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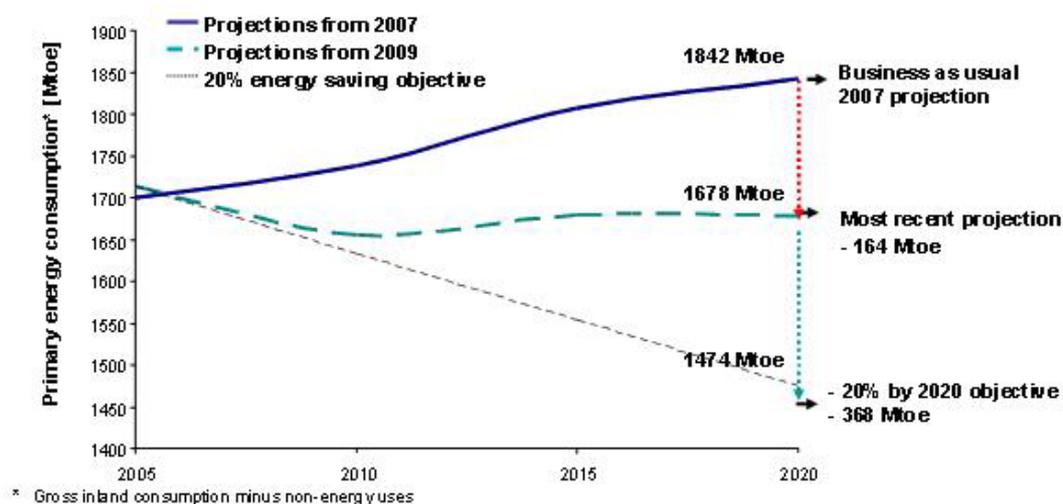
## The Commission's new Energy Efficiency Directive

### What is the objective?

The aim is to save energy and to reach the target the EU has set itself: By 2020, the EU wants to cut energy consumption by 20 percent<sup>1</sup>. In absolute terms – calculated in million tons of oil equivalent (Mtoe)– this are **368 Mtoe** in 2020 compared to projected consumption in that year of 1842 Mtoe. This needs to be achieved by the EU as a whole.

At the moment – with all the measures on EU and national level in place so far – we would only reach 1678 Mtoe, or **9% of savings**.

Figure 1: Projection of primary energy use for the EU by 2020<sup>2</sup>



<sup>1</sup> COM(2005) 265 and Council conclusions 2007: 7224/1/07 REV 1

<sup>2</sup> SEC (2011)277 final

## What are the measures proposed?

- Legal obligation to establish **energy saving schemes** in all Member States: **energy distributors or retail energy sales companies will be obliged to save every year 1,5 % of their energy sales**, by volume, through the implementation of energy efficiency measures such as improving the efficiency of the heating system, installing double glazed windows or insulating roofs, among final energy customers.
- **Public sector** to lead by example: public bodies will push for the market uptake of energy efficient products and services through a legal obligation to purchase energy efficient buildings, products and services. They will further have to progressively reduce the energy consumed on their own premises by carrying out **every year the required renovation works covering at least 3%** of their total floor area.
- Major energy savings for consumers: **easy and free-of-charge access to data on real-time and historical energy consumption through more accurate individual metering will now empower consumers to better manage their energy consumption. Billing should be based on the actual consumption well reflecting data from the metering.**
- Industry: **Incentives for SMEs** to undergo energy audits and disseminate best practices while the large companies will have to make an audit of their energy consumption to help them identify the potential for reduced energy consumption.
- Efficiency in energy generation: **monitoring of efficiency levels of new energy generation capacities, establishment of national heat and cooling plans as a basis for a sound planning of efficient heating and cooling infrastructures, including recovery of waste heat.**

## What exactly is planned for public buildings?

From 1 January 2014, **3% of public buildings should be renovated each year, with the clear aim to save energy. Currently, the same percentage is renovated per year but in only half of the cases energy efficiency improvements are included (1, 5% energy related renovation rate).** In practice, this could mean that walls are insulated, double glazing windows are installed in kindergardens, schools or townhouses, roofs are redone and inefficient heating boilers replaced.

**In many cases a cost optimal renovation can bring up to 60% energy savings.** The benefit can be estimated to 6 Mtoe in 2020 would for illustration means that the construction of 17 coal power units or about 9 000 wind turbines would be avoided.

Due to the important share of public buildings (about 12% of the EU build up area), it could serve as a strong driver for higher market uptake of energy efficiency in other sectors and development of the skills and knowledge required.

Buildings (private and public) still represent 40 % of the overall final energy consumption.

## **How can you force government to spend money in times they have to save money?**

The renovation of public buildings would to a **significant extent pay for itself** through the savings on the energy bills and would also help the economic recovery by stimulating business activity and jobs.

However, still there is a need for upfront investment in the implementation of energy efficiency improvements. For this reason, the proposed Directive includes **provisions to strengthen the energy services markets. In these markets energy service companies (ESCOs) would pay for the initial investments and get their money back from the savings on the energy bills.** In addition to energy savings, this will create business opportunities and new jobs, for example, for construction companies, equipment providers. The energy service market currently accounts for about **€ 6 billion as compared to € 30 billion in the USA** where it is more developed). **The EU potential for such market is estimated at €25 billion.**

In addition to the private funding, Member States can also use their allocations under the European Regional Development Fund (ERDF) to finance the renovation of public buildings. In the period 2007 – 2013, 4.4 billion Euro were available for that purpose.

## Which measures are proposed for energy companies?

Energy companies dispose of important commercial information about the energy consumption of their clients that could make them an important actor in the energy savings market but they do not have stimuli to do so. To engage these companies, the Commission proposes that either **all energy distributors or all retail energy sales companies operating on the Member State's territory achieve annual energy savings equal to 1.5% of their energy sales volume in the previous year**. In principle, these are companies delivering gas, heating oil or electricity.

To achieve these savings the energy companies concerned would have to work with the final energy users (e.g. individual house owners, supermarkets, hospitals) to implement energy savings. The savings are counted in absolute terms and thus companies can still increase their sales.

Each Member State would have to devise its own scheme that best meets the national circumstances while following certain common EU requirements (e.g. same level of ambition, certification of savings).

In order to allow for sufficient flexibility, Member States have also the possibility to propose alternative energy savings mechanisms that lead to the same results but are not based on obligation on energy companies. These could, for example, be funding programmes or voluntary agreements.

If implemented properly and with a stringent level of ambition, it is expected that it will reduce the EU's energy consumption by **6.4% in 2020 (or 108 to 118 Mtoe primary energy which is the current consumption of Poland and Portugal together)**.

## Do such energy efficiency schemes already exist?

There are already **positive experiences from the countries that have introduced similar obligations, e.g. Denmark, France, Italy, the UK, and the region of Flanders**. Because of the positive outcomes **Poland** has recently voted for similar scheme and **Malta** considers taking up a saving obligation scheme as well.

So far, reductions of 2.3% to 5.6% of final energy consumption have been realized by the energy companies concerned (typically suppliers or distributors) over the duration of the various schemes. The most advanced scheme works with an annual reduction of 1.5% as foreseen in the Directive. Still the level of ambition is lower than schemes in other countries like **Australia or USA (Illinois: 2%, Massachusetts: 2.3% per year additional through 2020, Vermont: averaging 2% additional per year, Iowa: 1.5% per year additional, Maryland: 1.5% to 1.8% additional per year)**.

## Who will pay for such schemes?

Depending on the way the schemes are implemented at national level the costs are either **equally spread to all consumers or energy services companies are used and the upfront investments are recuperated from the savings on the energy bills over certain period of time**.

## **Are you not imposing to companies unnecessary obligations? Why not being more market liberal?**

No. The approach proposed by the Commission is a **market based approach as Member States can decide – as it has happened in Italy, France, the UK and Flanders – to certify the savings and make them tradable.** This allows for the implementation of the savings at least cost and it has proved very efficient in mobilizing energy savings improvements. However, an additional flexibility is foreseen by allowing that the saving target can be met through other measures such as voluntary agreements or funding solutions if the Member States chooses so.

## **What are the benefits for the industry?**

The Commission proposes **that large companies** have to do regular **energy audits carried out in an independent manner.** Member States are also encouraged to develop incentives for companies that introduce an energy management system as a systematic framework for the rational use of energy. **Exchange of best practices** in energy efficiency and projects aimed at building capacity on energy management are also proposed for SMEs.

## **And for the consumers?**

Member States shall ensure that final customers of electricity, natural gas, district heating or cooling and district-supplied domestic hot water are provided with **individual meters** that accurately measure and allow making available their actual energy consumption and providing information on actual time of use.

Member States shall ensure the **accuracy and the frequency of the billing and that the billing is based on actual consumption,** for all the sectors covered by the Directive, including energy distributors, distribution system operators and retail energy sales companies. This should be done not later **than 1 January 2015 for electricity, natural gas; hot water and centralised heat.** In a longer term, this may require introduction of intelligent metering although in the shorter term, frequent billing can be based on self reading of existing meters by the consumers themselves.

The potential savings that could be reached through improved information provided through more adequate metering and billing are estimated at the level of around 80 Mtoe. **Indeed, some pilot projects have shown a potential of reduction of the energy consumption up to 15-20% (40% in electricity) when customers are allowed to turn off appliances by web interface or mobile<sup>3</sup>.**

## **Why more obligations regarding 'smart meters' if they are already required in under the existing EU legislation?**

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<sup>3</sup> Project AlertMe in UK (<http://www.alertme.com>)

Existing EU legislation on internal market for electricity and gas already foresees a roll-out of smart meters (e.g. at least 80% of smart meters for electricity deployed by 2020, subject to a positive cost-benefit analysis by Member States). Individual metering of heat and hot water consumption as well as frequent individual billing based on actual consumption of energy have also already been assumed by the existing Directive of Energy Services.

But there are shortcomings in the current display and presently the developments on individual metering and billing so far have not been always helping end-users to save energy.

For example, new electronic meters for electricity/gas are often provided without proper interface (e.g. in-home display or via some other type of electronic device such smart phones, tablets, etc). Billing is still often based just on forecasts and not actual consumption, billing of heat in multi-apartment buildings is often just based on flat rate per m<sup>2</sup>; billing based on actual consumption in some countries is sometimes required as often as annually, which all do not encourage the consumers to save energy.

The legislative proposal aims to ensure that certain minimum feedback from metering is provided **free of charge to individual consumers**.

### **What is proposed for district heating?**

The Directive requires that by 1 January 2014, the Member States have established a national heating and cooling plan for developing the potential for the application of high-efficiency cogeneration (CHP) and efficient district heating and cooling.

Cogeneration is the simultaneous generation in one process of thermal energy and electrical or mechanical energy.

CHP saves at least 30% of energy compared to separate electricity and heat production. CHP is a mature, well-proven technology and there is an additional economic potential of at least doubling CHP by 2020. Despite this, CHP share remained flat. The current share is 11%. Since 2004 there was only 0.5% increase. A 6% per year growth would be needed to realise the economic potential by 2020, which is at least 21%.

### **Why not binding targets? What is the 'two steps approach'?**

We propose **binding measures** rather than binding **target** for each and every member state: once the directive enters into force, Member States will have the obligation to apply all its provisions. For instance, they cannot decide whether or not to implement the 3% renovation target for public. If not, the Commission may start infringement procedures.

In addition, the Commission proposes that

(1) Member States set themselves non-binding **national energy efficiency target**

(2) the Commission will propose binding national targets if in 2014 we come to the conclusion that the EU is not likely to achieve the 20 percent target