 70% over the next 2 to 3 decades

PUTTING OUR HOUSE IN ORDER

It is time to get serious about energy efficiency - the longer we leave this potential untapped the more our economies and planet suffer

The EU needs to adopt radical measures to improve energy efficiency

A LUKEWARM RESPONSE



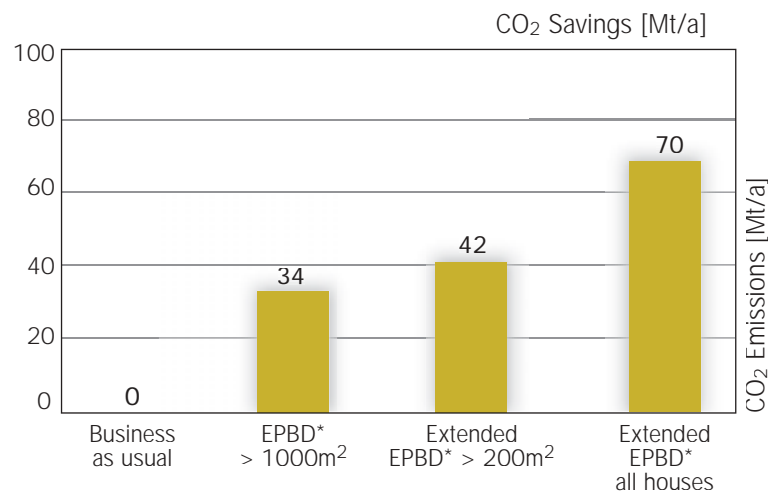
An important first step

The European Directive on the Energy Performance of Buildings (2002/91/EEC) is the most significant measure that has been adopted by the EU. The aim: to reduce greenhouse gas emissions from buildings.

The Directive's focus is on new buildings whilst also proposing certain measures that encourage energy efficiency improvements for existing large buildings (greater than 1000 m²).

Although an important first step, the EU rules only tap into a fraction of the potential that exists to reduce emissions. It is in the renovation of existing small residential buildings where massive opportunities for improvements lie, particularly through **improved insulation levels**.

The temporal impact of extending the current Directive to cover all buildings by 2010



* European Directive on the Energy Performance of Buildings

Moving the needle further

The new research by ECOFYS, demonstrates that **90%** of the potential to reduce emissions from buildings lies outside the current EU rules. The findings show that the current legislation fails to cover two key aspects:

1. The most significant area for improvement lies outside the scope of the Directive

- Although the EU Directive provides a good first framework for new and large buildings, most **emissions** come from existing small buildings – it is here that the real potential for significant emission reductions must be seized. Installing proper mineral wool (glass wool and stone wool) insulation would be an important step towards seizing this potential.

2. Significant lifestyle trends are not captured by the Directive

- Energy efficiency in buildings is generally associated with heating, but as temperatures and incomes rise, so does the use of air-conditioning – especially in central and southern Europe.
- Proper energy efficiency measures such as **improved insulation** can be used to combat the energy needed to cool homes.

KEY LEARNING

Due to existing regulations in northern EU countries, it is in the southern and central European countries where the greatest potential lies

CHILLING FACTS

- Extending EU rules to cover all buildings could technically lead to a five-fold decrease in CO₂ emissions
- The potential for emissions reductions from buildings in central and southern Europe is 25 times greater than in northern Europe

PUTTING OUR HOUSE IN ORDER

Most of the potential emissions reductions lie outside the current Directive

The current Directive needs immediate revision so as to capitalise on this huge potential

UNLOCKING THE POTENTIAL



Outside the scope of the Directive: smaller buildings – a must-do action

Smaller existing buildings such as homes and offices (less than 200 m²) alone account for over half of the potential emissions savings that remain untapped in the European building sector.

These buildings are less likely to be renovated and their insulation levels are less likely to be improved without strong government support and incentives.

However, it is in this area where the most benefits can be realised. For example, **proper insulation**, such as mineral wool (glass wool and stone wool) in these homes would make a contribution for years and years to come, protecting in one effort our wallets and our children's futures.

Lifestyle trends to be captured: tackling the threat of the demand for cooling

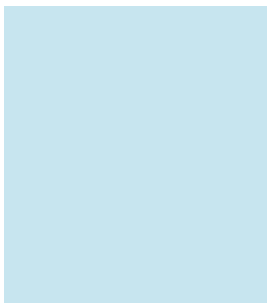
As Europeans increase the use of air-conditioning, energy use is set to rise dramatically unless proper energy efficiency measures are implemented.

With this comes the threat that any reductions in greenhouse gas emissions achieved by the current legislation on buildings will be significantly undermined.

However, energy efficiency measures can be highly effective not only reducing heating costs but also the energy needed to cool buildings. For the moment, however, these measures are outside the scope of the current European rules.

What the evidence tells us:

- The warmer the climate, the more impact energy efficiency measures can have
- **Insulation** combined with other measures, in particular reducing heat load, can reduce the cooling demand of a building by **up to 70%**



CHILLING FACTS

- Air-conditioning sales in Europe have been growing by 10% per year – the heatwaves of 2003 are expected to push this figure up to 20%
- The emission reduction potential from small buildings is so large that it dwarfs that of other EU measures such as emissions trading and energy efficiency measures in cars

PUTTING OUR HOUSE IN ORDER

A window of opportunity

- Increasing emissions of climate change gases pose a major threat but aggressive action to curb these emissions can still have a vital impact
- Energy efficiency in buildings creates a win-win situation, improving the climate of both our planet and our economies
- The evidence is clear there remains a huge potential from buildings and current measures fall far short of what is needed
- It is time to put our house in order and to accelerate our efforts to improve the energy efficiency of Europe's buildings through insulation