

SUST
TECH

The lean way: Efficient buildings

More bricks to be laid

■ Buildings: a gold mine of energy savings

The building sector, which consumes the most energy and emits the largest amount of CO₂ of any, is nonetheless the sector with the greatest leverage to fight energy waste. While not subject to the European Emission Trading Scheme, the sector is at the centre of attention, as it could enable member States to comply with their challenging Kyoto targets with very little negative side effects.

■ An upbeat context

The building renovation market has not reached its expected potential despite a wide range of favourable factors that promote energy efficiency and encourage renovation, namely:

- High energy prices;
- Various regulations that impose stricter standards and help households carry out thermal retrofitting through tax credits, low-interest loans and market-based tools;
- A series of available and proven technologies with an acceptable price and return on investment..

From EUR20bn at present, the market is set to grow to EUR60bn p.a. in Europe by 2050 in order to renovate efficiently all existing buildings and meet Kyoto Protocol commitments.

■ But the remaining hurdles are holding the market back

With the credit crunch spreading to affect the new residential sector in some European countries and the announced economic slowdown, companies are back to major cycles constraints after years of buoyant market trends. Despite a superior growth rate for innovative energy efficient products, each player is likely to be subject to the market conditions of the regions in which it is active. However, growth trends will prove to be very mixed in Europe, depending on countries, end-markets and penetration rates.

Furthermore, shortages of labour and skills are two major factors curbing sector growth.

■ Not yet an investment theme

This is why we believe that, despite the apparent appeal of this theme, the timing is not favourable for the formation of a premium for insulation and heating equipment companies compared to their other building materials peers.

Potential will still require positive signals, for instance increasing constraints, direct public investments or recovery of the market in order for it to be fully reflected in the share prices of players such as Saint-Gobain, SIG, Kingspan or Rockwool.

The Lean Way

In-depth equity research on Energy Efficiency

In a world where on average 80% of electricity production is lost between extraction and consumption, enforcement of the Kyoto Protocol objectives, the rising cost of energy and the prospect of a decline of supply, together with the more recent constraint of an economic slowdown, have increased the need to enter a new era of improvement in energy efficiency: **The Lean Way**

So far, however, improvements in energy efficiency have been mainly the result of structural economic changes such as the shift from manufacturing to service economies, under which energy-intensive industries have been outsourced to developing countries. This led to a transfer in primary energy consumption and a decrease in overall energy intensity during the first part of the 1990s. However, the slowdown in energy efficiency improvements from the late 1990s onwards indicates that we are reaching the limits of this structural change effect, which underlines the importance of political action to further reduce final energy intensity.

As they begin to address these issues in earnest, policymakers may be tempted, in a tougher economic environment, to further incentivise more efficient use of resources, production and consumption channels rather than increasing budget-intensive public support for clean technologies (in particular renewable energy technologies).

It is clear, however, that policymakers' objective at this stage is not to hold back energy demand growth. Our '2030 power generation model' still forecasts a substantial 1.3% annual increase in European energy consumption out to 2030 (2.9% worldwide according to our model). The absolute vs. relative nature of this growth is therefore a key sustainability issue: the objective is to reverse the global trend in which final energy intensity continues to decrease at a slower pace than primary energy intensity, meaning that rapid growth in electricity consumption for end-users (a 29% increase in KWh per capita in Europe by 2030, according to our model) must be offset by strong efficiency gains by shifting to alternative energy sources and technologies.

Owing to extensive application of the subsidiarity principle, the EU action plan for energy efficiency is ambitious (388 Mtoe savings by 2020), but spread over a vast range of measures: prohibiting certain products, introducing market instruments, voluntary agreements, labels, and other regulatory and private measures. Although converging in the right direction, it appears that the plan is too scattered at this stage to achieve a structural shift in demand. However, in our view, it will work in specific areas and will positively impact the industries exposed.

Investment opportunities thus depend on the answers to the following key questions:

1. How strong is the regulatory momentum? According to a recent MEP report, *"Both the Commission and member-state governments have been guilty of a serious dereliction of duty over the implementation of energy-efficiency legislation"*. It strikes us that EU targets have been set without providing any guidance on how to gauge their achievement, and that questions surrounding proper indicators remain controversial at this stage.
2. To what extent will these technologies pay for themselves? In the context of fragmented and uncertain regulatory support, investment should focus where it "pays most to save", as CO₂ abatement cost considerations and the strong increase in energy prices can drive capex for energy efficiency thanks to substantial acceleration of investment pay-back rates. This trend also drives new catalysts for growth and pricing power for suppliers.
3. Is the economic slowdown good news or bad news? Although the current weakness of economic growth might appear to be the necessary trigger to boost energy productivity gains, energy-efficient technologies are mainly applied to new products, which implies purchasing power, increased capital spending and therefore economic growth. It is therefore a key aspect of our analysis to assess how the acceleration factor of product replacement cycles can create resilience to cyclicity.

The Lean Way is a series of reports focusing on the market opportunities of energy efficient themes:

- Efficient Lighting
- Efficient Building
- Efficient Transport
- Efficient Electrical Services

We believe that reducing the amount of energy required to generate one euro of GDP can boost the performance and sustainability of one euro invested in companies active in energy efficiency that will contribute to this long-term objective.

Investment recommendation

More bricks to be laid

Overall European insulation and efficient heating equipment market amounted to EUR20bn in 2007.

In Europe, there are at least 125 million houses to be renovated, which represents a market of EUR60bn p.a. out to 2050 directed to insulation and installation of heating equipment that is either more efficient or uses renewable energies.

Everything has been put in place to promote energy efficiency in buildings

Indeed, the potential energy savings in buildings by 2020 is huge, and was estimated at 10% of the final energy consumption of buildings (both residential and commercial) in Europe in 2005 (42 Mtoe). This would represent direct savings of around EUR12.8bn per year on energy costs.

Moreover, technologies to achieve these gains exist and are cheaper than is commonly believed.

Furthermore, a full range of regulations has been put in place to:

- Impose stricter standards for new buildings and for new equipment;
- Encourage households to renovate dwellings.

The regulations in place range from the Energy Performance of Buildings Directive to tax incentives and market-based tools via low interest loans.

Nevertheless, many hurdles remain...

The credit crunch is now spreading across Europe, making both geographical and market exposure two key criteria for the future growth of stocks.

The labour and skills shortage curbs the sector's growth, and the technological transition is not yet complete (e.g. which solution in a case-by-case approach, which renewable energy in a given context, etc.).

This market also faces structural challenges, with a critical principal-agent problem, as landlords and tenants often do not share the same incentives to reduce energy consumption.

Finally, an increase in raw material and energy prices has triggered rising building material prices, which are going to face pressures on the demand side.

...and there is no obvious premium for stocks of companies that provide insulation or efficient heating equipment yet

The performance of players in this market – e.g. Saint-Gobain, Kingspan, SIG and Rockwool – will depend on their geographic exposure, market category activities and local penetration rates. Their performance is therefore expected to follow that of the building industry as a whole, despite an observed superior growth rate of insulation products.

However, future resilience or growth recovery will mainly be dependent on direct public investment and the organisation of building trades (sharing of skills) and recovery of employment in the sector.

The estimated market
is far from being
reached

However, the potential
is huge!

Technologies exist

Regulation strongly
encourages energy
savings...

...but various hurdles
remain that are not yet
overcome

Innovative insulation
material and heating
equipment have
stronger growth rate
but companies results
will follow the market
trend...

...as long as there is
no direct investment
from states

CONTENTS

Investment recommendation	3
I— Buildings, a source of energy savings	5
■ Worldwide	5
■ Europe	5
■ Energy savings potential is huge	8
II— Technologies: making something old into something new	11
III— Assessing the market size	13
■ The current European market size	13
■ Market potential is far from being reached	14
IV— Regulation as a driver – as always	15
■ The price signal is not sufficient	15
■ Regulations to impose performance standards	15
■ Encouraging refurbishment to save energy	17
■ From incentives to bans	18
■ Worldwide regulation	18
V— Significant hurdles remain	21
■ Principal-agent problem effects: the landlord-tenant relationship is not optimal	21
■ The economic cycle, the main driver of top-line growth	23
■ Raw material and energy prices	25
■ Labour and skills shortage	26
VI— Looking for a premium	27
■ Premium for efficient products?	27
■ Premium for well-exposed companies?	28
■ Waiting for positive signs	29

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I— Buildings, a source of energy savings

Residential and commercial buildings are both major final energy consumption sectors and contributors to global warming. Yet these sectors show impressive energy savings potential and are subject to particular attention as easy sources of leverage to reduce Europe's energy dependence and lower CO₂ emissions.

■ Worldwide

According to the International Energy Agency and McKinsey & Company,

The residential sector:

- Consumes 25% of global energy demand;
- Could save up to 21% of energy by 2020 when taking into account a CAGR of energy consumption of 2.4% in a “business-as-usual” (or BAU) scenario.

It is the sector with the largest opportunity to raise energy productivity.

The commercial sector:

- Consumes 10% of global end-use demand;
- Could save up to 20% of energy by 2020 when taking into account a CAGR of energy consumption of 2.3% in a BAU scenario.

■ Europe

Residential sector

Households consume 26% of final energy demand in the EU-25 (298 Mtoe in 2005).

Households emit 23% of total end CO₂ emissions in Europe.

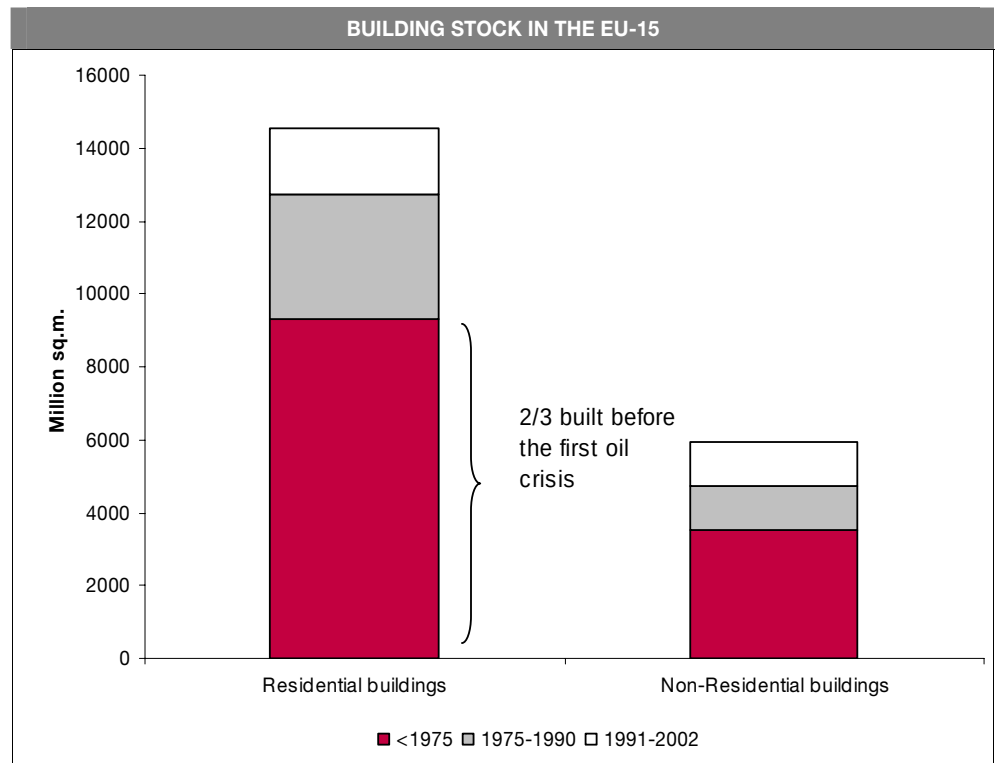
The average consumption of dwellings in the EU-15 was 232 kWh/sq.m in 2004 compared to 254 kWh/sq.m in 1990, of which heating consumption accounts for 70% (down 6% from 1990 to 2004).

Heating consumption in **new buildings** was 112 kWh/sq.m in 1990 and 32% lower in 2005 (76 kWh/sq.m).

In the current building stock, dwellings built before 1990 represented 82% of the total in 2005 and two-thirds of the dwellings were buildings built before 1975, i.e. before the first oil crisis, without any consideration of the energy performance.

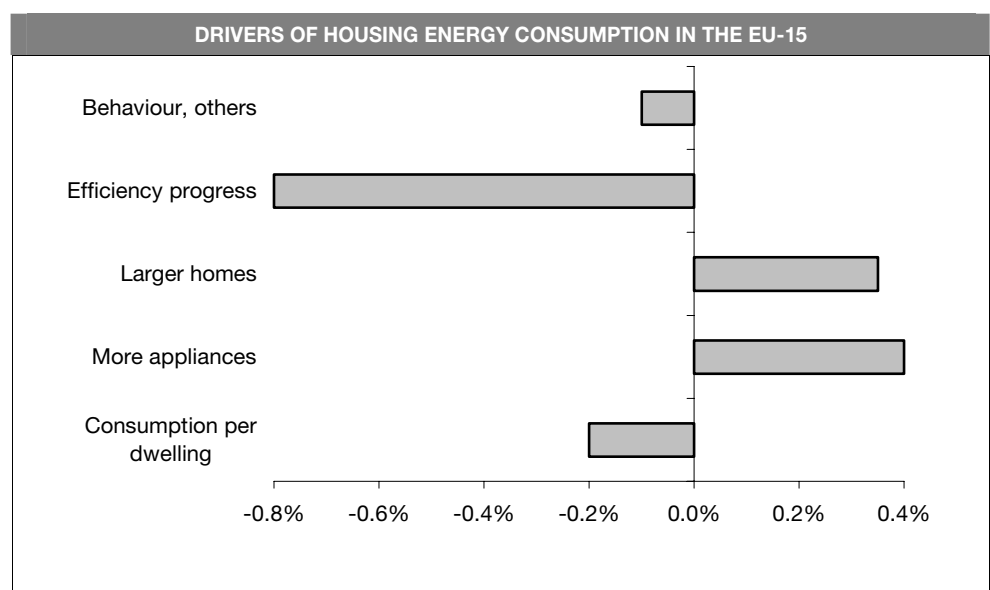
The residential sector consumes 26% of final energy demand and emits 23% of total CO₂ emissions in Europe

Household energy consumption is mainly driven by the growth in the number of dwellings



Source: IEA

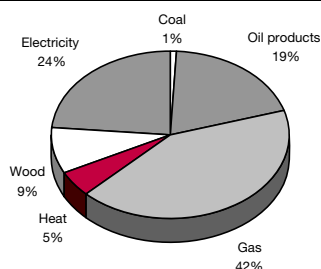
Household energy consumption is mainly driven by the growth in the number of dwellings. These have increased 2.5 times more than the population because of a steady reduction in the number of persons per dwelling (from 2.8 in 1990 to 2.5 in 2004). However, the average energy consumption per dwelling was below its 1996 level, with an average of 1.6 toe/dwelling in the EU-25. In the EU-25, the dwelling size increased on average by 3 sq.m between 1996 and 2004, from 85 sq.m to 88sq.m.



Source: IEA

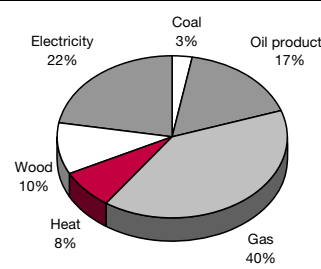
Energy efficiency improved by only 3% in the household sector between 1996 and 2004 in the EU-25 as a whole. Moreover, **there have been significant CO₂ savings in the residential sector – 60mt CO₂, i.e. 8% – mainly due to fuel switching.**

ENERGY CONSUMED IN THE RESIDENTIAL SECTOR
IN 2005 IN THE EU-15



Source: Odyssee

ENERGY CONSUMED IN THE RESIDENTIAL SECTOR
IN 2005 IN THE EU-27



Source: Odyssee

Potential residential (household) energy savings are estimated by the EU Commission at around 27% in 2020 when taking into account a CAGR of energy consumption of 2.4% in a BAU scenario.

Commercial buildings consume 15% of final energy demand and emit 14% of CO₂ emissions in the EU-27

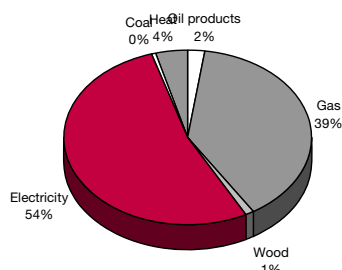
Commercial sector

Commercial buildings represent 15% of final energy consumption in the EU-25 (164 Mtoe in 2005).

The commercial sector emits 5% of CO₂ emissions in the EU-15, while it emits 14% of final CO₂ emissions in the EU-27.

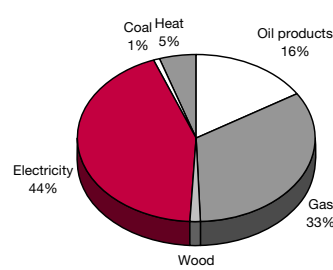
Commercial sector energy efficiency increased by one-third from 1996 to 2005.

ENERGY CONSUMED IN THE COMMERCIAL SECTOR
IN 2005 IN THE EU-15



Source: Odyssee

ENERGY CONSUMED IN THE COMMERCIAL SECTOR
IN 2005 IN THE EU-27



Source: Odyssee

Because of the primary importance of appliances used in commercial sectors (computers in offices, equipment in hospitals, etc.), electricity represents a much larger share of energy consumption in commercial buildings than in residential.

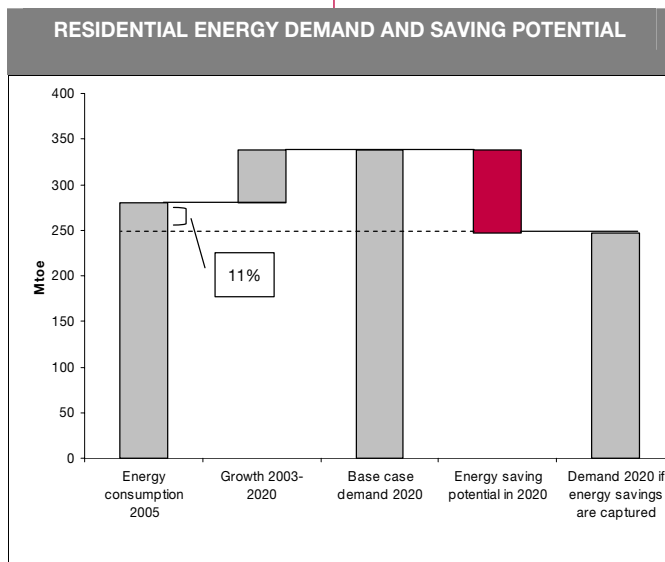
Potential commercial sector energy savings are estimated by the EU Commission to be around 30% in 2020 when taking into account a CAGR of energy consumption of 2% in a BAU scenario.

■ Energy savings potential is huge

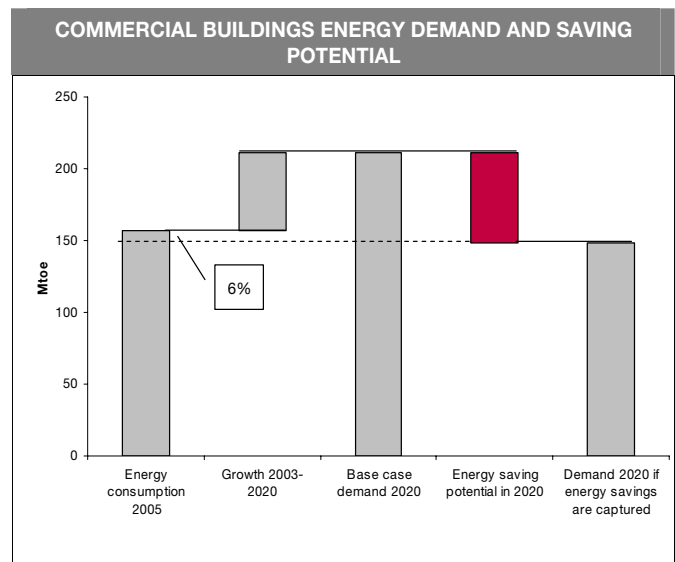
ESTIMATES FOR FULL ENERGY SAVINGS POTENTIAL IN END-USE SECTORS

Sector	Energy consumption (Mtoe) 2005	Energy consumption (Mtoe) 2020 (BAU)	Energy savings potential 2020 (Mtoe)	Full energy savings potential 2020 (%)
Households (residential)	280	338	91	27%
Commercial buildings (tertiary)	157	211	63	30%

Source: European Commission



Source: European Commission



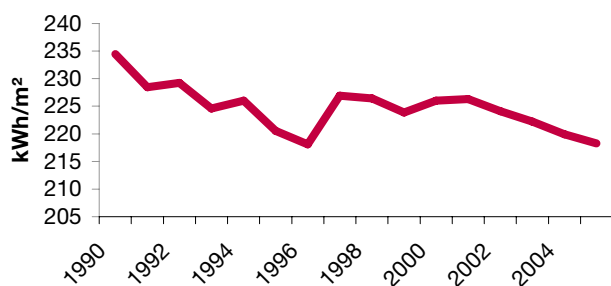
Source: European Commission

500 TWh of energy saving potential i.e. EUR12.8bn p.a.

The energy savings potential estimates for 2020 would not only offset the projected growth in consumption, but would also enable saving of 10% (11% in the residential segment and 6% in the commercial sector) of current energy consumption, i.e. 42 Mtoe or, approximately 500 TWh.

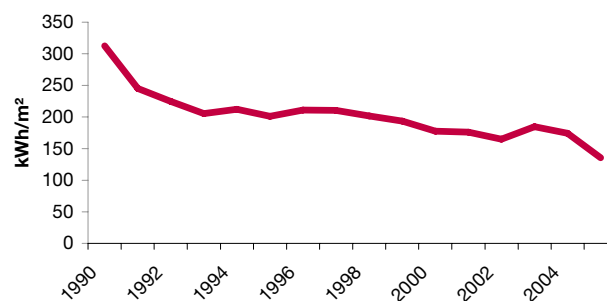
To give an idea of the size of this saving, taking into account the energy consumption mix of buildings, 500 TWh of energy savings means that we could close approximately 38 large nuclear plants – or something like 100 power plants in Europe – and avoid 110,000bbl per day of oil and 840mbtu of gas. In financial terms, this represents no less than **EUR12.8bn of costs savings per annum!**

AVERAGE HOUSEHOLD CONSUMPTION



Source: Odyssee

AVERAGE COMMERCIAL BUILDING CONSUMPTION



Source: Odyssee

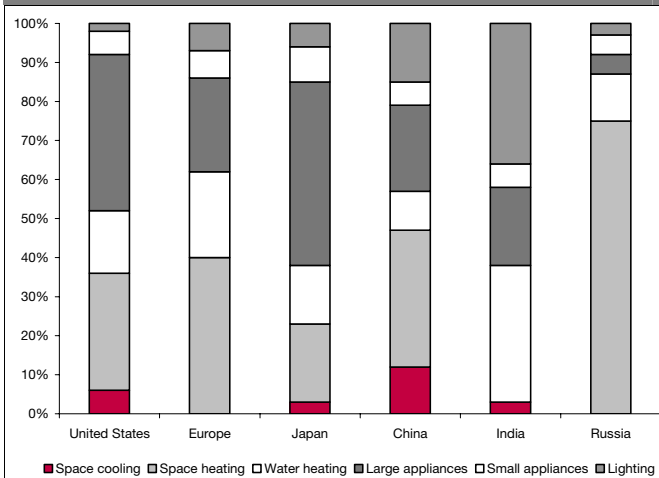
Energy efficiency increased by about 15% between 1990 and 2005 (0.9% p.a. – more than the average increase in consumption), including a 14% rise in efficiency for heating and almost 20% for large appliances. These efforts are also to be attributed to the oil crisis, which, for the first time after 30 years of massive growth, confirms the Club of Rome's assertion that raw materials and resources are finite and limited and need to be preserved.

In order to reach Kyoto targets in this sector, average consumption would need to be reduced by 60% to 80-100 kWh/sq.m from an average of 220 in 2005 in the residential sector and 135 in the commercial sector.

Where to save energy?

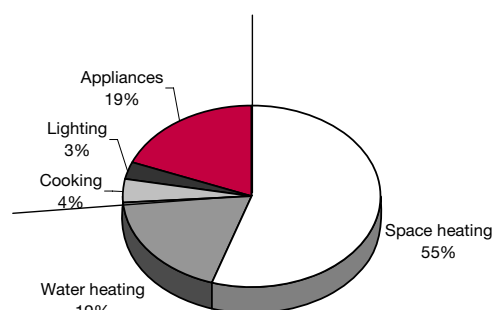
The potential for cost-effective savings from improvements in heating, cooling, ventilation and hot water in the building sector, which accounts for approximately 40% of all energy use, is at least 20 EJ per year by 2030 (source: IEA 2007).

SHARE OF END-USE DEMAND VARIES BY COUNTRY



Source: McKinsey & Company

HOUSEHOLD ENERGY CONSUMPTION IN THE EU-15

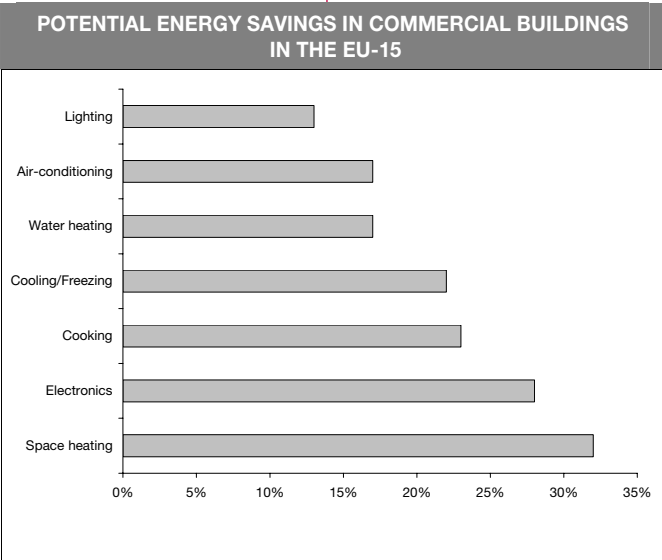


Source: IEA

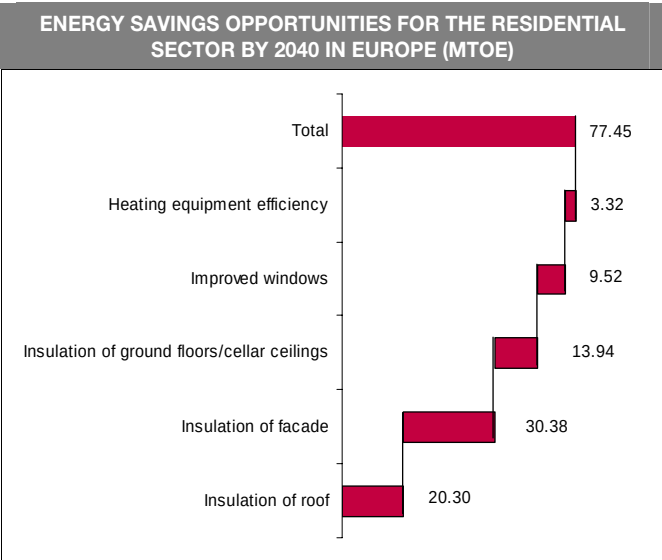
As 75% of energy consumption is for space and water heating in residential buildings, installing insulation and replacing heating equipment with more efficient models are the two main ways to improve efficiency.

However, in commercial buildings, energy savings sources are to be found in the use of electronic devices and air conditioning systems.

While white appliances have displayed, with specific labelling, their energy consumption for some years now, consumers of electronic devices such as computers are not as informed as for white goods and therefore no significant improvements have been made in this sector.



Source: McKinsey & Company



Source: Ecofys

II— Technologies: making something old into something new

The techniques for reducing energy consumption in buildings are simple and proven. They involve better insulating the building's shell and equipping it with a high-performance space and water heating system. With these two approaches, a building's energy efficiency can be greatly enhanced. If, in addition, appliances are replaced with efficient ones, the improvement is spectacular.

EXAMPLE OF ENERGY AND COSTS SAVINGS WITH SIMPLE RETROFITTING

Non-insulated House

No insulation.
Single-glazed windows.



Fully-insulated, well-equipped benchmark house

Wall insulation (R=3.15) with Optima system GR 32 (1400mm thick). Attic insulation (R=5.5). Floor insulation 4cm thick under a floating screed and 4 cm peripheral insulation under concrete on the foundation.

4/16/4 low-emission double-glazed windows.



Gas heating

Heat loss	kWh/m²	2269	0.426
Primary energy consumption of the house	kWh	69224	12515
Indicator per sq. m of end energy consumption all uses	kWh/m²	518	87
Indicator per sq. m of end energy consumption heating	kWh/m²	467	56
Heating costs for the house	Cost index	100	12
Environment indicator for heating	kg of CO ₂ /m²	95.7	11.4

Source: Saint-Gobain

Energy savings can be achieved with basic renovation work: roof, wall and floor insulation, and replacement of windows with up-to-date double-glazed windows. This simple retrofitting could reduce a home's heating costs by 88%.

According to Vattenfall's study on carbon abatement costs, the building sector has a large negative average abatement cost of EUR93/tonne of CO₂ equivalent, as many of the energy efficiency measures are profitable in their own right, since savings from increased energy efficiency outweighs the increased investment and operating costs.

■ Bioclimatic architecture of new houses

Well designed from the outset using bioclimatic principles, a new building with solar water heating could achieve "zero energy" status at a cost equivalent to that of a good-quality traditional house.

■ Even in high-rise multi-family residences, simple retrofitting could make a difference.

The following table presents the International Energy Agency's estimates of potential energy savings and cost reduction of refurbishment with common features.

ENERGY SAVINGS, INVESTMENT COSTS AND COST OF CONSERVED ENERGY

	Type of insulation or renovation	U-value before (W/m ² °C)	U-value after (W/m ² °C)	Energy saved [kWh/m ² a]		Annual investment cost [EU/m ² a]	Cost of conserved energy [EURcent/kWh]	Simple payback time [years]	Cost of supplied energy [EURcent/kWh]	Net cost of conserved energy [EURcent/kWh]
Warm climate EU-15	Walls	2.37	0.46	66.6	35.70%	1.32	2	2.8	12.4	-10.4
	Roof	3	0.39	22.5	12.10%	0.17	0.8	1.1		-11.6
	Floor	2.93	0.47	21.3	11.40%	0.18	0.9	1.2		-11.6
	Windows	4.56	2.64	22.2	11.90%	0.93	4.2	5.8		-8.2
	Package	2.93	0.85	132.6	71%	2.61	2	2.7		-10.4
Moderate climate EU-15	Walls	1.61	0.46	77.7	32.70%	1.7	2.2	4.3	8.8	-6.6
	Roof	1.46	0.27	17.2	7.30%	0.26	1.5	3		-7.3
	Floor	1.79	0.51	18.4	7.80%	0.18	1	2		-7.8
	Windows	3.38	1.77	39.2	16.50%	1.56	4	7.8		-4.8
	heating control*			71.3	30.00%	0.24	0.3	0.8		-5.5
	Package			178.1	74.9%	3.94	2.2	4.5		-6.1
	+Boiler replacement			191.2	80.5%					
	Hot water effect			17.3	22.1%	3.99	1.9	4.0		-6.2
Cold climate EU-15	Walls	0.91	0.27	62.7	27.70%	1.33	2.1	5.1	7.1	-5
	Roof	1.66	0.22	31	13.70%	0.31	1	2.4		-6.1
	Floor	0.89	0.29	12.9	5.70%	0.31	2.4	5.8		-4.7
	Windows	2.87	1.41	41.6	18.40%	1.87	4.5	10.9		-2.7
	Heating control*			67.9	30.00%	0.25	0.4	0.7		-6.8
	Package	1.33	0.46	171.6	75.90%	4.07	2.4	5.7		-4.8

*thermostatic radiator valves and balancing valves

Energy savings are calculated by multiplying heating degree hours with the difference between U-values before and after retrofitting and the efficiency of heat efficiency of heat generation and distribution.

Source: IEA, OECD

The IEA has identified a Europe-wide cost-effective energy savings potential of 28% for energy-efficient refurbishment of the high-rise residential housing stock. 36 million European households live in high-rise residences (multi-family buildings with more than four storeys), i.e. one in six. Achieving this potential would imply a 1.5% reduction in Europe's total final energy demand and annual CO₂ emissions savings of 35mt.

It is interesting to see that, regardless of the climate, the most efficient measure is to insulate the walls and to install thermostatic radiator valves to control heating. While the former measure has a much longer payback period, the cost of the latter is very rapidly recovered.

In addition, in spite of the long payback period for window replacement, this work usually brings good advantages in terms of interior comfort.

Although the payback period for insulation works is not longer five years, we note that, while this may appear to be relatively rapid, it is already too long for most households that rent their dwellings. The payback is directly affected by the landlord-tenant incentives problem (see page 23), which considerably limits the pace of renovation.

Perception of payback is biased by the landlord-tenant effect

III – Assessing the market size

The market potential is far from being reached:

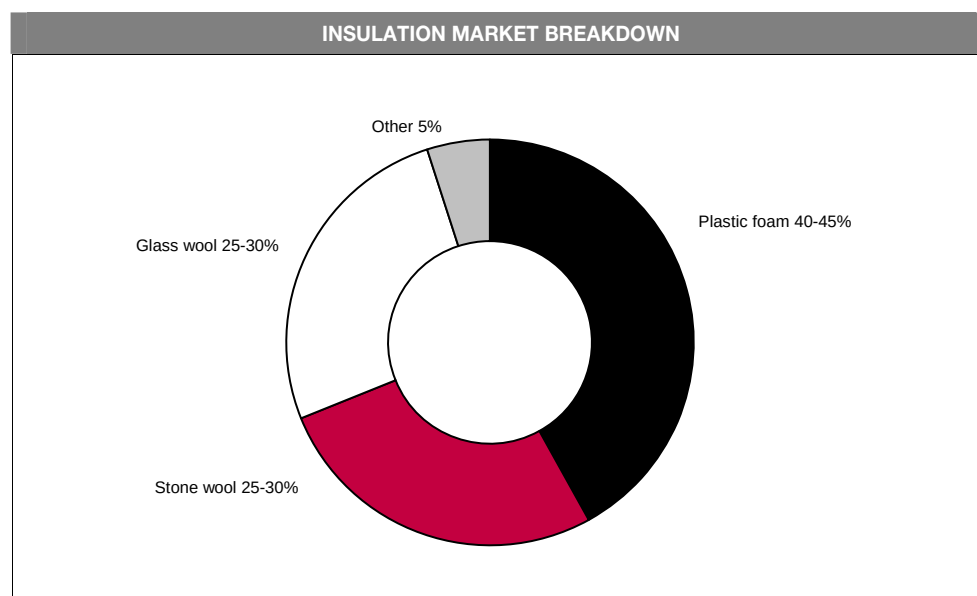
- *The current European market for insulation and heating equipment is estimated at circa EUR20bn p.a.*
- *This market could reach up to EUR60bn per annum until 2050 to achieve the energy savings potential assessed by the European Commission.*

■ The current European market size

Insulation market has benefitted in recent years from the flourishing building market.

Insulation products for wall, roof and floor

In 2007, Rockwool estimated the European insulation market at EUR8bn.



Source: Rockwool

The insulation and efficient heating equipment market is estimated at EUR20bn in 2007

The glass market

In addition, we estimate the transformed glass market to be worth between EUR6bn and EUR9bn, of which 31% in new buildings and 27% in the renovation market. The sector is highly concentrated upstream, on the glass float market, but still very fragmented in the transformed phase.

Efficient heating equipment

In 2006, the market for condensing heating systems in Europe was worth just under EUR2.2bn and is expected to increase twofold by 2014 (CAGR of 4.7%). Moreover, the global market for solar thermal systems was worth EUR1.6bn in 2006 and is expected to grow to EUR2.8bn by 2014, with a 4.3% CAGR (source: Bosch).

The overall market for energy efficient building materials and equipment was valued at circa EUR20bn in 2007.

■ Market potential is far from being reached

However, the thermal improvement of all existing buildings in Europe would require more massive investments. Initial financial estimates indicate that around EUR600bn-900bn would be needed. Two-thirds of this cost would be borne by households, i.e., between EUR400bn and EUR600bn.

According to our calculations, by extrapolating data provided by the ADEME of the expenses needed to increase energy efficiency, **we estimate that the European market for insulation and the installation of heating equipment using renewable energies could amount to more than EUR60bn p.a. out to 2050.**

ASSESSMENT OF THE MARKET SIZE OF RENOVATION IN RESIDENTIAL SECTOR IN THE EU-27

Year of construction	Residential property base (million units)	Average square metres per dwellings	Expense needed to reach an average of 100kWh/sq. m	Total expense (EUR bn)
<1975	125	75	200	1 871
1975-1990	46	80	120	441
1991-2002	24	90	50	109
				2 421

Source: Cheuvreux

The IPCC has given a timeframe of 2050 for its objective of halving global CO₂ emissions compared to 2000. Developed countries have been called on to make a greater effort, and industrialised countries should divide their CO₂ emissions by 4 or 5.

However, considering that the effects and hazards of global warming are making themselves felt more rapidly than expected (e.g. the Tara Arctic expedition's experience), these objectives, despite their challenging nature, could be revised for an earlier date.

It is important to note that, despite this impressive amount (2.5 trillion), the huge renovation work required will not have many negative side effects. On the contrary, many positive impacts are expected. Thus, a group made up of the NegaWatt association, the Climate Action Network, and insulation industry specialists (Effinergie) and architects has indicated that efforts must be carried out on a massive scale in a short time span in order to avoid the risk of "cutting potential energy savings in two, virtually doubling the period for a return on investment, and ultimately being required to do the renovation works a second time". Furthermore, this group specifies that "if the target is set at the right level, the project of thermal retrofitting for existing buildings will not weigh on the State's budget, but will finance itself, via banking tools, by reducing future expenditure on heating and the economic benefits of the resulting business".

Even sustained oil prices at USD70/bbl would not sufficiently influence demand: regulation is needed

IV – Regulation as a driver – as always

In a “business as usual” scenario, in the residential sector, we would attain an average of 100kWh/sq.m only by the year 2172!

Therefore, it is crucial to speed up renovation, and this has been done on a wide scale through a large variety of regulatory tools ranging from hard law to incentives via market-based tools.

■ The price signal is not sufficient

It is commonly admitted now that the market alone will not capture the full potential of higher energy efficiency. Even sustained oil prices at USD70/bbl would not sufficiently influence demand. This is because most energy prices paid by consumers do not reflect global oil prices and because global energy markets are rife with market inefficiencies and distortions that explain why consumers and companies fail to capture the savings from higher energy productivity. Furthermore, energy efficiency is not a major concern for consumers or firms because energy costs are low compared to the cost of other factors (e.g. labour).

For example, in the office space market in London, energy costs are equivalent to 1-2% of rental costs. In Australia, energy costs represent 2.5% of total expenditures in the residential sector, 1.6% in the commercial sector, and less than 3% in industrial sectors.

■ Regulations to impose performance standards

Hard law

On a European level

EU Directive 2002/91/EC on the energy performance of buildings.

- Minimum standards of energy performance in new buildings;
- Minimum standards of energy performance in existing buildings undergoing substantial renovation works.
 - ➔ Standards are to be defined by each state.
- Technical feasibility study in order to integrate renewable energy sources into new buildings of more than 1,000 sq.m.
- Frequent inspections of boilers and central air conditioning systems.

The Directive on energy end-use efficiency and energy services (2006/32/EC), which comes into force on 17 May 2008, goes even further, as it fixes a requirement in terms of energy savings and asks that member states choose measures to enable them to achieve their respective targets.

On a national level

SETTING OF ENERGY PERFORMANCE REQUIREMENTS

	New buildings	Existing buildings
France	* minimum standard -15% in 2010 compared to 2005	* minimum performance for appliances and materials * for renovation areas >1,000 sq.m and >25% of building value, minimum standards of energy efficiency
Germany	* maximum primary energy demand * maximum average U-value	* minimum standards when renovation concerns >20% of the building elements in question
Ireland	* limitation of heat loss via the building fabric * limitation of CO ₂ emissions * controls for space heating and hot water supply systems * insulation of hot water storage vessels, pipes and ducts	* minimum performance for building components used for renovation
Italy	* annual energy consumption * installation of temperature control systems * predisposition for solar thermal and photovoltaic systems	
Netherlands	Energy Performance Coefficient = 0.8 (down from 1.0 by 2006)	
Spain	* maximum U-values for various building components * the solar factor for windows, skylights, etc. * minimum efficiency performance for thermal and for lighting installations * minimum natural light contribution * minimum solar and photovoltaic contribution	* same as new building if renovation area >1,000 sq.m and >25% of the building shell
UK	* CO ₂ emissions per sq.m lower than the target * by 1 May 2008, the Code for Sustainable Homes become mandatory: rating process for new homes to measure sustainability performance	* minimum energy efficiency standards when work is carried out on an existing building * requirement for further improvement when refurbishment area >1,000 sq.m and if technically and economically feasible

Source: RICS

Doubts remain over the impact of the EPBD

The Energy Performance of Buildings Directive (EPBD) is expected to be able to realise the savings potential in the buildings sector of 28%, i.e. a reduction of 11% in total EU final energy consumption.

According to Eurima (the European Association of Insulation Manufacturers), the European Directive alone, in its current form, will capture just one-third of the 28% energy savings potential.

The EU Parliament is now in favour of the European Commission developing an action plan for buildings with direct investment to promote financing schemes for the renovation of existing building and supports the adoption of stricter requirement standards for new buildings by each national authority.

■ Encouraging refurbishment to save energy

Incentives

A FULL RANGE OF INCENTIVES

	Low-interest loans	Tax credits	Public funding	Grants	Product bias
France	EUR10bn fund	On energy-efficient equipment	EUR40bn refurbishment of public buildings and social housing to reach 80 or 50 kWh		Double-glazing windows mandatory as of 2010
Germany	For new buildings and for energy-related improvement work in existing buildings. In 2005, 6,800 houses of 60 kWh and 2,700 houses of 40 kWh or "passive houses"	In the low-interest loan programme, the German government can reimburse up to 20% of renovation costs. Overall budget for this was EUR800m in 2005, EUR2.6bn expected for 2008 and EUR2.8bn by 2009			New houses must use 15% renewable energy. Older buildings must replace inefficient boilers and windows
Ireland				A EUR100m insulation grants scheme to be introduced	Would ban traditional light bulbs from Jan. 2009. Expected to save EUR185m
Italy	*	*			
Netherlands					
Spain	For solar panels	For solar panels. EUR2bn every year for improvement work of 35-60% in energy efficiency	EUR200m to improve energy efficiency in schools and public buildings	For solar panels EUR1bn for renovation work in 2008-2012	
UK				For micro-generation technologies. Grants of up to GBP2,500 per property	

* Measures exist but no details given

Source: Cheuvreux

White certificates: an interesting market-based tool

In recent years, there have been many announcements of new measures to be implemented to encourage renovation or to promote energy-efficient appliances and buildings.

This trend is likely to continue, as for the time being, the market has not taken off in accordance with what should be done.

White certificates

White certificates are documents certifying that a certain reduction of energy consumption has been achieved. Producers, suppliers or distributors of energy receive an obligation to achieve a certain target of energy savings. To reach this target, they are required to undertake energy efficiency measures for the final user. White certificates are given to the producer whenever an amount of energy is saved whereupon the producer can use the certificate for their own target compliance or can be sold to (other) obliged parties.

In Europe, Italy started a white certificate scheme in January 2005, and France a year later. The UK has combined its system for mandatory energy savings with the possibility of trading obligations and savings. Denmark and the Netherlands are seriously considering the introduction of white certificate schemes in the near future.

To be implemented all over Europe?

A plan known as “EuroWhiteCert”, similar to white certificates in most European countries, is ready to be implemented by the European Commission. This scheme is expected to come into effect in 2008. It will set target quotas for players and enable them to trade EuroWhiteCerts on a European market.

WHITE CERTIFICATES: EUROPEAN EXPERIENCES

	Italy	France	UK
Start date	Jan. 2005	July 2006	April 2002
Compliance period	Every year; 2 year borrowing for max. 50% target	In 3 years (July 2009)	Each 3 years (March 2005 and 2008)
Obligated parties	Distributors gas/electr. >100 000 clients	Suppliers gas/electricity	Distributors >15 000 clients
Energy savings targets	2.9 Mtoe in 2005-2009	54 TWh in 2006-2008	1st: 62 TWh 2nd: 130 TWh
Eligible customers	All incl. transport	All (incl. transport, excl. EU ETS)	Residential only
Eligible participants	Gas and electricity grid companies or ESCos	Any economic player	Gas and electricity suppliers only
Penalty	Related to size of missed target	EUR20/MWh	Related to size of missed target
Nature of savings	cumulative primary energy	Lifetime cumulated 4% discounted	Lifetime cumulated 6% discounted

Source: Ecofys

■ From incentives to bans

Incentives are too costly for states; the most efficient measure is to prohibit inefficient equipment

In France, tax credits for the purchase of insulation materials or efficient heating equipment have been very successful. In 2007, the overall amount of these tax credits for households represented around EUR1.9bn, compared to EUR1bn in 2006 and EUR400m in 2005.

For example, in the residential sector, standby power consumption ranges from 20 to 60 watts, equivalent to 4-10% of total residential energy consumption. Yet the technology is available to reduce standby power to 1 watt, and a global standard could mandate this reduction. Lighting could also bring high efficiency by replacing traditional incandescent light bulbs with fluorescent lighting or, even better, LED lighting (see Cheuvreux's report, “Efficient lighting: Less does mean more growth”, April 2008).

Instead of a tax credit, states could choose to prohibit non-efficient equipment.

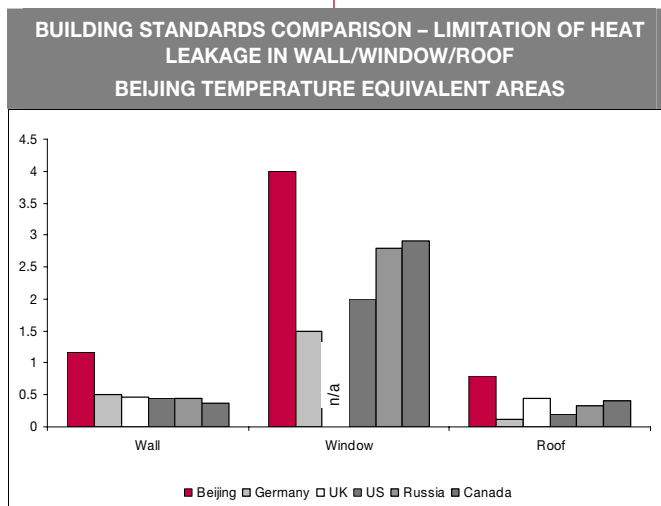
■ Worldwide regulation

China

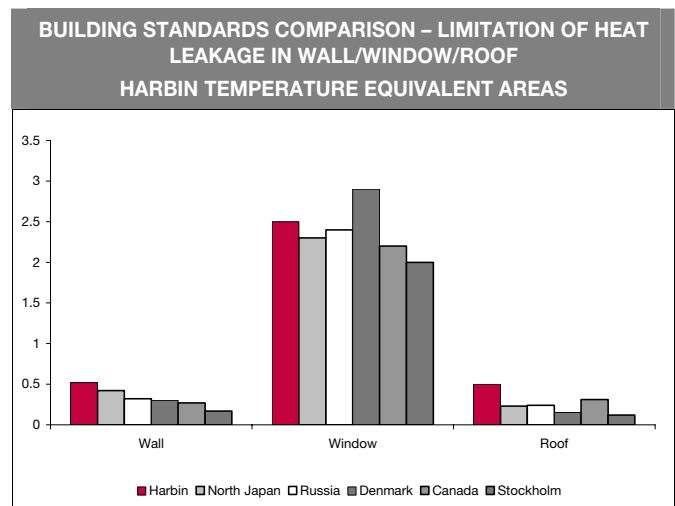
In 2007, **China** reduced the amount of energy used to produce a unit of GDP by 3.7%. In 2006, the percentage was half this amount. China has set a target of reducing energy consumption per GDP unit by 20% between now and 2010.

To achieve this target, the country would have to improve its energy efficiency by 5% p.a. out to 2010.

China recently introduced specific policies for commercial buildings, including building codes, office equipment standards and labelling. However, the government could further enforce implementation – through audits targeting the largest builders, for example – in order to increase the impact of the policy, given that estimated compliance for new construction is less than 5%.



Source: McKinsey & Company



Source: McKinsey & Company

India

Through the Energy Conservation Act of 2001, India committed itself to promoting energy efficiency as part of its strategy to provide power to its entire population by 2012. Energy conservation potential for the economy as a whole has been assessed at 23%, with maximum potential in the industrial and agricultural sectors. Moreover, energy audit studies conducted in several office buildings, hotels and hospitals indicate energy saving potential of 20-30%. The Indian government is committed to setting an example by implementing the provisions of the EC Act in all its establishments as a first initiative. Audits of large national buildings have been completed. Furthermore, new buildings are required to be designed and built with energy efficiency considerations from the outset. The India Bureau of Energy Efficiency (BEE) would constitute Committees of Experts for preparation of Energy Conservation Building Codes for different climate zones.

In 2006, India pledged to launch a comprehensive energy labelling programme for appliances. The BEE's long-planned labelling programme will initially address refrigerators and fluorescent tube lamps. Energy labels are expected to become mandatory for many electricity-consuming appliances in 2007, including pumps, motors, air conditioners and televisions. The BEE plans to coordinate a consumer education campaign to publicise the new labels.

In the US

In the National Energy Policy (NEP) published in May 2001, the United States committed to improve the energy intensity of the US economy by 20% between 2002 and 2012. The Energy Policy Act of 2005 was the first omnibus energy legislation enacted in more than a decade and has a strong focus on improving energy efficiency and increasing the use of renewable energy sources.

The Energy Star labelling programme, which has expanded internationally, informs consumers and businesses of the efficiency of buildings, home appliances and office equipment. The Department of Energy (DOE) now has energy efficiency standards in place for most major types of energy-using appliances, including air conditioners, clothes washers and dryers, space and water heaters, etc.

Despite a lack of incentives as in Europe, the US implemented two other programmes that could help overcome two hurdles in particular: one on the MUSH sector (municipalities, universities, schools and hospitals) and the other for low-income households.

- An Energy Savings Performance Contract (ESPC) is a contracting vehicle whereby energy cost savings fund the capital improvements undertaken by a third party, thereby allowing agencies to carry out energy projects for their facilities without up-front capital costs and without special Congressional appropriations to pay for these improvements. An ESPC project is a partnership between the customer and an energy services company (ESCO) that guarantees that the improvements will generate savings sufficient to pay for the project over the contract's duration.
- The Weatherisation Assistance Program helps low-income families make their homes more energy-efficient, thus reducing their bills by identifying the most cost-effective measures to save energy. Utility bills comprise 15% to 20% of household expenses for low-income households, compared to 5% or less for other households.

V – Significant hurdles remain

The building sector faces three main obstacles that limit investments and curb the renovation trendline:

- 1) Structural barriers that come mainly from the principal-agent problem effect, which results in a lack of investment for more efficient systems in the sector.*
- 2) A cyclical barrier: the market cycle is predominant in the industry and exerts a strong influence on top-line growth.*
- 3) A sector-specific long-term issue: the labour and skills shortage.*

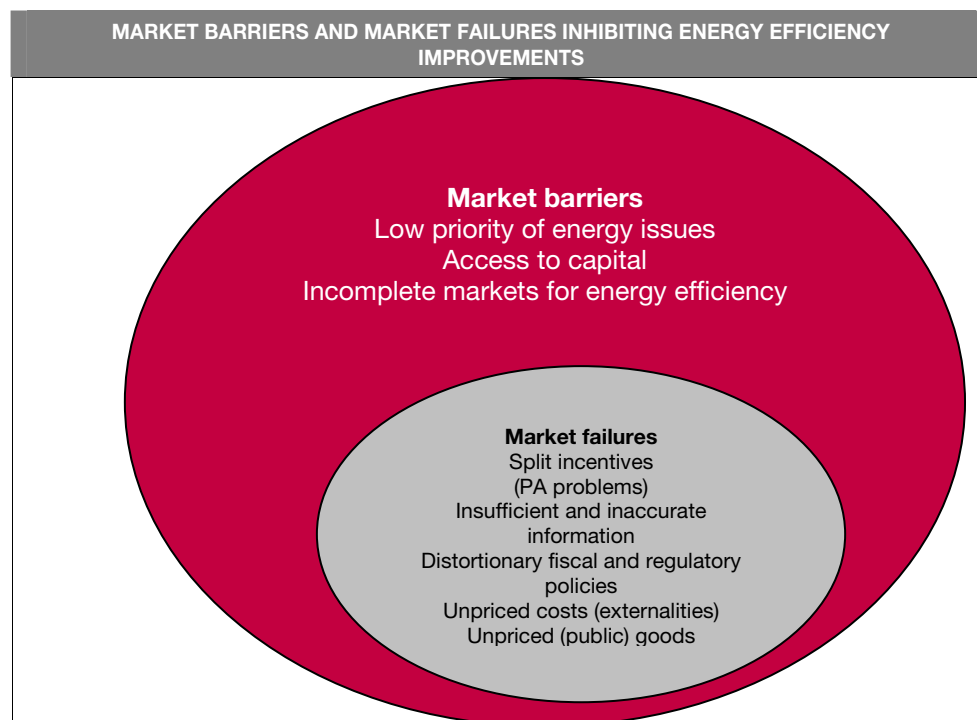
■ Principal-agent problem effects: the landlord-tenant relationship is not optimal

In residential buildings, principal-agent effects – and in particular the landlord-tenant relationship, in which the two parties do not have the same goals and incentives – in most cases curb the price signal, as is the case for commercial buildings.

Moreover, commercial buildings have a high turnover rate, and this reduces the payback time that many businesses consider acceptable when making energy-saving investments. They cannot count on being able to capture the benefits from these savings because they may have moved on in the meantime. In the US, for example, 73% of commercial energy users require a payback within two years of their investments.

Finally, 25% of commercial sector energy demand comes from municipalities, universities, schools and hospitals, which operate under stringent capital constraints. Even if an investment offers a high rate of return, the MUSH sector is limited in its capacity to invest.

Commercial buildings have a high turnover rate, which reduces the payback period that many business consider acceptable when making energy-saving investments



Source: OECD, IEA

Many homeowners and businesses have little incentive to invest in efficiency measures

■ **Split incentives** occur when participants in an economic exchange have different goals or incentives: for instance, the landlord-tenant problem, wherein the landlord provides the tenants with appliances, but the tenant is responsible for paying the energy bills.

Many homeowners and businesses have little incentive to invest in efficiency measures because they do not expect to stay in their building long enough to realise the payback from investments in energy efficiency.

■ **Insufficient and inaccurate information** is, for example, the belief that energy-efficient products are more expensive than their less efficient counterparts, which is not always the case.

Consumers are often poorly informed about technology characteristics and energy efficiency opportunities.

The methodology used by the IEA to quantify principal-agent problems relies on the concept that market failures can limit a price signal's influence on energy efficiency investments or energy use management.

Residential

Price signals alone may have a limited effect on triggering energy conservation in the residential sector because a large share of energy is consumed by end-users who either have little (or no) control over the efficiency of energy-using equipment, or who are shielded to some extent from the costs of the energy consumption. This is the case for circa 30% of residential site energy use.

Programmes oriented towards the provision of information could overcome these barriers to some extent (examples include Energy Star and energy ratings for new homes) and enable home builders to pass through costs for better equipment. However, this paradigm would be difficult to apply to the stock of existing and new rental units.

Through an experiment conducted in the Netherlands, the IEA estimates that 41% of energy consumption for space heating could be affected by the principal-agent problem.

Commercial

Energy consumption affected by principal-agent problems is more than 24.5PJ p.a., which is over 40% of total energy use in commercial offices. In this case, owners of office space are shielded from price signals and cannot respond to higher energy bills, simply because they do not pay them.

Leased office space has higher energy consumption than owner-occupied commercial office space. In Norway, energy use is approximately 50 kWh per square metre higher in leased office space than in owner-occupied space. Applying a range of between 18 and 30 million square metres of office space, the potential energy savings are estimated at 3.24 to 5.4PJ p.a., i.e. 15% of the total energy use in the sector, if principal-agent problems were resolved.

Clearly, to avoid principal-agent problems, it is important to ensure that contracts are designed so that all relevant players face the energy price in order to strengthen the price signal.

Best-practice regulatory instruments for energy efficiency (building codes, minimum quality standards for tenancies, etc.) are also needed as a way of limiting the impact of (any residual) principal-agent problems, and this is, as we will see below, definitely being addressed by regulations and incentives in Europe.

To avoid principal-agent problems, contracts should be designed so that all relevant players face the energy price

Finally, it is important to ensure the availability of adequate information on energy efficiency to principals and agents, but this deficit of information, despite energy labelling for appliances and energy consumption assessment for buildings, is still one of the main hurdles to be overcome.

ESTIMATES OF THE ENERGY CONSUMPTION AND SAVINGS AFFECTED BY THE PRINCIPAL-AGENT PROBLEM

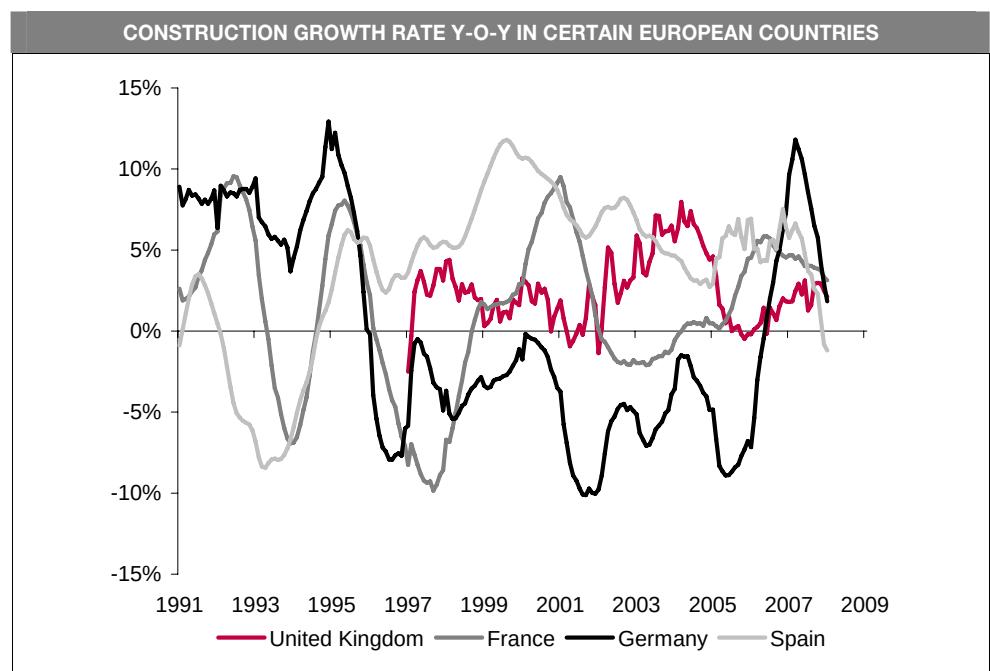
	Energy use affected by PA problem (Mtoe)	Total sector energy use in 2005 in the relevant country (Mtoe)	Energy use affected by PA problem as a % of total sector energy use
Residential sector			
Refrigerators, space heating, water heating and lighting, US	84.69	269.81	31.40%
House heating, Netherlands	2.51	10.34	24.30%
Set-top boxes, US	1.63	269.81	0.60%
Commercial sector (office space)			
Japan	1.45	61.51	2.30%
Netherlands	0.59	7.56	7.70%
Norway	0.13	2.46	5.20%
End-use appliances (vending machines)			
Japan	0.15	61.51	0.20%
Australia	0.36	5.82	0.60%

Source: IEA, OECD

■ The economic cycle, the main driver of top-line growth

Lower construction demand will weigh on companies' results.

European markets are very local



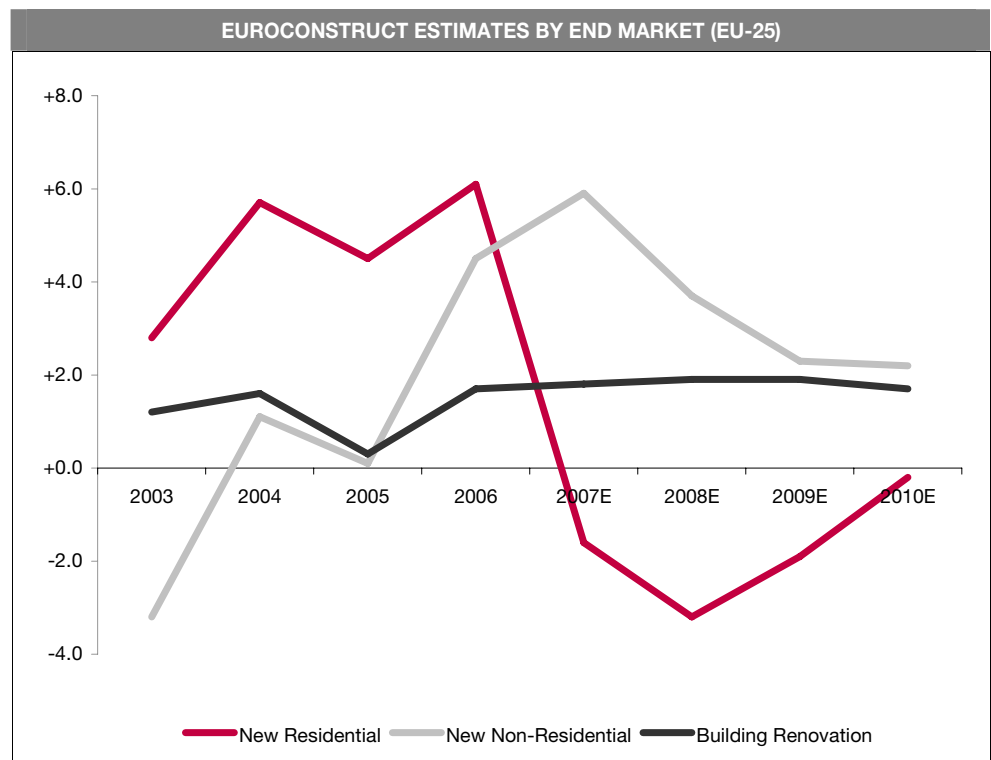
Source: Eurostat

End-market exposure
is also an indisputable
criterion

After several years of strong growth, a slowdown is expected, especially in Ireland and Spain, where growth is expected to be negative, while growth in the UK is only set to decline (and only in the residential segment). However, France remains quite upbeat.

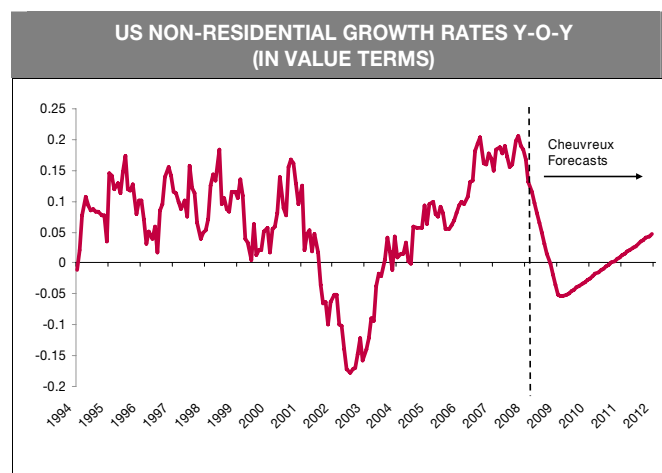
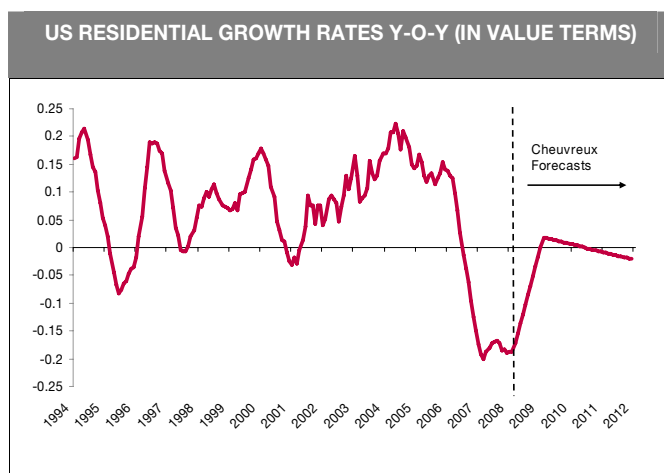
Geographical exposure is a key criterion for anticipating the future growth of building materials companies.

The crisis should be limited: only the new residential market is set to decline



Source: Euroconstruct

European retrofitting is clearly supported by regulations that encourage refurbishment. In recent years, this trend was explained by the real estate boom, as people bought and renovated homes, spending substantial amounts on interior decoration, kitchen and bathroom equipment, to the detriment of spending on manufactured goods such as cars and resulting in a trading-down effect in food purchases. This trend will persist in some European countries, especially in eastern and northern Europe, where the effects on existing buildings will continue even though new residential construction will slow.



Overall, a slowdown is expected for new residential buildings, but in Europe, the markets for renovation and non-residential buildings remain upbeat.

End-market exposure is another important criterion for anticipating the future growth of building material companies.

■ Raw material and energy prices

During the past few years, the sector has benefitted from very good pricing power and has been able to raise prices sharply. The increase in raw material and energy prices has been passed through in the final price.

This inflation is not well received in this new depressed environment and could contribute to the slowdown in demand.

However, the companies will probably be testing their pricing power over the next few months.

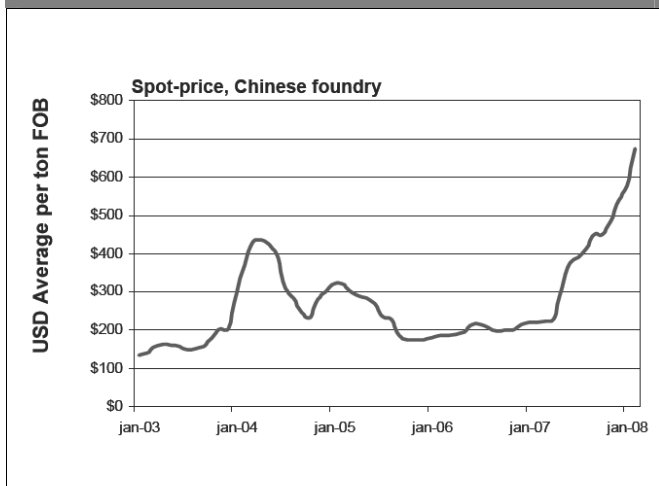
At present, Rockwool indicates that "inflation will be far exceeded by the efficiency improvements that the company will be able to obtain". The price of coke will continue to rise, and Rockwool is striving to hedge the risk through higher coke inventories and by securing 50% of its long-term contracts. All in all, however, pricing power is expected to drop in 2008.

Kingspan also expects a squeeze on margins due to high steel prices.

Saint-Gobain is more confident in its ability to pass on energy and raw materials inflation to its customers. The group argues that it can leverage significant pricing power thanks to its high market shares and research skills. For example, in Q1 2008, the company increased the prices of its European glass products by 2.5% despite a 4% cut in the price of float (a 4mm sheet of clear glass) since November 2007. This was attributable to both its low exposure to commodities and the number of innovations it has brought to the market (e.g. low emissions glass, etc.).

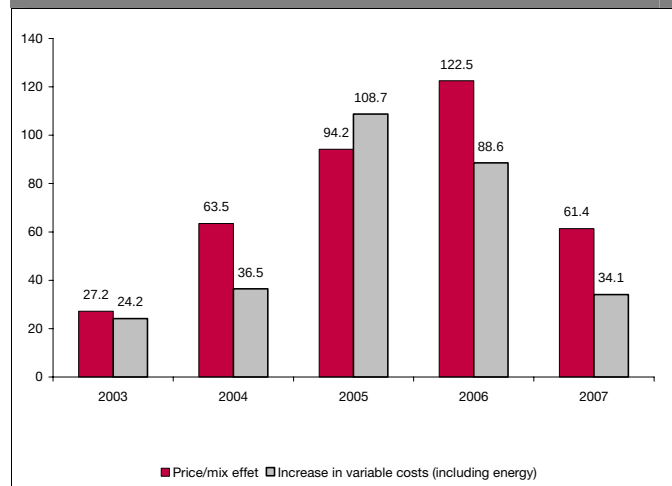
Raw material prices
increase inflation

COKE SPOT PRICE CONTINUES TO INCREASE



Source: Rockwool

EXAMPLE: SIGNIFICANT PRICING POWER FOR IMERYS



Source: Imerys

**Labour shortages
could cost the sector
0.5 of a percentage
point of growth**

■ Labour and skills shortage

According to WIIW, the massive shortage of qualified workers in the EU's new member states has proven a brake to the economic growth of these countries. One of the sectors most affected by the shortage of specialised workers is the construction sector. Due to a shortage of workers, Poland had to halt its motorway development programme, despite having obtained EU financing. Lastly, some countries such as Romania have chosen to raise the salaries of specialised workers, which could worsen inflationary pressures. The Romanian government has even launched an information programme for Romanian workers who have left the country in order to encourage them to return to Romania.

In France, the president of the Confederation of Construction Artisans and Small Companies has stated that building site schedules have to be adapted because companies have considerable difficulty respecting deadlines due to labour shortages. Moreover, he estimates the sector's earnings shortfall at 0.5 of a percentage point of growth. In 2006, an estimated 50,000 job openings were left unfilled.

However, working conditions have changed. Salaries have notably risen by 30% in the past five years! Priority has also been given to reducing to zero the number of worksite accidents.

To attract young people, Bouygues Construction spent EUR1m this spring on an advertising campaign on this topic. The construction sector is also targeting women. Note also that EDF launched a major EUR40m training programme on energy savings for building trade companies and artisans, with a goal of training 50,000 professionals by the end of 2009, and in turn, receives energy savings certificates.

Skills shortage

To meet the technical specifications required by new energy consumption standards, it is not enough to lay some insulation quickly or use triple-glazed windows on a widespread basis. These are comprehensive projects that include several crucial points: insulation with the question of thermal points and dual-flow ventilation, sun exposure of the home, heating, etc. Areas of knowledge are precise and, for the time being, there is a large gap between supply and demand, which is in fact due to a lack of overall skills in the building trades. For individuals, it is often impossible to find an available professional with training in these new technologies.

VI— Looking for a premium

Because of the European need to reduce energy dependence and CO₂ emissions, and the various regulatory tools implemented to support energy efficiency in buildings, we could expect a higher growth rate for insulation products and efficient heating systems and a premium in the P/E of the companies with strong exposure to this theme. However, despite strong growth in innovative products, companies with market share have not yet outperformed.

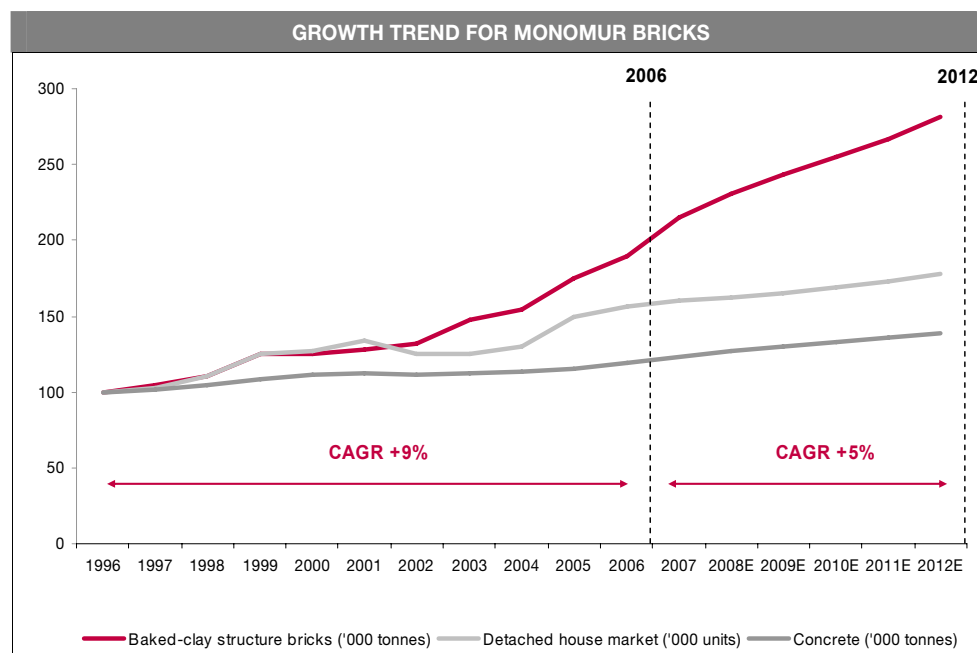
Companies with good exposure on energy efficient activities will be constrained by the overall economic cycle, and we believe that we will be unable to identify a specific resilience before mid-2009.

■ Premium for efficient products?

Energy efficiency concerns in the building sector have enabled a new market to be opened up for some products, which have been positioned as new benchmarks.

This is the case for Imerys's Monomur baked-clay bricks. A 37.5cm Monomur brick has the same resistance as a breezeblock with 10cm of insulation, and the Monomur brick meets requirements of future standards for energy efficiency.

For the past decade, the CAGR has been 9%, and the expected CAGR for coming years is 5%, while that for breezeblocks will be flat.



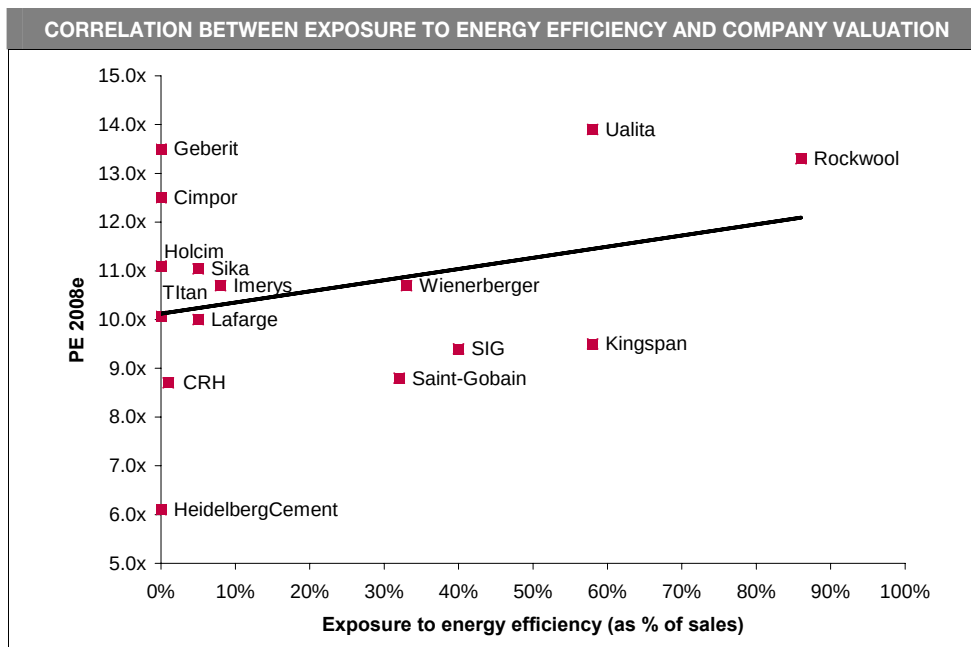
Source: Cheuvreux, Imerys

The most innovative products are also experiencing strong growth rates. In 2007, Saint-Gobain's low emissive glass sales grew by 30%, 3 times faster than the other glass products. Real innovative materials are however marginal (less than 5% of total sales) and the majority of the other insulation-related products have not benefitted from a growth premium. They are still sensitive to the evolution of the construction cycle. For example, in 2007, Owens Corning, the US leading glasswool producer with 89% of its sales in North America, saw a 15% decline in sales more or less in line with the fall in the housing starts (-28%).

**The stock market
attributes no obvious
premium to companies
that offer strong
exposure to energy
efficiency products**

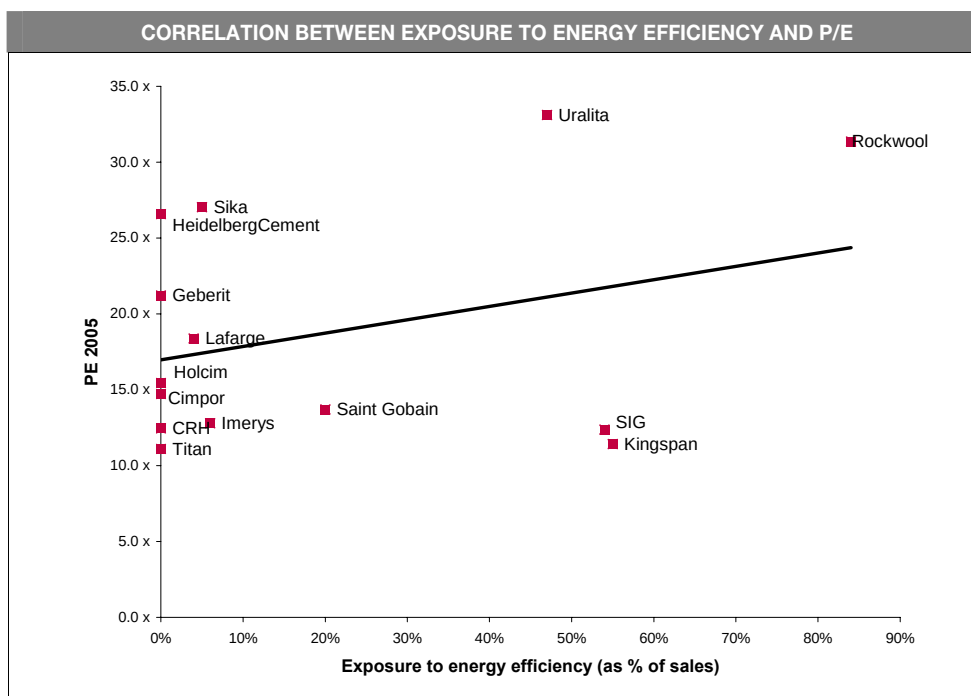
■ Premium for well-exposed companies?

However, at this stage, the stock market attributes no obvious premium to companies that offer strong exposure to energy efficiency products. This is difficult to measure in any case as each company has its own specific features and investment case.



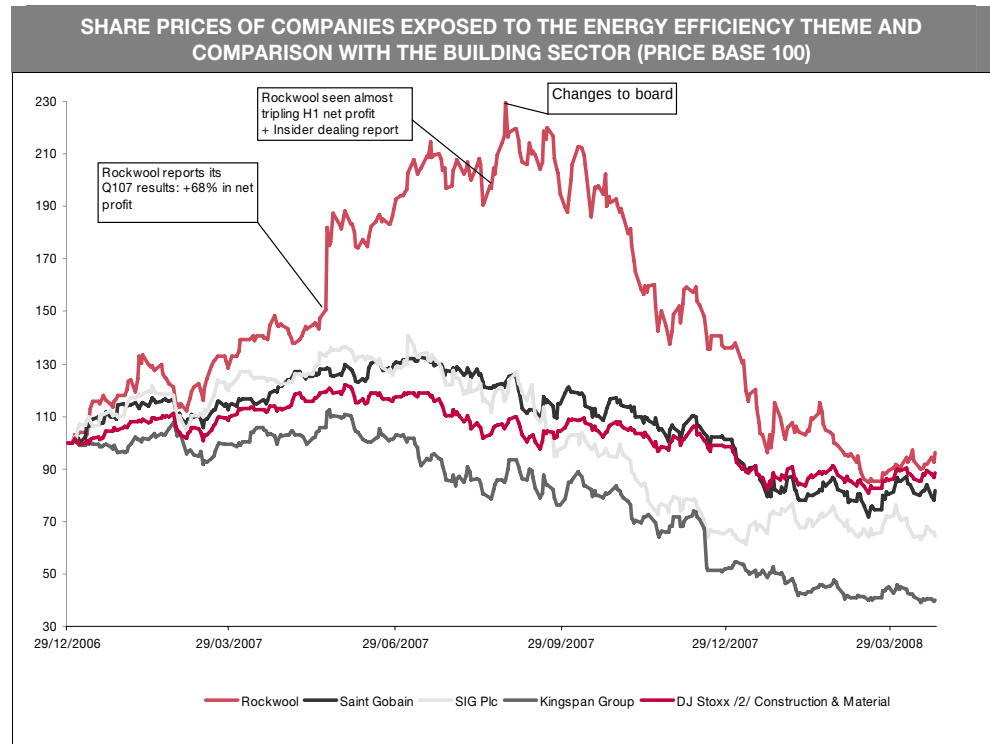
Source: Cheuvreux

Besides, we believe that, even before the derating of the sector, this energy efficiency thematic has never been integrated in the valuation of the companies. This is shown below by the similar trend line we had for assessing the correlation between exposure to energy efficiency and PE 2005.



Source: Cheuvreux

Furthermore, **we believe that the resilience of the companies to market downturns has yet to be proven.** In the following chart, we see that the companies that are the most exposed to the energy efficiency theme have experienced the same derating as the sector as a whole. Rockwool briefly benefitted from positive news flow that pushed its share price to record highs, before declining back in line with its peers since the end of the summer 2007.



Source: Cheuvreux

While well-exposed companies have not shown an obvious premium thanks to their products, it is nonetheless possible that they will achieve a faster recovery. As for the premium in the P/E, we would look closely for other signs: direct public investments or changes in market barriers (recovery of the building market or an easing of labour market shortages, etc.)

■ Waiting for positive signs

“Who pays?” – a crucial question!

In the refurbishment market, two-thirds of expenses are expected to be borne by households, which are not – especially in the current economic context – expected to massively increase their expenditure on renovation for energy efficiency purposes.

Looking towards direct public investments...

In the draft law for implementation of the Grenelle environmental consultation, the French State is committing to increasing funds for thermal insulation of social housing from EUR137m to EUR338m by 2015.

In fact, the overall cost promises to be high. The cost of thermal insulation alone for buildings owned by the State and public administrations is estimated at EUR24bn.

**Public investments vs.
public deficits**

Note that initially, the Grenelle process called for implementation of thermal renovation targets for the 50 million square metres owned by the State, the 70 million square metres owned by public establishments, plus buildings belonging to local authorities and the tertiary sector.

In the UK as well, the introduction of the Code for Sustainable Homes has encouraged public agencies to set criteria for “best practices” in public sector homes. For instance, Northern Ireland has announced it will require code level 3 for all public sector housing from April 2008.

The signs that some states are planning direct investments as exemplary measures are very positive for the future growth of innovation.

However, This market trigger could be put on hold considering the public deficits of EU member states.

...or pure constraints...

For the time being, constraints apply only to new buildings. Thus, in France, all new State-owned or tertiary sector buildings will have to comply with the “low energy consumption building” standard, and all new housing units will have to meet the “very high energy performance” standard, as from 2010.

Yet it is crucial to note that the French State reserves the possibility of making thermal renovation mandatory for privately-owned buildings in 2009!

Constraints could therefore be expanded to existing buildings.

...as the market apparently has yet to price in the value clearly

While we still lack sufficient feedback, notably in France, to assess the savings on the cost of operations and maintenance for low-energy buildings in the tertiary sector, we note that buildings certified for five or six years in the US generate savings of 10% to 30%. When listed for sale, these buildings are reappraised, and certified buildings in the US benefit from a premium.

This is not yet clearly the case everywhere in Europe, as initiatives are recent but things are evolving rapidly.

SUMMARY OF COMPANIES EXPOSED TO INSULATION PROODUCTS

	Cheuvreux rating	Geographical exposure (2007 sales)	Activities exposure (2007 sales)	Products under regulatory support	Overall guidelines for 2008
Saint-Gobain	2/ Outperform TP: EUR65	France: 28% Germany & Austria: 10% Spain & Portugal: 6% Italy & Greece: 3% UK & Ireland: 11.5% Benelux: 4% Rest of Europe: 15% North America: 13% Brazil & Argentina: 4% Rest of America: 1% Asia: 4% Rest of the world: 0.5%	Construction products: 25% - Building materials: 5.8% - Insulation: 6.3% - Gypsum: 8.7% - Pipes: 4.3% Glass: 12.6% High Performance Materials: 10.7% - Ceramics Plastics & Abrasives: 8.1% - Reinforcement: 2.7% Building distribution: 43.8% Packaging: 8%	Low-emission double-glazing Expanded polystyrene Window frame improving the thermal bridge Stone wool (Outdoor thermal insulation) Electroluminescent diodes Ground-source heat pump	Renovation represent 43% of sales and new construction 32% (o/w only 4% in North America). Disposal of the packaging division by the end of 2008, stronger focus on energy efficiency construction materials and solutions, on distribution and on emerging countries. The strong presence in renovation and insulation activities in Europe, which are set to remain well-oriented, and increasing exposure to emerging markets - target to generate one third of its sales in MT- which more than offsets the weakness of the US residential sector. The valuation is clearly low now.
Rockwool International A/S	Non covered	Germany: 14% France: 12% Netherlands: 9% Russia: 10% Poland: 8% UK: 6% Denmark: 6% US, Canada: 5% Other countries: 30%	BuildDesk Division: minimal Rockwool Group: 85% System Division: 15%	BuildDesk: provide tools, services and consultancy related to energy optimisation of buildings. Rockwool Group: insulation products and systems for the construction sector, for ships and off-shore equipment and industrial facilities.	Rockwool's exposure to the weakening residential new building activity in some key western European markets and North America could threaten about 20% of its sales. After an exceptional year in 2007 (+21% of sales, +93% in EBIT), overall guidance of sales for 2008 is flat due to declining activities in Germany, Spain, the UK and Denmark and positive outlook in France, the Netherlands and Italy. The company expects a difficult Q12008 at around -3%, Q2 to be then end of the turmoil and overall 2008 flat due to a slight recovery as soon as Q3 that will continue in Q4. Special caution on the coke price increase, as inflation may no longer be able to be entirely passed through as pricing power declines. The company remains confident in the energy efficiency regulatory trend. Guidance set by Rockwool is a long-term goal of 11% in EBIT margin.
Kingspan Group	Non covered	UK: 55% Ireland: 15% Western Europe: 10% Central & Eastern Europe: 10% Americas: 8% Other: 2%	Insulated panels: 41% Insulated boards: 15% Offsite & Structural: 17% Environmental & Renewables: 16% Access Floors: 11%	Insulated panels Insulation boards (Environmental & Renewables: oil containment products, water storage products, rainwater collection systems, factory built sewage treatment plants and waste recycling systems.)	Two concerns: the group's exposure to deteriorating end markets in Ireland and the UK is significant (70% of sales) and the slowing earnings growth rate. However, the group is mainly in non-residential business, which is, in the UK, not as bad as the Irish market. The group expects Q1 2008 to be very negative (order book down 17% in February compared to 2007). The company indicates that steel prices are gradually weighing on margins. Q2 will remain difficult. Good penetration rates in Germany, Benelux, Canada and Australia could enable the company to resist in these countries. Roll-out needs to be made in western Europe, France and Scandinavia.
Sig Plc	Non covered	UK: 56% Ireland: 6% Mainland Europe*: 38% * esp. France, Benelux, Germany and Austria, Poland, Czech Republic and Slovakia.	Insulation: 37.3% Roofing: 26.1% Commercial Interiors: 25.3% Specialist Construction and Safety Products: 11.3%	Vast range of insulation materials Technical advice, including thermal (heat loss) calculations and application choices (also personal protective equipment in the safety division)	The group remains very positive regarding its expectations for 2008. It claims that it is fairly protected in a non-residential environment and with good price inflation. The group demonstrated very good resilience in the first two months of 2008. SIG does not appear to be impacted by rising raw material prices and has benefited from overall price inflation. The group believes it could gain market share in its markets, and benefit from regulatory momentum for insulation (UK building regulation and the Carbon Emissions Reduction Target 2008 version).

Source: Cheuvreux, company guidance

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