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### **Is consuming less being more efficient?**

#### IMPLICATIONS ON SETTING AN ENERGY EFFICIENCY TARGET

BUSINESSEUROPE welcomes the fresh momentum given to energy efficiency. Investing into energy efficiency is often the most cost-effective means to yield a more rational use of energy and therefore the best policy to reconcile growth, supply security and climate protection.

Notwithstanding the choice for binding 20% CO<sub>2</sub> and 20% renewable targets, which BUSINESSEUROPE supports, EU heads of state in 2007 however decided to keep the 20% energy efficiency target non-binding. There were good reasons for this.

A common understanding of the definition of energy efficiency and how to measure and monitor it was missing. Moreover, the overlap with the CO<sub>2</sub> and renewable 20% targets, which leads in itself to greater energy efficiency through higher energy prices, further complicates the matter.

This situation remains as valid today as it was in 2007. Therefore, the implications for the viability of an energy efficiency target need to be carefully assessed. This is important in the context of the draft Energy Efficiency Directive and the 2050 Energy Roadmap, which starts a discussion about longer-term energy efficiency objectives.

This paper aims to stimulate the debate by raising a number of questions on the complexity of the concept of energy efficiency. It illustrates the risks of simply stipulating a macro-level absolute reduction of energy consumption and proposes ingredients for “genuine” energy efficiency targets.

#### **1. What is energy efficiency and how do we measure it?**

We all want to increase our energy efficiency. But what do we mean by that?

- In industry – where efforts for energy efficiency improvements have a long tradition – increasing energy efficiency has always been viewed as decreasing the amount of energy needed for the same process or product, i.e. increasing energy productivity. By contrast, an obligation for an absolute reduction of energy consumption could have highly damaging effects such as scaling down production or relocating it to other regions.
- In residential or office buildings, energy efficiency can be achieved – for example – by better insulating, by installing more energy-efficient equipment and/or by improving equipment maintenance whereas turning down the temperature would simply be a measure for reducing energy consumption.

In both cases, improvements in energy efficiency can be determined by comparing energy consumption before and after implementation of energy efficiency improvement measures such as new energy-efficient technologies or changes in behaviours.



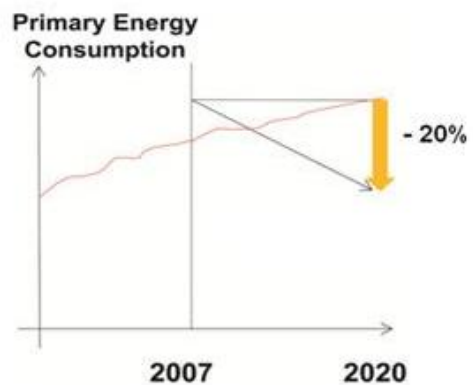
But at the same time, it must be ensured that external factors which also have an impact on energy consumption – independently from the improvement measures – are not counted towards or against the efficiency gain. Examples of these factors are changes in production volumes or in the supply chain, changes in the quality of the product or weather conditions.

**2. What are the risks of the targets currently being discussed?**

Two options on how to format EU and national energy efficiency targets have so far been discussed:

*Absolute target on energy consumption*

The Commission proposal has opted for an absolute cap on primary energy consumption leading to an absolute reduction of consumption from 1,692 Mtoe in 2007 to 1,474 Mtoe in 2020. It is based on a projection made in 2007 of how energy consumption would evolve until 2020. The cap represents a 20% reduction of this hypothetical energy consumption in 2020 (see chart).



Such an approach provides the wrong incentive to “consume less” instead of “being more efficient” and comprises serious risks. If the future brings stronger economic growth than projected, this cap would be difficult to achieve without a lowering of industrial activities within Europe, while it could become meaningless if Europe slides into a phase of economic depression. It is essential that any target that is set can be fully reconciled with economic growth.

*Energy intensity target*

While it rightly expresses energy use as a function of an economic parameter, an energy intensity target based on GDP – be it at a European or national level - has significant drawbacks. In particular, it provides a strong incentive for all countries to outsource energy-intensive industries and processes, without guaranteeing in any way that energy efficiency improvements are achieved.

**3. How to define targets which capture “real” energy efficiency?**

Real energy efficiency should be a measurement of the amount of energy saved after implementation of energy efficiency improvement measures, whilst ensuring that external factors that affect energy consumption are filtered out. None of the proposed targets that are currently being discussed as described above pay sufficient attention to the complexity of energy efficiency.



A pre-requisite is to develop a **cost-effective and credible EU methodology for measuring “real” energy efficiency gains**, which take into account the differences between the different users of energy that the energy efficiency directive targets for achieving energy savings. This work, which the European Commission should carry out in close cooperation with the Member States, should be based on pilot projects that take into consideration the experience gained in a number of Member States with defining, measuring and monitoring energy efficiency, notably through voluntary agreements with industry.

This work should persuade EU policy-makers to re-structure and express the indicative EU 20% energy efficiency target in such a way that:

- it truly focuses on improvements in energy efficiency,
- it includes elements which appropriately express energy consumption as a function of economic indicators, and
- it guarantees that European industry will not be confronted with obligations for an absolute reduction of energy consumption.

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