



## ***ETICS are amazing***

***Save climate – Reduce energy consumption – Create jobs***

## **Günther H. Oettinger**

*EU Commissioner for Energy*



### **Energy savings in buildings – an opportunity for Europe**

*New buildings will be subject to strict regulations and in a few years' time in Europe they will be designed to minimize the amount of primary energy required for using the building. That is why we are increasingly turning our attention to existing building stock. Particularly when buildings are already due for renovation or repair, an energy upgrade makes both economic and environmental sense. On the one hand, the cost of scaffolding and preparatory work has already been covered by the expenditure being made, and on the other hand, any additional outlay brings enormous ecological benefits. The energy savings re-*

*sulting from an upgrade can be used to pay back the initial investment. As well as technological aspects of a building, its external skin is particularly important. The roof, the external walls, the windows – all can make a significant contribution towards reducing energy consumption. The extent of the savings depends in each case on the nature of the building, but one thing is always true – an energy upgrade means the energy thereby saved does not have to be generated, not even from renewable sources. Thus the building's owner, the tenants and the environment all benefit. Let's make use of this opportunity!*

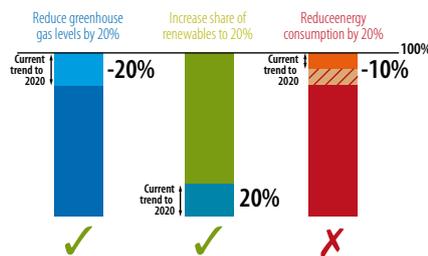


***ETICS offer a  
unique variety in  
shape,  
colour and design  
– vibrancy  
in Europe!***



## Europe's 20-20-20 energy policy – ETICS can play a leading role

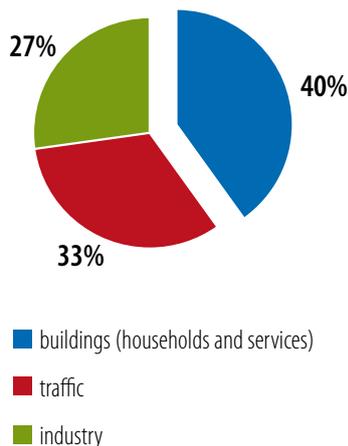
In 2007 the European Council set ambitious energy and climate change objectives for 2020 – Europe's part of the global fight against climate change. Current prognosis shows: Europe will fail to reach all objectives.



Graph 1: Europe's 20-20-20 energy policy: poor progress regarding the reduction of energy consumption (European Commission, 2011).

Europe has to accelerate its efforts to reduce energy consumption urgently. Any delay will increase the challenge.

The greatest leverage potential can be activated in the building sector.



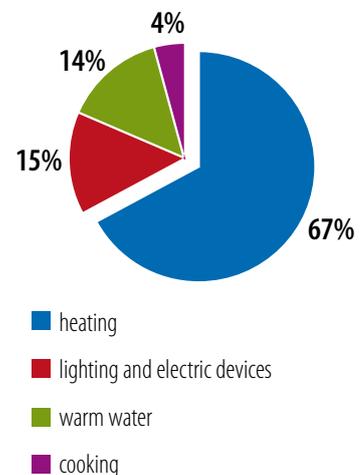
Graph 2: Buildings account for 40% of Europe's total energy consumption - a great leverage for significant reductions (Eurostat, 2008).

Therefore the new Energy Performance of Buildings Directive (EPBD, 2010/31/EU) outlines the extraordinary role of improving the energy efficiency of both new and existing buildings.

Key elements of EPBD:

- **New buildings: must achieve a nearly-zero energy standard from 2021 onwards (public buildings: two years earlier).**
- **Major renovations: a nearly-zero level must be achieved as far as is cost-effective.**
- **Implement financial or other measures to stimulate owners to invest in energy efficiency.**
- **Energy certification of buildings should be intensified.**

Intermediate targets will be set in each Member State for 2015 to monitor the progress.



Graph 3: Heating is the main source of energy consumption of buildings. Thanks to insulation it can be easily reduced by 50% or more (Enerdata, 2006).

In addition the European Commission developed the new Energy Efficiency Plan 2011. Accelerating the refurbishment rate of buildings is identified as having the greatest effect.

The realization of all targets of the Energy Efficiency Plan 2011 will have noticeable effects:

- **Annual savings of up to € 1,000 per household.**
- **Improvement of Europe's industrial competitiveness.**
- **Generation of up to 2 million new jobs.**
- **Reduction of greenhouse gas emissions by 740 million tonnes p. a.**
- **Reduction of Europe's energy dependency.**

### **ETICS precisely matches the EU policy**

- **Approved systems: available immediately.**
- **European companies play a leading role in global markets for energy efficiency.**
- **Amazing reduction of energy consumption and CO<sub>2</sub> emission.**
- **Increased living comfort.**
- **Energy cost reduction.**
- **Generation of thousands of new jobs.**

### **EAE's political demands**

- **First save energy, then substitute energy sources by renewables.**
- **The refurbishment rate has to be increased dramatically. Thus, the willingness of private investors has to be stimulated by subsidy programmes.**
- **Public investments must be accelerated as well.**
- **Solve the dilemma between owners and tenants: both sides must benefit from thermal renovation.**
- **Substitution of low-carbon nuclear power must not lead to increasing CO<sub>2</sub> emission.**



## What are ETICS?

**ETICS** is the abbreviation for **External Thermal Insulation Composite System**. **ETICS** can be used to improve the energy efficiency of both new and existing buildings. Systems are well proven in practice for decades. A comprehensive range is available to meet the various demands of building structure and architecture.

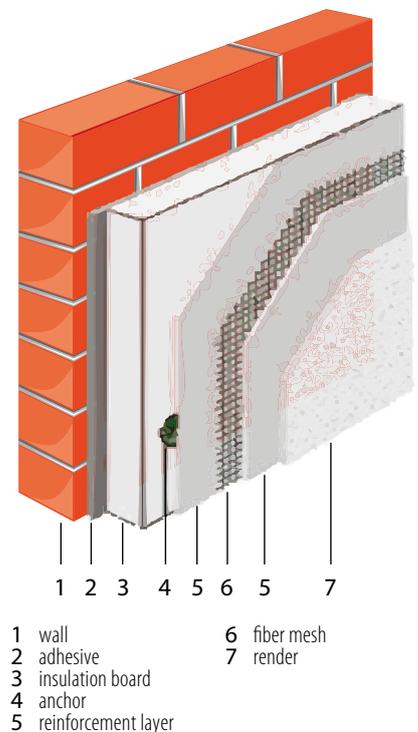
ETICS are a set of construction elements consisting of certain (specified) prefabricated components being applied directly to the facade. These system components are:

- **Adhesive**
- **Insulation material**
- **Anchors (if required)**
- **Base coat**
- **Reinforcement (glass fibre mesh)**
- **Finishing coat / top coat with system primer and/or paint coating**
- **Accessories, e.g. fabricated corner beads, connection and edge profiles, expansion joint profiles, base profiles, etc.**

According to the European Construction Products Directive, all suppliers (system suppliers and/or dealers) are obliged to supply complete ETICS. ETICS require a European Technical Approval (ETA).

ETICS significantly reduce thermal transmission through outer walls and therefore help to reduce the costs for heating and cooling by 50% or more. They also greatly improve living comfort – both in hot and cold climates. Moreover, thanks to warm and dry interior surfaces of walls, ETICS also improve hygienic standards in the interior of the building and help prevent the formation of mildew.

As the number of new buildings declines in many countries, ETICS are more often used for thermal renovation. Doing so, the energy waste of building stock in Europe (estimated at about 200 mil buildings) can be reduced massively at affordable cost.



Graph 4: System components of an ETICS.

## **Success story – for more than 50 years.**

*As some countries in Europe have only recently started to install External Thermal Insulation Composite Systems more regularly during recent years, they do not yet share this excellent positive long-term experience. In countries like Austria, Switzerland and Germany ETICS have been used in the construction business for more than 50 years and have performed extremely well. The German Fraunhofer Institute for Building Physics controls the life cycle of insulated facades regularly. They regularly monitor the aging effects of a wide variety of projects and precisely document their findings.*

*The last study and latest reports emphasize that even after more than 30 years all the inspected facades show no signs of failure.*

*Thus, the life-cycle of External Thermal Insulation Composite Systems appears to be much longer than expected. If the system is installed carefully, and as long as inspection and service are taken seriously, the life-time expectation is equal to non-insulated brickwork with render systems. Moreover, as the outside render of an ETICS system is separated from the brickwork thanks to the insulation, the risk of cracks is even smaller.*

*To conclude: External Thermal Insulation Composite Systems do not only show huge potential to reduce energy cost, they also provide great opportunities for individual façade design and promise a fantastic long-term performance. Finally, ETICS help to prevent thousands of tonnes of greenhouse gas emissions into our environment every year. Isn't that amazing?*

## **ETICS – well proven energy savers**

*~ 2,000,000,000 m<sup>2</sup> of ETICS have already been installed all over Europe, annually leading to:*

- tremendous savings in oil and gas consumption*
- impressive reductions in greenhouse gas emissions*

*Once installed, ETICS save energy and emissions for a life-time. Thus, they perfectly support Europe's way into a sustainable future!*



## ***Unbeatable Arguments for ETICS***

### ***1. ETICS help to protect climate and environment.***

With ETICS energy consumption of buildings can be reduced dramatically. Considering EU's building stock of about 200 million buildings thousands of tonnes of CO<sub>2</sub> could be saved – annually! Moreover risks of exploiting fossil sources or using nuclear power can be reduced.

### ***2. ETICS help to save money.***

With ETICS monthly expenses for heating and cooling can be reduced. Tenants free up more of their income; pensioners achieve higher standards of living. Owners benefit from better rents of attractive dwellings.

### ***3. ETICS mean investing in real values.***

ETICS are long-term investments in established values. As energy cost will rise, energy efficient dwellings will increase their value.

### ***4. ETICS help to develop new jobs.***

Increasing the rate of refurbishment can generate hundreds of thousands of jobs that cannot be transferred abroad. These jobs require all educational levels – workers and craftsmen as well as designers and architects.

### ***5. ETICS help to increase Europe's economic competitiveness.***

Europe's economy depends significantly on energy imports. Increasing cost will hit Europe's competitiveness significantly. Insulating buildings helps reduce total energy consumption. Moreover European companies will increase their leading position in international markets for energy efficiency.

### ***6. ETICS increase living comfort.***

ETICS create both a warm and cosy indoor atmosphere in winter and a cool temperature in summer. Surfaces of inner walls will be comfortably warm, and even the noise level can be reduced.

### ***7. ETICS look aesthetically good.***

As ETICS manufacturers provide a great variety of systems, nearly all architectural dreams can be realized. Existing architecture can be preserved; less attractive buildings or districts can become appealing and friendly.

## Thermal losses and heat protection

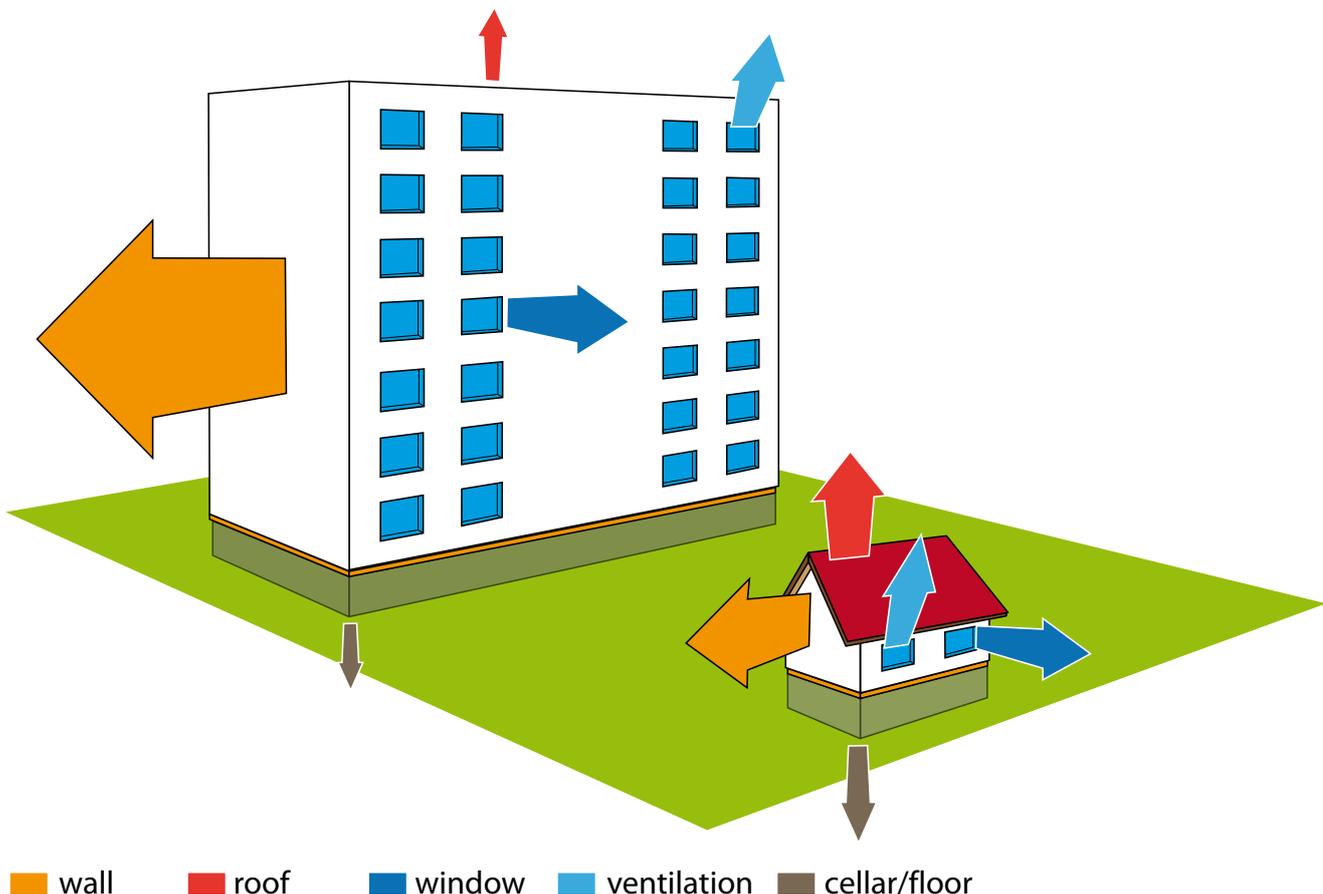
Europe's building stock includes approximately 200 mil buildings. They account for 40% of total energy consumption. 67% of that is caused by heating and cooling. As the greatest part of existing building stock has been erected more than 30 years ago, most of these buildings have no insulation at all.

That means: by improving the thermal insulation of the building envelope, there is great potential to reduce total energy consumption, heating cost and CO<sub>2</sub> emission. In typical buildings the outer walls have the greatest share of the building envelope's surface. No wonder thermal losses through walls count for the greatest part of energy losses.

The good news is: These tremendous losses can easily be reduced by 50% or more thanks to External Thermal Insulation Composite Systems. The technology is already available as these systems have proven their performance for more than 50 years. So, we just have to use them!

The second advantage is: ETICS act as heat protection in hot climates or on hot summer days as well, helping to create a more comfortable indoor climate – often without additional cooling.

As you can see: ETICS provide huge benefits throughout the year, are suitable for all European countries and climate zones and play an active role in energy saving and environmental protection. Isn't it amazing?



Graph 5: Main sources of energy losses of buildings – insulation of outside walls provide great potential for significant energy savings.

## **EAE – unique competence in ETICS**

The European Association for External Thermal Insulation Composite Systems (EAE) was founded on 19 September 2008 in Baden-Baden, Germany. With 11 national ETICS associations and 4 major European suppliers' associations among our members, EAE represents more than an 85% share of Europe's market for ETICS. According to our statute we share one goal: develop the use of well approved External Thermal Insulation Composite Systems (ETICS) both on new and existing buildings.

Improving energy consumption of building stock gives Europe an incredible chance to become less dependent on imports of crude oil and natural gas. Furthermore a tremendous amount of money for heating and cooling can be saved – money that can be used for both reducing debts and increasing spending instead.

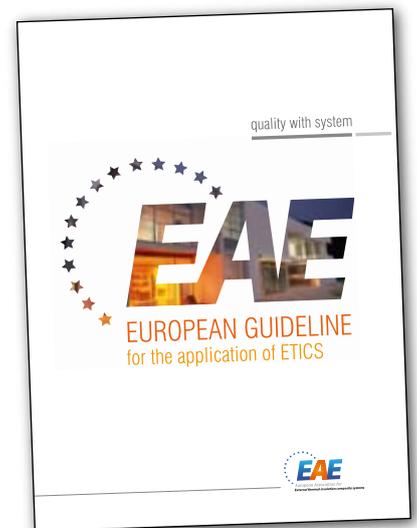
Members of EAE share these major goals:

- **Develop the system approach**

EAE supports the establishment and control of quality measures on a European level and in each Member State. The most important issue was to develop the first European Application Guideline for ETICS. With the publication of this guideline

- common standards for the application of systems have been set
- common and binding recommendations regarding the proper use of ETICS have been established
- ETICS have been defined and described as a complete system, which gives investors a reliable base for warranties and safety

- **ETICS must be understood as a complete system. Manufacturers take care that the combination of components guarantees long-term performance.**



Application Guideline

- **Research and testing**

In order to further develop the technical standards of ETICS we will initiate common projects of research and testing. By those projects ETICS will be further improved regarding their economic and ecologic long-term performances. Different issues will be worked on in various international working groups.

- **Develop the market**

The various advantages of ETICS are going to be communicated by common public relations. The transfer of information will be improved by networking. The ETICS Forum has been established as a European platform for information and communication about thermal insulation. The first forum was held successfully in Brussels in 2010. It showed how important it will be to collaborate closely and to share know-how and experience across borders. The ETICS Forum will be organized every other year.

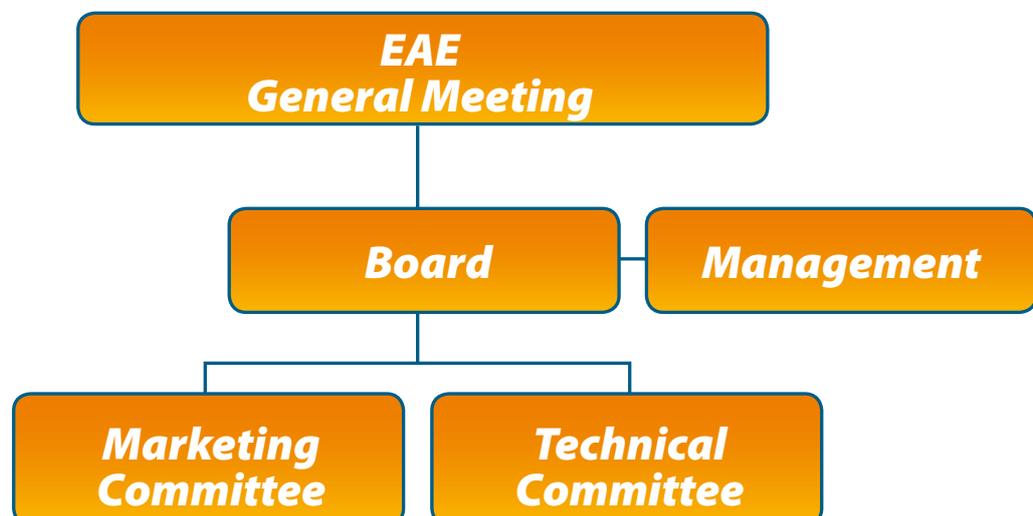


Logo of the ETICS-Forum

- **Standardization and harmonization**

From July 2013 onwards the Construction Products Regulation (CPR, EU No 305/2011) will replace the Construction Products Directive (89/106/EEC). The intention is to enable free movement and use of construction products within the EU market. New products can be launched more easily at lower cost. Standardization will increase transparency (e.g. tendering process).

EAE supports the process of harmonization and standardization. Many of our member companies operate internationally and will benefit from a barrier-free market. Thus we share our long-term experience and unique knowledge in order to implement norms that ensure the safe use of ETICS. EAE represents the European ETICS industry at relevant authorities and on boards or working groups of the European Union or European associations (e.g. CEN).



Organogram of the EAE





## **Can you believe?**

*Can you believe that in the future the energy consumption of each building across Europe will reduce to zero? No matter if a*

*to those buildings that generate more energy than they consume. Thanks to modern technologies and excellent thermal insula-*



*kindergarten in the countryside like in the picture above or a high-rise building in the centre of a huge city. No matter if new buildings or existing stock, the future belongs*

*to those buildings that generate more energy than they consume. EAE will support this vision. Thus, energy saving has no limits!*

**Simply amazing!**

## Full members



- *Qualitätsgruppe Wärmedämmsysteme, Austria*



- *IVP, Werkgroep ETICS, Belgium*



- *Cech pro zateplování budov, Czech Republic*



- *Groupement du Mur Manteau, France*



- *Fachverband Wärmedämm-Verbundsysteme e.V., Germany*



- *Consorzio per la cultura del sistema a capotto, Italy*



- *Branchevereniging Producenten gepleisterd Bouwen, Netherlands*



- *Zarząd Stowarzyszenie na Rzecz Systemów Ociepleń, Poland*



- *Združenie pre zatepľovanie budov, Slovakia*



- *EPS-Verband Schweiz, Switzerland*



- *Insulated Render and Cladding Association, United Kingdom*

## Extraordinary members



- *European Manufacturers of Expanded Polystyrene*



- *European Phenolic Foam Association*



- *European Insulation Manufacturers Association*



- *The European voice of the polyurethane insulation industry*

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