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European Energy Efficiency Industry: Delivering Energy Savings to Drive Sustainable Growth

The Energy Efficiency Industrial Forum (EEIF) is a platform of European industries providing a full range of energy-efficient products and services. Our member companies contribute energy efficiency-related revenues of over €150 billion annually to EU GDP.

Our industries are investing massively in developing the energy efficiency market in the EU. We are confident that the creation of this market will invigorate the EU economy, boost growth prospects and benefit European citizens.

The changes needed to unlock energy savings:

- A fundamental change in Europe's approach toward energy supply and use. Energy wastage is no longer a viable option for our societies if we are to secure a viable, sustainable energy future.
- A long-term vision for energy and climate which links the 2030 policy framework to a 2050 scenario that is high in energy efficiency and low in carbon.
- Measures and policies that support industry investment in energy-efficient solutions including full implementation and enforcement of existing measures.
- Setting EU energy efficiency objectives that are based on cost-effective energy savings potentials defined via a bottom-up approach per sector. The analysis according to which the objectives are set must include savings in both power and heating and cooling.
- The formal integration of energy efficiency into the EU's Energy Union strategy.
- Increase the multiplier effect of EU funding in order to attract additional private investment-specific funding mechanisms that:
 - facilitate multiple small projects;
 - identify the different mechanisms necessary to mobilise affordable funds for both large and small investments;
 - facilitate investment in projects of all sizes with relatively long payback periods;
 - reduce the risk of projects in some EU member states;
 - are specifically targeted at the interests of SMEs as consumers or providers of energy efficiency, and;
 - make energy efficiency attractive for EU citizens.

How our industries deliver energy savings and drive sustainable growth

Energy efficiency is the only policy that embraces the three pillars of sustainable growth: economic development, social development and environmental protection.

1. Generating economic growth.
2. Improving supply security.
3. Boosting industrial competitiveness.
4. Fostering innovation.
5. Increasing income for public budgets.
6. Reducing greenhouse gas emissions.
7. Increasing resource efficiency.
8. Creating additional, stable and local jobs.
9. Improving living standards.
10. Improving public health.

Economic development:

Generating economic growth

The market for low-carbon products and services is growing globally and within the EU represents revenues of over €150 billion each year. The EU has flourishing skills and industries in this sector but these industries need a strong home market in which to continue to develop, compete and grow. Producers and service providers are also active on the global market, contributing to Europe's export revenues.

Energy efficiency policies have contributed to reducing energy intensity in EU industry by 19% between 2001 and 2011.

According to the IEA¹, if EU countries were to fully exploit the potential of energy efficiency, overall GDP would grow by up to 1.1% per year. The European Commission estimated additional GDP growth of up to 4.45% by 2030 if 40% energy savings could be achieved².

Construction³ is a strong engine of the European economy. Investment in the energy efficiency of buildings robustly supports this sector which contributes nearly 10% to EU GDP. In 2011, 8.8% of total employment in the EU was in the buildings sector (the building sector employed 5 times more people than the energy supply sector for the same value added. Nevertheless, up to 66% of jobs have been lost in the sector in some Member States since the financial crisis. Copenhagen Economics estimates that by harvesting the investment opportunities provided by energy efficiency renovations in the existing building stock, EU Member States can stimulate economic activity which can bring net benefits to GDP of up to €291 billion. This corresponds to between 1.2% and 2.3% of EU GDP.⁴

Improving supply security

Supply security has become a major risk factor for Europe's economic development. Today, the European Union imports fossil fuels worth €570 billion per year. Moderating energy demand could reduce the EU's import dependency to below 40% by 2050 from 54% today, immediately allowing these savings to be invested in growth and jobs within the EU.

Already today, energy efficiency is the EU's first fuel. The IEA highlighted that energy efficiency has reduced total final consumption in the 11 IEA states by 35% since the 1970s. Moreover, for every 1% of energy savings made, the EU can reduce its gas imports by an estimated 2.6%.

Energy losses from energy conversion and distribution in the EU energy supply network are very significant. The efficiency of the EU electricity supply network as a whole is only

¹ IEA: "Capturing the Multiple Benefits of Energy Efficiency (2014)

² Commission Communication (2014) 520: "Energy Efficiency and its contribution to energy security and the 2030 Framework for climate and energy policy" (2014)

³ Strategy for the sustainable competitiveness of the construction sector and its Enterprises: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0433:FIN:EN:PDF>

⁴ Copenhagen Economics: "Multiple benefits of renovation in buildings" (October 12)

45.6%⁵. Investment in modern high-efficiency solutions can significantly increase this rate of efficiency. Indeed, the Impact Assessment for the Energy Efficiency Directive showed that the transformation sector has the highest individual sector improvement potential.⁶

Today's buildings use 61% of the EU's imported gas, with a study showing that the sector's overall imports could be reduced by 60% in 2030 and by 100% in 2050 if an ambitious deep renovation policy were put in place⁷.

Boosting industrial competitiveness

High dependency on international energy markets exposes companies to price shocks which reduce the predictability of returns on investment. Sudden price increases cannot always be passed on to the market and undermine companies' profitability.

Due to increases in worldwide demand and the introduction of energy taxes, energy prices are expected to rise over the next decade. Energy efficiency measures can decouple energy prices from energy costs for companies.

Furthermore, the European Commission's scenario modelling also sees a direct link between energy consumption in Europe and international energy prices. If energy efficiency gains of 40% were achieved by 2030, gas prices could be 8% lower and oil prices 3% lower than in business-as-usual scenarios⁸.

Investing in energy efficiency is also a matter of making better use of existing resources. Energy efficiency adds comfort in homes, boosts learning abilities in schools and increases productivity in renovated office buildings. The energy efficient operation of industrial plants in the EU makes them more competitive thanks to already existing solutions. Energy Efficiency Services Companies (ESCOs) deliver overall management of energy demand to energy end-users, providing operational, design maintenance and management of equipment services and leading to optimisation of energy consumption.

Fostering innovation

Energy efficiency is a driving factor for innovation in the manufacturing and services sectors. The development of the ESCO market is particularly important for optimising and modernising the EU's infrastructure. The global market value of ESCOs is estimated at €12bn in 2010⁹. New products and system solutions are being developed that bring down the costs of zero energy buildings for new and existing constructions.

Our industries create centres of innovation led by major European companies and foster the knowledge economy working with academia, supporting research and developing new areas of economic activity.

However, innovation centres will only stay in the EU if the legislator is able to provide an ambitious long-term framework demonstrating the political will to realise energy saving potentials.

Increasing income for public budgets

Several studies have demonstrated that energy efficiency leads to significant net increased in public budget revenues. Copenhagen Economics estimates that ambitious building renovation programmes will increase public revenue by up to €128 billion in the period from 2012-2017. These benefits are associated with more activity and more employment, and derive from increased revenue from income taxation, corporate taxation and VAT, and from reduced outlay on unemployment benefits¹⁰.

⁵ estat-energy@ec.europa.eu 30 April 2014

⁶ [Sec 2011_0779 Impact assessment](#)

⁷ [Ecofys for Eurima: "Deep renovation of buildings - An effective way to decrease Europe's energy import dependency" \(May 2014\)](#)

⁸ Commission Communication [\(2014\) 520: "Energy Efficiency and its contribution to energy security and the 2030 Framework for climate and energy policy"](#) (2014)

⁹ IEA energy efficiency in 2013 (details)

¹⁰ [Copenhagen Economics: "Multiple benefits of renovation in buildings" \(October 12\)](#)

German research centre Forschungszentrum Jülich established that every euro invested by the German Federal Government in building efficiency programmes from the KfW bank yielded up to €5 of accrued public budget income in the same year¹¹.

The economic downturn has led to painful cuts in healthcare budgets in many Member States. However, it is well established that ambitious energy efficiency measures can significantly reduce healthcare costs. Assessing a Northern Irish building refurbishment scheme, the European Commission estimates that every euro spent on house retrofits yields a saving of 42 cents in terms of health care that is no longer needed. The Commission stressed that public health also benefits from reduced pollution resulting from energy extraction, transformation, transportation and use¹².

According to Copenhagen Economics, ambitious building renovation programmes leading to improved indoor climate could bring financial benefits up to €88 billion per year¹³.

Environmental protection:

Reducing greenhouse gas emissions

Since the first oil crisis in 1974, efficiency improvements have become the first fuel, according to the IEA. Energy efficiency investments made since 1974 have had a major cumulative impact on annual energy use, resulting in avoided energy consumption of 63 exajoules (EJ) – corresponding to 1.52 billion tonnes of oil-equivalent – in eleven IEA member countries in 2010.

Since 1999 (and in fact for the decade before that), the chemical industry has been decoupling production from energy use. Around 50% of the decrease in energy intensity is due to energy efficiency through the deployment of CHP (combined heat and power)¹⁴.

The European Commission estimates that a 40% energy efficiency target for 2030 would reduce greenhouse gas emissions from buildings by as much as 63%¹⁵.

The Ecodesign and Energy Labelling Directives set minimum energy efficiency requirements and inform people about the energy efficiency of a wide range of energy-related products. From light bulbs, refrigerators and washing machines to heating and cooling appliances for households, commercial and industrial purposes, the measures have delivered tremendous energy savings and CO₂ emission reductions, while stimulating innovation by paving the way for manufacturers to develop more energy-efficient products to bring onto the market.

Increasing resource efficiency

Energy efficiency allows our societies to do more with less. According to the European Commission, it enables a reduction in resources used for energy extraction, transformation, transportation and use¹⁶.

The SME sector is a central powerhouse of the EU economy. The majority of SMEs in the EU are acting to become more resource efficient in order to reduce costs (63%). A recent FlashBarometer report by DG Enterprise reveals that in the SME sector, saving energy and minimising waste are the most common resource efficiency measures being taken by these companies.¹⁷ A strong home industry can supply this need.

Social development:

Creating additional, stable and local jobs

¹¹ Impact on public budgets of KfW promotional programmes in the field of energy-efficient building and rehabilitation”, Jülich Institute/KfW, 2011.

¹⁴ Cefic European chemistry for growth: Unlocking a competitive, low carbon and energy efficient future (2013)

¹⁵ Commission Communication (2014) 520: “Energy Efficiency and its contribution to energy security and the 2030 Framework for climate and energy policy

¹⁶ Idem

¹⁷ SMEs, Resource Efficiency and Green Markets Flash Eurobarometer 381

The creation of local skilled jobs is an absolute imperative for the EU. It is widely recognised that ambitious energy efficiency measures lead to significant net job creation. The European Commission states that the number of jobs could be increased by up to 3% by 2030 if a 40% energy savings target were implemented¹⁸.

Increased energy efficiency investment in the buildings sector would bring a high density of new local stable jobs where they are most needed¹⁹. On average, an investment of €1m in the buildings sector creates 19 new jobs²⁰.

Copenhagen Economics estimates that harvesting the investment opportunities provided by energy efficiency renovations in the existing building stock can create up to 1,480,000 jobs in the supply chain²¹.

Improving living standards

About 10% of EU citizens are considered fuel poor. Many governments spend more money on fuel subsidies than on reducing energy bills sustainably through energy efficiency measures²².

The cost of heating is an important element of household expenditure and can absorb up to 20% of household income²³. Therefore it is essential to increase the energy efficiency of heating and cooling systems and the thermal performance of the housing stock in the EU. With a view to tackling energy poverty, the Vulnerable Consumers Working Group led by the European Commission recommended that Energy Performance Contracting in collective buildings equipped with collective heating and/or connected to district heating networks should be developed.²⁴

More generally, increasing energy efficiency in buildings is crucial for reducing overall energy consumption in the EU, for housing as well as for other uses. This is further supported by research showing that investing in energy efficient solutions in homes, instead of paying fuel subsidies, could remove nine out of ten households from fuel poverty²⁵.

Investments not only pay off for companies, but also for home owners. Investments in highly-efficient appliances are expected to save consumers an annual €100 billion on their energy bills by 2020, which equals to €465 per household²⁶.

Improving public health

The economic downturn has led to painful cuts in healthcare budgets in many Member States. However, it is well established that ambitious energy efficiency measures can significantly reduce healthcare costs. Assessing a Northern Irish building refurbishment scheme, the European Commission estimates that every euro spent on house retrofits yields a saving of 42 cents in terms of health care that is no longer needed.

The health of EU citizens would benefit twice from more energy-efficient societies: firstly, through better air quality thanks to a reduction of pollution resulting from energy extraction, transformation, transportation and use. And secondly, through better indoor air

¹⁸ Commission Communication (2014) 520: "Energy Efficiency and its contribution to energy security and the 2030 Framework for climate and energy policy"

¹⁹ European Commission: "[Strategy for the sustainable competitiveness of the construction sector and its Enterprises](#)"

²⁰ R Janssen and D Staniaszek: "How Many Jobs? A Survey of the Employment Effects of Investment in Energy Efficiency of Buildings" (May 2012)

²¹ Copenhagen

²² Building Performance Institute Europe "Alleviating Fuel Poverty in the EU - Investing in Home Renovation, a Sustainable and Inclusive Solution" (May 2014)

²³ Vulnerable Consumers Working Group Guidance Document on Vulnerable Consumers http://ec.europa.eu/energy/gas_electricity/doc/forum_citizen_energy/20140106_vulnerable_consumer_report.pdf, p. 31 (November 2013)

²⁴ Idem, p. 32.

²⁵ Verco, Cambridge Econometrics: "Jobs, growth and warmer homes - Evaluating the Economic Stimulus of Investing in Energy Efficiency Measures in Fuel Poor Homes" (October 2012)

²⁶ [COM EE communication of July 2014](#)

thanks to the renovation of leaky building envelopes, the installation of better domestic equipment such as heating and ventilation, and improved lighting conditions.

Many studies have shown that an improved indoor climate leads to increased well-being and increased productivity. This leads to lower rates of illness, fewer sick days and hence increased profitability for companies.

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CECED represents the household appliance manufacturing industry in Europe. Its member companies are mainly based in Europe. Direct Members are Arçelik, Ariston Thermo Group, BSH Bosch und Siemens Hausgeräte GmbH, Candy Group, Daikin Europe, De'Longhi, AB Electrolux, Fagor Group, Gorenje, Indesit Company, LG Electronics Europe, Liebherr Hausgeräte, Miele & Cie. GmbH & Co., Philips, Samsung, Groupe SEB, Vorwerk and Whirlpool Europe. CECED's member Associations cover the following countries: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

COGEN Europe is Europe's umbrella organisation representing the interests of the cogeneration industry, users of the technology and promoting its benefits in the EU and the wider Europe. The association is backed by the key players in the industry including gas and electricity companies, ESCOs, equipment suppliers, consultancies, national promotion organisations, financial and other service companies.

EFIEES represents Energy Efficiency Service Companies. These companies ensure an overall management of energy demand to end-users. They provide operational maintenance and management of equipment of their industrial, tertiary and residential customers (collective or individual), public or private: this covers, in particular, sportive installations, schools and hospitals. They commit, by long-term contract, on a technical, financial, economic and environmental performance. Their remuneration is based on the performance commitment, defined on compliance with operating quality standards and/or delivery on supply of improvements in energy efficiency. EFIEES' members optimise the amount of CO2 emissions by district heating networks and combustion installations they run in 12 EU Member States. They employ 130.000 people across EU with a turn-over of 30 billion of Euros.

EPEE is the European Partnership for Energy and the Environment (EPEE) represents the refrigeration, air-conditioning and heat pump industry in Europe. Founded in the year 2000, EPEE's membership is composed of 40 member companies and national associations across Europe realising a turnover of over 30 billion Euros and employing more than 200,000 people in Europe. As an expert association, EPEE is supporting safe, environmentally and economically viable technologies with the objective of promoting a better understanding of the sector in the EU and contributing to the development of effective European policies. For more information: www.epeeglobal.org

Eurima is the European Insulation Manufacturers Association and represents the interests of all major mineral wool insulation producers throughout Europe. Eurima members employ directly over 20,000 people across Europe, with the installation of insulation products accounting for an estimated additional 300,000 man-years annually.

The European Alliance of Companies for Energy Efficiency in Buildings (EuroACE) represents Europe's leading companies involved with the manufacture, distribution and installation of energy savings goods and services for buildings. With a total turnover of 140 billion euros and employing 328,000 people, the EuroACE mission is to help Europe move towards a more sustainable pattern of energy use in buildings.

The European Copper Institute is a joint venture between the world's mining companies (represented by the International Copper Association, Ltd) and the European copper industry. Its mission is to promote copper's value to modern society, including its essentiality for health, technology and the quality of life. As one example, higher copper usage will be required to meet the recently approved EU Mandatory Energy Performance Standards for electric motors. Full implementation will deliver electricity savings of 135 TWh/year (more than the annual electricity consumption of Finland and Greece) and avoid 63 million tonnes of CO₂ emissions.

Glass for Europe is the trade association for Europe's manufacturers of building, automotive and transport glass, all derived from flat glass. Glass products not only provide light, comfort, style, security and safety, they are also essential to energy-efficient buildings, houses and transport. Windows containing high-performance glass such as low-e insulating glass, which helps keep warmth in, and solar-control glass, which reflects unwanted heat away, help reduce energy consumption, while high-transmission glass used in solar panels helps to provide a renewable source of energy. Glass for Europe has four members accounting for nearly 90% of the EU's flat glass production: AGC Glass Europe, NSG-Pilkington, Saint-Gobain Glass and Siseecam-Trakya Cam and works in association with Guardian.

LightingEurope is an industry association representing 31 leading European lighting manufacturers, national lighting associations, and companies producing materials. LightingEurope members employ over 100,000 people in Europe and represent an annual turnover estimated to exceed 20 billion euros. LightingEurope is dedicated to promoting efficient lighting practices for the benefit of the global environment, human comfort, and the health and safety of consumers.

PU-Europe is the European association representing the rigid polyurethane insulation industry. Its products help to save energy in a wide variety of applications in buildings, district heating, cooling and refrigeration, and industrial systems. PU-Europe members have a total turnover of Euro 4 billion and provide 18,000 jobs.