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SUMMARY OF THE IMPACT ASSESSMENT

Accompanying document to the

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
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European Energy Efficiency Plan 2011

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Europe can reduce its primary energy use by 20% in 2020 simply by applying cost-effective¹ energy savings measures. This would make the EU's economy more competitive and create jobs and new business opportunities. EU citizens would pay less on their energy bills, reducing the number of fuel-poor households. Energy efficiency also means better use of energy resources and reduced import dependency. Less energy use also means less CO₂ and other harmful emissions, less impact on the ecosystem, and better quality of life for people. Energy efficiency and savings benefit the EU economy as a whole, Member States, businesses and private individuals.

1. WHAT IS THE PROBLEM?

At the Spring Council 2007, the EU Heads of States and of Governments stressed *'the need to increase energy efficiency in the EU so as to achieve the objective of saving 20% of the EU's energy consumption compared to projections for 2020'*².

However, **the EU is not on track** to fully realize these cost-effective energy savings. The PRIMES 2009 energy efficiency scenario shows a break in the trend towards ever increasing energy demand but the reduction in consumption relative to previous projections will still be only about 9% in 2020. Therefore, if the EU does not **double its efforts** on energy efficiency, it will not reach its 20% target and will not realize all the associated benefits for the economy, society and environment.

The causes of insufficient progress are market failures (such as insufficient price signals, split incentives, asymmetric information, missing or incomplete markets and high initial costs) and regulatory failures (such as lack of comprehensive policy frameworks, poor enforcement and low level of ambition). The rebound effect is another challenge that, however, is difficult to address at EU level as it relates to behaviour and the free choice of individuals.

2. EXISTING POLICIES ARE INSUFFICIENT

To tackle the above limitations and reap the benefits of energy efficiency **a number of policies have been adopted at EU and national level**.

The Energy Efficiency Action Plan (EEAP) of 2006 provided a comprehensive policy framework, listing 85 measures, **at the EU level** that has led to the adoption of more than 20 legal measures and numerous soft-law initiatives. Assessment of the EEAP has shown that the majority of the measures have been completed or are in progress of implementation. The EEAP has fulfilled its objective of being an important driver for the adoption of ambitious policies at EU, national and local level. However, the EEAP was not designed to achieve the full energy savings potential and because of this its updating is needed.

A number of policies were also adopted **by Member States** but these will not be sufficient to close the gap. The first National Energy Efficiency Action Plans (NEEAPs), submitted as an

¹ For example, Fraunhofer ISI *et al.* 2009: Study on Energy Savings Potentials in EU Member States, Candidate Countries and EEA Countries; Action Plan for Energy Efficiency: Impact Assessment SEC(2006) 1174; Lechtenböhmer and Thomas, Wuppertal Institute. 2005: The mid-term potential for demand-side energy efficiency in the EU.

² 7224/1/07 REV 1.

obligation under the Energy Services Directive, give a good account of many of the policies that Member States have set to realise their energy efficiency and savings potential³. The Commission's evaluation of the NEEAPs revealed the progress attained in each Member State. It concluded that even though many NEEAPs already contain coherent and comprehensive strategies for the achievement of intermediate and overall targets, some show piecemeal thinking with a scattering of fragmented energy efficiency measures.

3. EU HAS AN IMPORTANT ROLE

The EU's right to act as regards energy efficiency and savings is instituted in the Treaty on the Functioning of the European Union, Article 194(1). Although much responsibility rests with Member States, **the EU's right to act has been established because of the importance of energy efficiency and savings for realizing the EU's climate change, security of energy supply, competitiveness and environmental protection objectives**. Tackling these objectives requires coordinated action and coherent energy efficiency and savings policy. Therefore, the EU has a role in:

- Setting minimum requirements in areas where there is a risk of internal market distortions if Member States take individual measures.
- Establishing a common framework which creates the basis for coherent and mutually reinforcing mechanisms while leaving in being the responsibility of Member States to set, in a transparent and comparable way, the concrete levels that are to be met.
- Creating a platform for exchanging best practices and stimulating capacity building.
- Using EU instruments to promote energy efficiency, e.g. through financing, and to mainstream it into the other policy areas.
- Promoting the EU internationally as a forerunner in the area – an activity that is also beneficial for EU businesses.

4. MAIN POLICY OBJECTIVES

The general EU policy objective, as set by EU leaders, is to increase energy efficiency in the EU so as to achieve the objective of saving 20% of the EU's energy consumption compared to projections for 2020, as estimated by the Commission in its Green Paper⁴ on Energy Efficiency. This objective is consistent with the EU's overall energy policy. Increased energy efficiency is an essential element of the new European Energy Strategy 2020⁵.

³ Originally the NEEAPs were due in mid-2007 but many were delayed and were submitted by mid-2008
⁴ COM(2005) 265: Primary energy savings amounting to 370 Mtoe in 2020 compared to a baseline scenario projecting the level of primary energy consumption. The baseline was updated in 2007 to take account of two new Member States.

⁵ COM(2010) 639.

More generally, energy efficiency contributes to broader initiatives to achieve climate change policy objectives and to stimulate economic recovery and smart, sustainable and inclusive growth, as outlined in *Europe 2020: A strategy for smart, sustainable and inclusive growth*⁶.

5. ANALYTICAL APPROACH

The aim of this IA was to **analyze the achievements and challenges** of existing policies and the trends in energy consumption and assess whether **there are possibilities for additional action at EU level**.

The analysis was proportionate to the foreseen level of detail of the policy document itself. As the concrete measures will be developed in the future and will be accompanied by impact assessments when needed, the evaluation was done mainly in qualitative terms. However, quantitative examples of similar policies or general calculations of the possible impacts were presented where possible.

The analysis discussed, first, which is the best way to approach energy efficiency at EU level and, second, what types of EU policy instruments are needed to support Member States in realizing the savings potential.

Three main policy alternatives were analyzed: (i) setting only targets and leaving it to Member States to develop the policy mix needed; (ii) no targets, but developing detailed EU policy instruments, inviting Member States to implement and/or supplement them; (iii) a comprehensive policy framework at Member State level (including objectives/targets), while the EU develops policy instruments to support Member States.

Afterwards for each sector (i.e. the residential and tertiary, transport, industry and energy sectors) various types of policy instruments were analyzed (i.e. voluntary, regulatory, financing, awareness and training) in order to identify whether their application at EU level would be needed for the specific policy objectives for the sectors to be met. The selection of the best options was based on the progress achieved by the existing policies and on evaluation of the remaining barriers, the EU value added, possible impact, effectiveness, efficiency and coherence.

6. CONCLUSIONS: PREFERRED NEW POLICY FRAMEWORK

Preferred general policy approach

It is essential that a coherent policy mix is developed at Member State level with clear, simple and measurable objectives. Well coordinated measures at EU level could provide Member States with the needed framework on which to further develop their efforts. The Commission could propose individual measures for each sector that would provide for a common framework and also support Member States in developing their own tools.

This approach would lead towards the realization of the cost-effective potential and address major barriers such as policy fragmentation, lack of political commitment and policy

⁶ COM(2010) 2020.

predictability. It would ensure that the possible synergies between the various policies are explored.

The Commission could in addition study the best approach to objective setting and the interaction of such objectives with other policy instruments (especially climate targets). It could propose the establishment of NEEAPs as a key document. A strengthened and extended (to all supply and demand sectors) National Energy Efficiency Action Plan could give high political visibility to energy efficiency and drive the process. Furthermore, in order to increase the engagement of local authorities it is suggested that the successful model of the Covenant of Mayors supported by the Commission is continued to keep it growing and realising its potential.

Preferred way forward for the residential and services sectors

The analysis concluded that to address the challenge of insufficiently high renovation rates of buildings further strengthening of the current policy framework on buildings (Option A3a) is not necessary as the recent modification of the legislative framework (especially of the Energy Performance of Buildings Directive) is already ambitious and the focus should be on its implementation. This is not the case for product requirements. To increase the uptake of energy efficient products, the scope of Ecodesign and Energy Labelling could be further extended to cover more product groups, especially in the tertiary sector, and also some construction materials (e.g. windows) (Option A3b). This would further support the establishment of markets for energy efficient products and materials.

Measures on financing would be essential to tackle the serious limitations on the availability of liquidity for high upfront costs and also to some extent the landlord-tenant problem. The limited financial resources at EU level could be particularly targeted at providing technical assistance to Member States and local authorities but also provide risk-sharing and project guarantee support (Option A4a). With the economic crisis it cannot be expected that significant additional public funds would be dedicated to energy efficiency and it is therefore essential that these instruments aim at better engagement of third party financing. Measures that could further support the engagement of private investors are energy savings obligation on energy utilities (Option D3d) and support for the development of energy service companies (ESCOs) (Option D5). Furthermore, the introduction of certain energy efficiency conditionalities for public funding support is considered beneficial (Option A4b).

The persistent lack of a qualified building workforce due to the undeveloped character of markets is recognised as one of the main non-technological and non-financial barriers to the deployment of optimal energy renovations or installation of appliances in buildings. It could be tackled at EU level by supporting Member States with tools (e.g. development of national qualification roadmaps, education and training curricula, accreditation and certification schemes) and creation of platforms on the exchange of best practices.

Additionally measures on awareness raising (A5) and increased voluntary engagement of private entities (Option A2) would be beneficial and could be implemented, if there are sufficient resources as the EU has a limited role and such measures would remain mainly in the domain of Member States or local authorities.

Preferred way forward for the transport sector

The projected growth in the transport sector's energy consumption up to 2020 is the highest of any sector. To realize the remaining potential support is needed for the transformation of

transport towards more efficient vehicles, modes and usages. However, because the forthcoming Transport White Paper will give further impetus to the increased decarbonisation and resource efficiency of the sector, no options were analyzed in the IA.

Preferred way forward for the industry sector

Even though industry has experienced the highest energy efficiency improvements, still some potential remains. EU policies have already partially addressed some of the possible environmental impact of the sector. Therefore, the objective as regards the industry sector is to support the use of this untapped potential while remaining coherent with existing policy instruments (e.g. Emissions Trading Scheme (ETS) and the new Industrial Emissions Directive). The barriers in the sector are mainly a lack of strong price signals, lack of awareness and training (especially for SMEs), and also a lack of long-term policy planning which increases the perception of risk and deters companies from realizing investments.

The analysis of the possible approaches concluded that further legal instruments that would be in line with the above-mentioned objective and existing policy could be developed (Option C3). To this end, more implementing measures under the Ecodesign Directive could be proposed that would cover commonly used products in industrial processes (such as large pumps or furnaces). Custom-made equipment and systems could be addressed with generic energy-efficiency requirements to be operationalised through standards. In addition, certain energy management requirements (e.g. energy audits) could be established for large energy consumers. For SMEs, information toolkits and assistance to manage their energy consumption could be provided (Option C5).

Important mobilization of projects in the industry sector could come from energy savings obligations, if imposed on energy companies (Option D3d) and the promotion of ESCOs (Option D5).

Measures on awareness raising (Option C4) and increased voluntary engagement of private entities (Option C2) would be also beneficial and could be implemented if there are sufficient resources. Still, the EU has limited role and such measures remain mainly in the domain of Member States or local authorities.

Preferred way forward for the energy sector

At present, the average efficiency of the generation capacity is considerably lower than best available technologies. The main reason for this is the lack of sufficiently strong price signals in relation to investment decisions for the construction of new capacities and the retirement of old ones. The ETS in its third phase will have a certain impact on this problem for the units it covers. Therefore, it is not appropriate to propose further regulatory instruments without knowing its concrete effects (Option D3a). However, with the growing number of small generation installations, the need for further regulatory instruments to ensure their high efficiency could be studied.

The full potential for residual heat use or energy recovery is also not used. The analysis showed that further regulatory measures for the promotion of cogeneration and district heating and cooling units could be developed following further analysis and possible revision of the main policy framework in the area (i.e. the Co-generation Directive) (Option D3b).

National Regulatory Authorities (NRAs) could play an important role in steering energy efficiency improvements of the grid, promoting smart grids and promoting intelligent

metering systems that ensure peak shaping possibilities and optimization of energy demand and supply. This could be done by conferring more powers on them (Option D3c).

Energy companies dispose of important information about the energy consumption of their clients but have no stimuli to use it for reducing their clients' energy consumption as this would mean fewer revenues for them. This could be overcome by the introduction of energy savings obligation schemes which would ensure that for a small short-term increase of the energy bill the most cost-effective long-term measures will be realized (Option D3d). The best methods of doing this need to be studied in further detail. In order not to have negative interactions with the ETS the certificates that prove energy reductions should not be traded within the ETS.

Usually the managers of energy companies are well aware of the possibilities for energy savings at their companies. However, the specific subsector that would require additional support in terms of information, guidelines and exchange of best practices is that of ESCOs (Option D5). Voluntary agreements could also lead to energy savings and could be considered (Option D2).

Will the measures be sufficient to reach the 20% objective?

The preferred options provide for a wide range of supporting instruments that would intensify the uptake of the energy savings potential and the related benefits, and the maturing of the energy efficiency markets. Quantification was not possible for all options but from those that could be quantified it can be concluded that there is good chance that the remaining savings gap will be closed. However, the concrete results will depend on the level of ambition of the regulatory and non-regulatory initiatives and the pace at which they are implemented. Therefore, mid-term evaluation and possible updating of the Plan would be essential to ensure that there are continuous efforts on energy efficiency.