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Energy Efficiency

Impact Assessment (SWD(2016) 405, SWD(2016) 406 (summary)) of a Commission proposal for a directive of the European Parliament and of the Council amending Directive 2012/27/EU on Energy Efficiency (COM(2016) 761)

Background

This note seeks to provide an initial analysis of the strengths and weaknesses of the European Commission's [impact assessment](#) (IA) accompanying the above proposal, submitted on 30 November 2016 and referred to Parliament's Committee on Industry, Research, and Energy. This proposal seeks to set a new binding energy efficiency target of 30 % reduction in energy consumption at the EU level by 2030. The aim is to further promote energy efficiency within the EU while at the same time correcting market failures and regulatory shortcomings of the existing energy efficiency legislation.

The proposal was prepared by the Commission as part of its 'Clean Energy for All' legislative package. It is linked with other proposals included in the package, namely those related to the Energy Performance of Buildings Directive (EPBD), the Governance of Energy Union Directive, and the Electricity Market Design Regulation.¹ To date, progress in energy efficiency in the EU has not been sufficient to meet the target for energy consumption reduction planned for 2030 and agreed by the European Council in October 2014 (27 % reduction in consumption compared to the business-as-usual projections made in 2007, with a view to increasing this to 30 %) (IA, p.8). Moreover, the European Parliament has called for a more ambitious energy efficiency target of 40 % reduction.² The IA report which is the subject of this appraisal presents various policy scenarios and certain options. These include several possible levels of EU-wide energy efficiency targets ('EUCO' scenarios) as well as options specific to existing rules (energy saving obligations and provisions on individual metering for electricity, gas and thermal heating (Articles 7 and Articles 9 to 11 respectively of the current legislation)).

Problem definition

The IA describes the main problem as 'insufficient progress in energy efficiency that holds back the full benefits' which means that the investments that would ensure sufficient progress have not been made, due to both market and regulatory failures (IA, p.8). As examples of such failures the IA mentions (among others) 'information failures', high transaction costs for small projects, capital market failures, and 'lack of clear signals for companies to become actors in an energy efficiency market' (IA, p.8).

The IA states that the drivers of the problem (e.g. incorrect and sub-optimal implementation of the 2020 policy framework, technical progress not reflected in the current regulation, poor access to capital and lack of

¹ For further information, see N. Šajn, [Revised Energy Efficiency Directive](#), EPRS, February 2017; A. Wilson, [Energy Performance of Buildings](#), EPRS, February 2017, A. Wilson, [Governance of the Energy Union](#), EPRS, February 2017; K. Eisele, [Energy Performance of Buildings](#), initial appraisal of a Commission IA, EPRS, February 2017; V. Kononenko, [Governance of the Energy Union](#), initial appraisal of a Commission IA, EPRS, February, 2017.

² European Parliament [resolution](#), 'Towards a European Energy Union', December 2015

information) have not been fully tackled by the existing energy efficiency legislation. For example, the existing Energy Efficiency Directive has not yet been fully transposed by all Member States, 'partly due to lack of political commitment in some Member States' (IA, p. 10). Also, the expiry, after 2020, of Article 7 – one of the main elements of the current framework regulating energy saving obligations in Member States – will deepen the uncertainty for investors and influence their decisions. As far as Articles 9 to 11 of the current directive are concerned, on metering and billing, there too the lack of clarity has led to 'major divergences' in interpretations among Member States when implementing the provisions. In particular, according to the IA report, there is an underexploited amount of energy savings due to 'inadequate consumption information being given to sub-metered consumers of thermal energy' (IA, p.21) Overall, the IA report suggests, the current EU framework remains 'complex and open to interpretation' with regard to certain key obligations.

Objectives of the legislative proposal

The *general* objective of the Commission's proposal is to 'ensure that energy efficiency contributes to the development of a competitive, sustainable and secure EU energy system in 2030 and beyond as recognised by the 'Energy Union Strategy' and in accordance with the 'energy efficiency first' principle' (IA, p.26). The three *specific* objectives are as follows:

- To respond to the political mandate given by the European Council and the European Parliament to determine the energy efficiency target for 2030, taking into account the multiple benefits and costs related to energy consumption, while respecting all other 2030 objectives. In addition, it has to be assessed whether the target should be binding or indicative in nature.
- To ensure that Article 7 of the current directive contributes to the achievement of the energy efficiency target for 2030, as well as the overall greenhouse gas (GHG) emission targets for 2030 and beyond by attracting private investments. In this respect, a business case for long-term energy efficiency private investments post-2020 needs to be ensured, while respecting the overall architecture of EU energy and climate change policies.
- To empower consumers of thermal energy through better and sufficiently frequent feedback on their consumption including by taking advantage of progress in technology (IA, p.26).

The IA presents three *operational* objectives, namely: a legal revision of the articles that set the 2030 energy efficiency target; a legal revision of Article 7 so that it ensures that Member States can achieve the 2030 target; and a legal revision of Articles 9 to 11 in order to clarify the metering and billing requirements for consumers for heating, cooling, and hot water, and to update them to reflect the capabilities of the technologies currently available (IA, p. 27).

Range of options considered

The options proposed in the IA are assessed together with five policy scenarios, each corresponding to a possible level of reduction of primary energy consumption in the EU by 2030 (EU 2030 reduction targets). The policy options are presented according to the various regulatory measures they imply: the options for **the character and formulation of the EU 2030 target**, the options for **Member States' energy saving obligations** (Article 7), and, lastly, the options relating to **individual consumers' metering and billing** (Articles 9 to 11).

As the first, baseline, policy scenario, the IA proposes a target of 27 % reduction (compared to the 2007 baseline), which is the minimum ambition level agreed by the European Council in 2014. Then there are four other policy scenarios in which the targets are set at 30 %, 33 %, 35 %, and 40 %. The five scenarios are referred to in the IA as EUCO27, EUCO30, EUCO+33, EUCO+35, and EUCO+40. The IA describes the scenarios in more detail in its Annex 4.

With regard to the nature of the 2030 energy efficiency target, the options include the 'continuation of the current framework, or indicative EU target' (option 1.1), a binding EU target coupled with indicative national targets (option 1.2), and binding national targets (option 1.3). With regard to the formulation of the EU 2030 target, the options include: energy saving target (option 2.1), final and primary energy consumption target (option 2.2), either primary final or primary energy consumption target (option 2.3), and final and primary energy intensity target (option 2.4) (IA, p.30).

For the Article 7 (energy-saving) obligations, the range of policy options includes four alternatives: option 1 – no regulatory action; option 2 – extending Article 7 to 2030; option 3 – extending to 2030 with simplification and update; and option 4 – extending with the increase of the rate of savings. The options differ in their degree of enforcement. Under the baseline scenario (option 1) the absence of regulatory enforcement is compensated by the exchange of best practice and experience through the organisation of thematic workshops and seminars.

Options 3 and 4 have the following sub-options:

- Sub-option 3.A. Under this sub-option, the Commission would aim to develop 'a harmonised notification template' for Member States to submit their notifications (as prescribed by Article 7).
- Sub-option 3.B. Under this sub-option, Member States could be allowed to count some of their renewable measures toward their Article 7 requirement.

The two sub-options for option 4 include two levels of increased annual saving requirement (1.75 % savings per year and 2.0 % savings per year respectively).

As far as possible changes to Articles 9 to 11 (metering and billing for individual consumers), the following two options were considered: non-regulatory guidance (option 1) and clarification updating (option 2). Under option 1, Articles 9 to 11 would not be changed, and the focus would be on implementation and enforcement of the existing provisions. Under option 2, Articles 9 to 11 would be changed 'to clarify, simplify and modernise' the provisions for thermal energy, whilst the provisions for gas and electricity would be consolidated with the provisions in the internal energy market legislation (IA, p.36).

The IA report describes all options in a clear and concise manner and assesses them against the EUCO policy scenarios. However, not all options appear realistic. For example, with regard to Article 7, the option of no regulatory action after 2020 can hardly be considered a feasible option given the strategic importance of regulatory action at EU level for the achievement of the energy efficiency target (IA, p.31). Also, it is not clear why the sub-options were presented as such and not as individual options in their own right.

No preferred option was identified for the character of the 2030 target, i.e. whether it should be an indicative or an EU-wide or a national binding target. With regard to the formulation of the 2030 target, the IA proposes a 'continuation approach' as the preferred option, which means that 'the 2030 target should be expressed on EU level as maximum primary and final energy consumption in 2030' (IA, p.114). With regard to Article 7, the preferred option is option 3, as it is considered in the IA as the most effective in achieving savings, the most efficient in terms of having no additional compliance costs, and the most coherent in terms of integrating reporting and monitoring under the proposed regulation. As for the policy options for Articles 9 to 11, the preferred option is option 2 as it is deemed 'more likely to deliver on the dual objectives of ensuring clarity and alignment with technological and market realities and ensure coherence with other elements of EU legislation unlike Option 1'.

According to the explanatory memorandum of the proposal, a 'political decision of a binding EU target of reduction of 30%' was taken. The set of preferred options includes option 3 for Article 7, and option 2 for Articles 9 to 11, as 'these are the most effective and efficient in achieving the desired objectives and are consistent with other EU energy policy areas' (explanatory memorandum, p.6).

Scope of the Impact Assessment

The IA assesses the EUCO policy scenarios against several impacts, with a focus on the economic, environmental and social ones. It also assesses specific 'energy system impacts', such as impacts on energy consumption in various sectors, impacts on energy imports, impacts on energy security (i.e. import dependency), and electricity and international fuel prices (IA, pp. 38-46).

The IA explains that it uses a cost-effective approach, which means that it assesses first the options with the lowest costs (IA, p.38).

For economic impacts, the IA assesses the impacts of energy efficiency on GDP. The impacts vary depending on the models used in the assessment, whereby the E3ME model projects positive GDP impacts and the GEM-E3 model projects either positive or negative impacts, 'depending on the extent to which economic agents have access to financial markets in order to finance their required energy efficiency investments' (IA p.51). The two models show that implications on employment impacts are likely to be positive. However, the GEM-E3 model shows both positive and negative impacts depending on the extent to which economic agents are able to borrow the funds instead of investing in energy efficiency projects with their own funds. Other macro-economic indicators are likely to increase, such as the level of competitiveness in those sectors of the economy that benefit from lower energy costs, and exports are projected to increase due to overall GDP growth.

As far as the environmental impacts are concerned, the IA focuses on greenhouse gas (GHG) emission reductions and air pollution as the most relevant because of their impact on human health. All the EUCO scenarios achieve the GHG emissions reduction targets agreed by the European Council (IA, p. 55). The IA notes that the main difference between the EUCO scenarios are visible across sectors, rather than in volume. The residential housing and the tertiary (service) sectors of the economy would see the most drastic reduction in GHG emissions depending on the EUCO scenario (IA, Table 17, p.57).

As far as the impacts on air pollution are concerned, all the EUCO policy scenarios reduce emissions of various pollutants, thus having a positive impact on human health. The number of life years gained thanks to a drop in air pollution increases from 8.7 million under the EUCO+33 to 17 million under EUCO+40. The IA provides economic estimates of the health damage costs, which would be reduced by €55.9 billion per year under the most ambitious EUCO+40 scenario (IA, p.59).

The IA briefly touches upon other environmental impacts, such as reduction of acidification and eutrophication of forest and ecosystem areas, as well as damage to crops. The report states that the impacts are positive under all the EUCO scenarios. The impacts are not quantified, however.

As regards the social impacts, the IA focuses on the affordability for consumers, including operational costs (purchase of electricity and fuel) and capital expenditure (investment). It states that it has looked mostly at energy poverty issues, including the dynamics of the share of the energy-related costs in household expenditure. As Tables 19 and 20 of the IA (pp. 60-61) illustrate, the share of the energy costs is expected to rise under each consecutive EUCO scenario; however, it will be accompanied by an increase in the level of real disposable income as 'society benefits from higher employment levels and GDP which has a positive impact on the real disposable income' (IA, p.61). Furthermore, by 2050, when the initial investments are written off, the situation is the reverse: the more ambitious scenarios appear to be the cheapest ones.

Subsidiarity / proportionality

The legal basis for the proposal is Article 194(2) of the Treaty on the Functioning of the European Union (TFEU), which stipulates the EU's competences in the field of energy. The Commission explains that the nature and the scope of the problem – insufficient progress in achieving the EU energy efficiency objectives – fully satisfies the

subsidiarity principle. As the explanatory memorandum states, 'the principle of subsidiarity is respected as Member States will retain the same flexibility as today in terms of selecting their policy mix and their approach to achieving the required savings by 2030, including how the savings are phased' (p.4).

As regards proportionality, it claims that the preferred options for Articles 7 and 9 to 11 'do not go beyond what is necessary' to achieve the objectives set.

The deadline for submission of opinions of national parliaments with regard to the principle of subsidiarity was 27 January 2017. The Austrian Federal Council issued a communication in which it raised several political concerns related to the provisions on collecting information on consumption and installation of smart meters. The Austrian opinion regarded some elements of the new directive (e.g. when it comes to renting or selling housing) as creating additional burdens on individuals while also requiring special attention in terms of data protection. The National Assembly of Portugal adopted an opinion in which it did not object to the principle of subsidiarity, but raised political considerations similar to those of the Austrian Federal Council.

Budgetary or public finance implications

According to the explanatory memorandum, the legislative proposal is not expected to lead to significant additional budgetary or administrative costs for the Member States' administrations. The proposal does not have any implications for the EU budget. The Commission explains that most of the costs associated with the proposed energy efficiency measures would be passed on to the private consumers, but they will benefit from decreases in energy consumption bills in the long-run. As for the Member States' budgets, they should benefit from a decrease in energy import costs, as well as higher employment and economic growth (IA executive summary, p.4). The impacts on consumers is assessed under the analysis of social impacts.

SME test / Competitiveness

The IA assesses the impacts on SMEs to be positive. It envisages growth of SMEs in several specific sectors, such as energy performance monitoring and verification services, due to a higher demand for such services on the market. As evidence used in the report shows, often the companies operating in the energy services market – energy services companies (ESCOs) – are small and medium-size enterprises. The IA mentions that SMEs are indeed key actors for boosting energy efficiency as up to 70 % of energy efficiency measures are carried out by SMEs in the household sector. Regrettably, the IA does not go into a more thorough assessment of impacts on SMEs, despite their significance for the implementation of energy efficiency measures. As far as the competitiveness of European industries and companies is concerned, the IA explains that the energy-intensive sectors will benefit from a decrease in their energy costs when investments in energy-saving measures and technologies pay off after 2030 and closer to 2050. Annex 4 presents the results of econometric modelling in which competitiveness in various sectors, e.g. engineering, is shown to increase.

Simplification and other regulatory implications

The Commission explains that the simplification and clarification amendments will make it easier for Member States to implement the provisions and to satisfy the energy saving requirements. Also, administrative burden on Member States is expected to decrease in the area of reporting and monitoring if the proposal for a new energy governance directive comes into force.

Relations with third countries

The IA states that the impacts on third countries manifest mostly in terms of projected changes to energy imports and in terms of Member States' dependency on those imports. It does not present any country-specific information in this regard.

Quality of data, research and analysis

The IA report relies on several external studies commissioned from experts, including universities and consulting companies. The bulk of the studies, including an evaluation of Article 7, was conducted by a consortium led by Ricardo AEA (CE Delft and REKK).³ The impact assessment makes use of various sophisticated analytical models for creating the EUCO scenarios which can be found at Annex 4 (IA, Annex 4, p.24). Both the models and the studies appear to be up-to-date and thematically and geographically comprehensive. One possible weakness of the models used in the assessment is their preference toward econometrics and quantitative analysis. This may seem somewhat counterintuitive given that the main problem is the combination of market and regulatory failures. In particular, the drivers of the problem related to information failure and regulatory shortcomings could have been dealt with in more detail under the analysis of the options. These derived mostly from econometric models which do not explicitly deal with regulatory and institutional aspects. One could argue that a combination of quantitative and qualitative institutional analysis would have made the analytical models a stronger base for policy options.

Another aspect worth mentioning is that presentation of analysis throughout the IA report appears to reflect the fact that in its earlier versions it consisted of several individual impact assessments. While in the final version, these parts were merged, the analysis may lack some coherence as a result.

Stakeholder consultation

The Commission opened a public consultation on 4 November 2015 which lasted for 12 weeks, therefore corresponding to the requirements of the Commission's better regulation guidelines. 332 responses were received, the majority of responses coming from industry, from private companies, and lastly from NGOs. The IA presents a more detailed overview of stakeholder consultation in Annex I of the report (pp.3-14) as required by the better regulation guidelines.

The IA report refers to the results of the public consultation when presenting the options, albeit in a rather general way. For example, when describing the options for Article 7, the report states that the majority of stakeholders (70 %) shared the view that the scope of Article 7 should be clarified, while most of the NGOs considered that the scope should be kept as it is at the moment. The IA does not explain these considerations any further; this might have been useful, however, given that the preferred option envisages the extension of the scope of the article in question. Similarly, the Commission notes that the majority of stakeholders supported a more ambitious target of 40 % reduction but did not come to a definite view as to whether it should be binding. It should be pointed out that the 40 % target has been supported by the European Parliament. Since the proposed target is a less ambitious one, it would have been useful if the report had better explained the stakeholders' considerations in this regard. As a general remark, it is not entirely clear how the results of the stakeholder consultation were used in the preparation of the report, especially in the formulation and revision of the options. It is important to note that various consultations were held throughout most of the preparation period, the last one organised as late as March 2016 (i.e. two months before the first draft of the impact assessment report was submitted to the Regulatory Scrutiny Board and five months before the publication of the final version of the proposal). It therefore seems that at various stages stakeholders either provided input to the work in progress or commented on an accomplished scenario; however, it is not always clear how their contributions were used in the context of the report.

Monitoring and evaluation

As regards monitoring and evaluation, the Commission explains that the proposal makes no change to the current reporting obligations. The reporting requirements are assessed in more detail in the impact assessment

³ [Study](#) evaluating the national policy measures and methodologies to implement Article 7 of the Energy Efficiency Directive.

report dedicated to the proposal for the new energy governance regulatory framework which 'will ensure that a transparent and reliable planning, reporting, and monitoring system will be put in place' (IA, p.122). This planned system will allow the Commission to assess the efforts of Member States in terms of delivering on the EU energy efficiency target. There are four indicators mentioned in the IA that should enable the Commission to monitor the progress of Member States towards this target. These are: correct transposition and implementation of the changes to the directive; increased progress towards the national plans and the EU energy efficiency target; improved ability of consumers to know about their thermal consumption; reduction of administrative burden on Member States and improved reporting on the savings claimed under Article 7 by the Member States (IA p.123). The IA briefly states that the achievement of operational objectives will be monitored by looking at whether the transposition deadline was met, and whether the national measures conform to the new regulatory requirements. The legislative proposal contains the same indicators as recommended in the IA report.

Commission Regulatory Scrutiny Board

The Commission's Regulatory Scrutiny Board (RSB) issued a [positive opinion](#) on the draft impact assessment report on 7 June 2016. The positive assessment of the RSB was given on the understanding that the impact assessment would be revised to integrate the Board's extensive recommendations. It seems that efforts were made to respond to some of the comments expressed in the opinion of the RSB, for example, by merging together the parts dealing with the energy efficiency targets and the EUCO scenarios and the parts that deal with the policy options. It appears that initially these parts constituted separate impact assessments. However, the final version of the report does not seem to follow up on other recommendations of the RSB with the same attention to detail. Some parts of the report are not as well integrated as they could have been, in particular with regard to how different EUCO scenarios are linked with the article-specific policy measures. The RSB's analysis of the earlier draft of the report that the options represent economic scenarios rather than actual policy choices, still appears to be valid.

Coherence between the Commission's legislative proposal and IA

The Commission's legislative proposal appears to follow the recommendations of the IA report.

Conclusions

The Commission IA presents a comprehensive overview of options and likely impacts of the proposed legislation. It would have been stronger if all its parts, which in their earlier life were separate impact assessments, were linked in a better, cross-referential manner. Also, given the prominent role of SMEs in boosting energy efficiency measures, the report would have benefited from devoting more space and attention to the situation of energy service companies in the EU. Lastly, the emphasis on econometric analytical models may have led to a certain lack of qualitative analysis of policy measures which were stated as being needed to correct the lack of progress in the EU energy efficiency field.

This note, prepared by the Ex-Ante Impact Assessment Unit for the European Parliament's Committee on Industry, Research and Energy (ITRE), analyses whether the principal criteria laid down in the Commission's own better regulation guidelines, as well as additional factors identified by the Parliament in its Impact Assessment Handbook, appear to be met by the IA. It does not attempt to deal with the substance of the proposal. It is drafted for informational and background purposes to assist the relevant parliamentary committee(s) and Members more widely in their work.

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