

# Assessing the European Council's proposal for Article 7 of the Energy Efficiency Directive

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Energy efficiency is key to achieving the ambitious carbon reduction goals set out in the Paris Agreement. Under a scenario compatible with the Paris Agreement modelled by the International Energy Agency (IEA)<sup>1</sup>, half of global emission reductions will be achieved through energy efficiency measures. This is consistent with work by the Intergovernmental Panel on Climate Change (IPCC) and others.

It is for this reason and the many social benefits of energy efficiency that the European Commission has adopted the principle of Efficiency First in its Winter Package of legislation. The Energy Efficiency Directive (EED) is a key part of the package, which is supposed to deliver energy savings of 30 percent by 2030. Article 7 of the EED, outlining requirements for energy efficiency obligations, would deliver about half of the entire savings of the Directive<sup>2</sup> and is a key driver of energy efficiency in Europe.

However, as the Commission proposals have been discussed in the European Council, there have been attempts to water down Article 7 substantially. In June 2017, RAP published its impact analysis of proposals made by Malta, which then held the rotating EU presidency, to make changes to Article 7.<sup>3</sup> We calculated that if accepted, these proposals would reduce the Article's current scope of ambition for energy efficiency by more than 80 percent—and perhaps

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<sup>1</sup> IEA. (2016). Energy, Climate Change and Environment: 2016 Insights. Retrieved from <http://www.iea.org/publications/freepublications/publication/ECCE2016.pdf>

<sup>2</sup> EC. (2016). The new energy efficiency measures. Retrieved from: [https://ec.europa.eu/energy/sites/ener/files/documents/technical\\_memo\\_energyefficiency.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/technical_memo_energyefficiency.pdf)

<sup>3</sup> Rosenow, J., & Cowart, R. (2017). European Council set to wipe out energy efficiency progress, leading to a decade of higher costs. *Energy Post*, June 20, 2017. Retrieved from <http://energypost.eu/european-council-set-to-wipe-out-energy-efficiency-progress-meaning-a-decade-of-higher-costs-worse-health-less-comfort/>

as much as 100 percent, depending on the amount of excess savings and how Member States apply these proposed terms.

The final outcome of the Council negotiations<sup>4</sup> was that some of the loopholes proposed were taken out, but others have been adopted. In this paper, we provide a detailed analysis of the final Council position on Article 7. Our analysis shows that the 1.5 percent target will still be reduced by well over half, and in the worst-case scenario it could be effectively cut to almost nothing.

To begin, we identify all the loopholes that feature in the Council's general approach as agreed on in June 2017 (Table 1). This is then followed by quantitative analysis of their respective impacts.

**Table 1: Existing exemptions and proposed loopholes**

<b>Provision</b>	<b>Description</b>
<b>Existing exclusions and exemptions</b>	Article 7 allows Member States a) to exclude a range of energy end uses when calculating their targets (transport, energy for own use, etc.) and b) to make a number of exemptions reducing the energy savings target by up to 25 percent. Most Member States have made use of both options.
<b>Lower headline target after 2025</b>	Following a proposal by Italy, the Council adopted a new provision that could reduce the annual savings target before exemptions from 1.5 percent to just 1.0 percent after 2025, depending on the EC Assessment that will be carried out by June 2024 and evaluate progress achieved towards the headline targets and whether in the light of this assessment, the annual target should be increased up to 1.5 percent for the period from 2026-2030.
<b>Increasing exemptions cap</b>	The Council's general approach includes a 35 percent cap for exemptions, above the 25 percent cap currently in place and proposed by the Commission to 2030.
<b>Allow excess savings to count towards new period</b>	The Council position includes a new provision allowing excess savings from the current Article 7 period, 2014-2020, to lower the minimum savings required from 2021-2030.
<b>Potential double counting energy savings from new buildings standards/codes</b>	Initial proposals by the Maltese Presidency included provisions to allow all savings from new buildings to count towards Article 7, even though those are covered by the Nearly Zero Energy Buildings Standard in the Energy Performance in Buildings Directive (EPBD) already. The Council's general approach now contains an ambiguous provision in Annex V of the Directive, which can be interpreted in such a way that savings from new buildings can count towards the Article 7 target, even where savings are not additional to the requirements of the EPBD.

<sup>4</sup> Council of the European Union. (2017). Interinstitutional File, 2016/0376 (COD). Proposal for a Directive of the European Parliament and of the Council amending Directive 2012/27/EU on energy efficiency. Outcome of proceedings. Retrieved from <http://data.consilium.europa.eu/doc/document/ST-10536-2017-INIT/en/pdf>

Provision	Description
<b>Weaker additionality provisions</b>	The Council's general approach takes out language on the requirements for additionality, providing Member States with more room for interpretation of what is required for energy savings to count towards the Article 7 target. Previous analysis identified that the lack of specific requirements led to an inconsistent and potentially less sound approach.
<b>Lower target for small insular states</b>	Under the proposals, small insular Member States (effectively Malta and Cyprus) are only required to achieve cumulative end-use savings equivalent to 0.8 percent of annual energy sales for the period 2021-2030.

## Existing exclusions and exemptions

National savings targets for 2014-2020 must be based on a savings rate of 1.5 percent per year below average energy consumption in the period 2010–2012. However, the final energy savings target may be lower than this headline rate for two reasons. Firstly, Member States can exclude the energy consumption of particular sectors from their target, most significantly the transport sector. Secondly, they can use exemptions, reducing the original target by up to 25 percent. Previous analysis shows that the combined effect of these factors is that the notified saving targets are only about half of what they would be without those adjustments—i.e., the annual economy-wide saving rate of 1.5 percent is reduced to about 0.75 percent.<sup>5</sup>

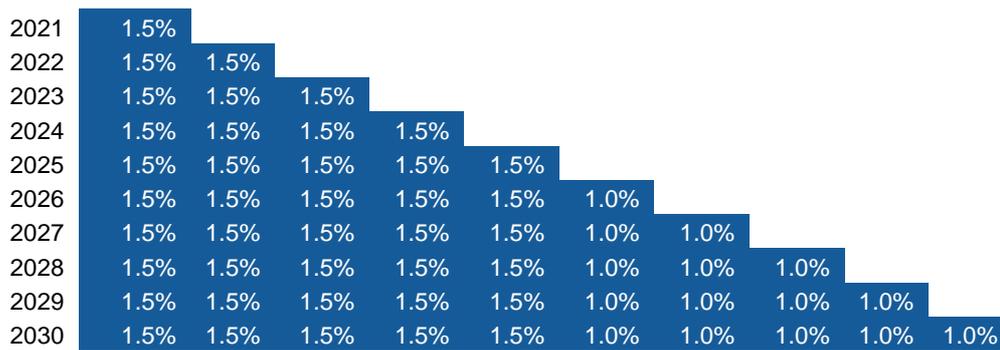
For the period 2021–2030, the European Commission proposed to keep the existing exemptions cap of 25 percent and to allow the exclusion of transport energy use from the target calculation. In its Impact Assessment of the EED, the European Commission calculates that after exclusion of the transport sector, the total cumulative energy savings required over the period 2021–2030 are 591,270 kilotonnes of oil equivalent (ktoe).<sup>6</sup> This is 37 percent less than the 935,242 ktoe of savings that would be required if no such exclusions took place and equivalent to an annual savings target of 0.95 percent of final energy demand. After exemptions, the amount of expected savings calculated by the European Commission is 443,453 ktoe, amounting to an annual savings target of 0.71 percent.

## Lower headline target after 2025

The impact of the Italian proposal to lower the headline target of Article 7 after 2025 from 1.5 percent to 1.0 percent can be calculated easily. The adjusted baseline (average expected energy consumption in 2015-2020, energy sales in transport and self-generation for own energy use excluded) amounts to 716,691 ktoe. Cumulative savings are set out in the table below and amount to 75 percent of the adjusted baseline over the period 2021–2030. This is equivalent to 537,518 ktoe cumulative savings or 0.65 percent annual savings.

<sup>5</sup> Rosenow, J., Leguijt, C., Pato, Z., Fawcett, T., & Eyre, N. (2016). An ex-ante evaluation of the EU Energy Efficiency Directive - Article 7. *Economics of Energy & Environmental Policy* 5(2), pp. 45-63.

<sup>6</sup> European Commission. (2017). Impact Assessment accompanying the document Proposal for a Directive of the European Parliament and of the Council amending Directive 2012/27/EU on Energy Efficiency (COM(2016) 761 final) (SWD(2016) 406 final). Part 2/3. Retrieved from [http://eur-lex.europa.eu/resource.html?uri=cellar:56466305-b7f6-11e6-9e3c-01aa75ed71a1.0001.02/DOC\\_2&format=PDF](http://eur-lex.europa.eu/resource.html?uri=cellar:56466305-b7f6-11e6-9e3c-01aa75ed71a1.0001.02/DOC_2&format=PDF)

**Figure 1: Cumulative savings required under lower headline target post-2025**

## Increasing exemptions cap

The existing exemptions are capped at 25 percent of the savings target after exclusions from the baseline. Applying the proposed 35 percent cap to the 537,518 ktoe calculated above results in a figure of 349,387 ktoe—i.e., only 0.56 percent annual savings.

## Allow excess savings to count towards new period

The new proposals foresee that Member States can count any savings achieved beyond their national targets in the period 2014–2020 toward the savings in the period 2021–2030 in order to give credit to those Member States delivering savings exceeding their targets. In a well-constructed system with ambitious targets and dependable monitoring and reporting protocols, this would be a reasonable approach and would reward those Member States doing more earlier on. However, there are several problems with counting excess savings:

- It creates an incentive for Member States to artificially inflate the reported savings.
- Member States can already count early actions under the existing exemptions and a similar approach is proposed for the time after 2020. It is unclear how potential overlap and double counting is dealt with under the Council general approach.
- Calculating the potential impact of counting excess savings achieved in 2014–2020 towards the 2021–2030 targets is fraught with difficulties. This is due to the inconsistent (and at times incomprehensible) way that Member States report achieved annual savings.

It is difficult to generate a precise number for excess savings, but analysis by the Coalition for Energy Savings<sup>7</sup> suggests that Member States have generated more than 50 percent excess savings in the years 2014 and 2015. An evaluation of the implementation of Article 7 suggests that cumulative energy savings from the notified policy measures over the period 2014–2020 would amount to 250,300 ktoe.<sup>8</sup> If Member States generate 50 percent excess savings, that would result in 125,150 ktoe and lower the required savings in 2021–2030 to a cumulative

<sup>7</sup> Scheuer, S. (2017). Energy savings under Article 7 of the Energy Efficiency Directive Assessment of national progress reports and positions. Retrieved from [http://www.stefanscheuer.eu/20170725\\_Stefan\\_Scheuer\\_Art7\\_%20Energy\\_Efficiency\\_Directive\\_Analysis\\_national\\_progress\\_reports\\_and\\_positions%201.pdf](http://www.stefanscheuer.eu/20170725_Stefan_Scheuer_Art7_%20Energy_Efficiency_Directive_Analysis_national_progress_reports_and_positions%201.pdf)

<sup>8</sup> Forster, D., Kaar, A.L., Rosenow, J., Leguijt, C., & Pato, Z. (2016). Study on evaluating the implementation of Article 7 of the Directive 2012/27/EU on energy efficiency. Report for the European Commission. Retrieved from: [https://ec.europa.eu/energy/sites/ener/files/documents/final\\_report\\_evaluation\\_on\\_implementation\\_art\\_7\\_eed.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/final_report_evaluation_on_implementation_art_7_eed.pdf)

amount of just 227,237 ktoe, or 0.36 percent annual savings—about half of the level of ambition of the Commission proposal.

However, delivery of savings does not have to be linear, and future years may see excess savings drop significantly. Also, the poor quality of reporting by some Member States is making a more robust assessment difficult, and there are uncertainties around how to interpret the data and what has been reported. Still, there is a risk that significant excess savings will be reported to the point that it will weaken efforts post-2020. If the excess savings provision is kept, it should be capped under the exemptions in order to control the potential impact on the EED's goals after 2020.

## Potential double counting of energy savings from new buildings standards/codes

The Council general approach added a new provision in Annex V of the Energy Efficiency Directive that potentially could have significant impacts. Currently, the Commission proposal does not foresee that Member States can double-count savings from new buildings that are already required under the Energy Performance of Buildings Directive. However, the Council proposal states that “savings resulting from the implementation of national minimum requirements established for new buildings prior to the transposition of Directive 2010/31/EU [the EPBD] can be claimed”.<sup>9</sup> Given that the EPBD has now been transposed by all Member States, it seems illogical to count energy savings from previous standards which are now covered by the EPBD.

It is not entirely clear what the impact of such a change would be, but it is possible to calculate the impact of counting all savings from new buildings required by the Energy Performance of Buildings Directive. This is not to say that the new provision would result in the same impact, but it is useful to be able to assess the potential scale of the impact.

There are now good data on the total building stock across Europe provided by the Building Observatory, set out below. We assume new construction to be equal to 1 percent of the total stock.

**Table 2: Floor area of existing building stock in EU-28<sup>10</sup>**

	Residential	Non-residential
<b>Existing stock [m<sup>2</sup>]</b>	22,684,000,000	7,013,000,000
<b>New construction per year (assume 1%) [m<sup>2</sup>]</b>	226,837,800	70,128,400

There is data on the average energy consumption of the existing stock and also expected consumption under the Nearly Zero Energy Building (NZEB) Standard, required by the Energy Performance in Buildings Directive for all new buildings after 2020. Using those figures

<sup>9</sup> Council of the European Union. (2017). Interinstitutional File, 2016/0376 (COD). Proposal for a Directive of the European Parliament and of the Council amending Directive 2012/27/EU on energy efficiency. Outcome of proceedings. Retrieved from <http://data.consilium.europa.eu/doc/document/ST-10536-2017-INIT/en/pdf>

<sup>10</sup> Source: Based on data from the Building Observatory (<http://ec.europa.eu/energy/en/eubuildings>)

together with the estimated new floor area added per year, the total savings delivered by the Energy Performance in Buildings Directive can be calculated, assuming that in the absence of that directive, new buildings would be constructed to a standard similar to the average of the building stock. The analysis shows that up to 200,000 ktoe of savings could be delivered by the NZEB requirement over the period 2021–2030. This would be almost enough to fulfil the remaining savings requirements under Article 7 after the provisions already discussed above and only leave 27,237 ktoe of cumulative savings for 2021–2030—or just 0.04 percent annual savings.

**Table 3: Energy savings from new buildings due to NZEB requirement<sup>11</sup>**

	Consumption stock (average EU 28) [kwh/m2]	NZEB requirement (typical) [kwh/m2]	Savings [kwh/m2]	Savings per year [kWh]	Mtoe per year	Mtoe cumulative (2021-2030)
<b>Residential</b>	175	50	125	28,354,725,000	2	134
<b>Non-residential</b>	300	100	200	14,025,680,000	1	66
<b>Total</b>						200

Of course, one might assume that new buildings will always be more efficient than the current building stock even in absence of any regulation. Yet figures for specific Member States showing the energy performance of new buildings prior to the implementation of the Energy Performance in Buildings Directive indicate that energy performance was close to the current stock average.<sup>12</sup>

Also, as stated before, it is unclear how the new provision on new buildings will be interpreted by Member States and how many would make use of it. It is possible that only a very small fraction of the 200,000 ktoe that will result from NZEB will be utilised by Member States, but there is clearly a risk of significant double counting here.

## Weaker additionality provisions

Under the Commission’s proposal, any energy savings reported have to be additional to what would have happened without policy intervention. Savings have to be calculated in relation to a baseline that “shall reflect at least the following factors: energy consumption trends, changes in consumer behaviour, technological progress and changes caused by other measures implemented at national and EU level”.

The Council proposes to delete the requirement of calculating savings in relation to a baseline. In any bottom-up calculation of energy savings, assumptions will need to be made on the factors that the Commission proposes Member States shall consider. The absence of detailed requirements is likely to result in a higher risk of non-additionality—the current Energy Efficiency Directive does not specify additionality requirements in much detail, and analysis shows that only 43 percent of savings can be classified as fully additional<sup>13</sup>. However, it is

<sup>11</sup> Source: Based on EC. (2016). Evaluation of Directive 2010/31/EU on the energy performance of buildings. Retrieved from <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016SC0408>

<sup>12</sup> IEA. (2016). Modernising Building Energy Codes to Secure our Global Energy Future. Retrieved from <https://www.iea.org/publications/freepublications/publication/PolicyPathwaysModernisingBuildingEnergyCodes.pdf>

<sup>13</sup> Rosenow, J., Leguijt, C., Pato, Z., Fawcett, T., & Eyre, N. (2016). An ex-ante evaluation of the EU Energy Efficiency Directive - Article 7. *Economics of Energy & Environmental Policy* 5(2), pp. 45-63.

impossible to quantify the impact of weaker additionality requirements in a meaningful way.

## Lower targets for small insular Member States

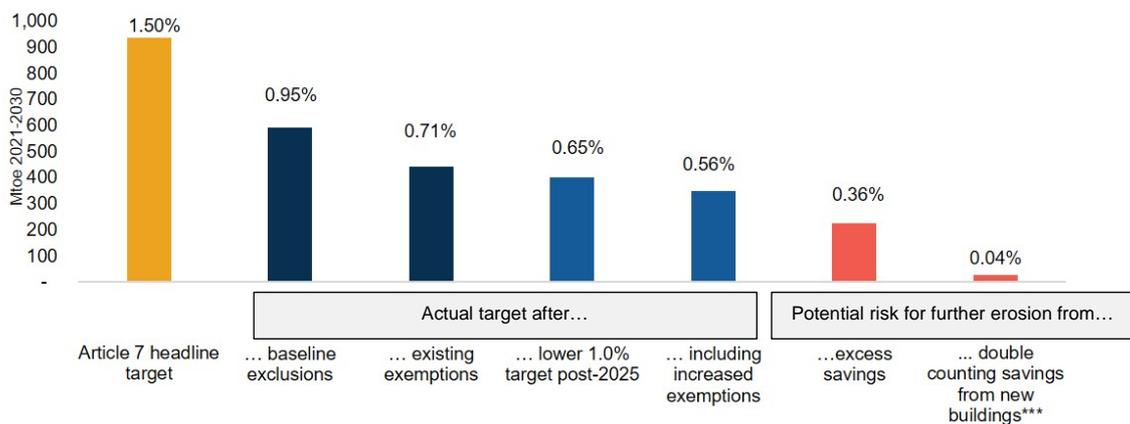
Under the Council proposals, small insular Member States are only required to achieve a cumulative end-use savings requirement equivalent to 0.8 percent of annual energy sales for the period 2021–2030. The reason for lowering the target for such Member States according to the Council is that the “energy market of those Member States [...] exhibits specific characteristics which substantially limit the range of measures available to meet the energy savings obligation, such as the existence of a single electricity distributor, the absence of natural gas networks and of district heating and cooling networks, as well as the small size of petroleum distribution companies”. The question of whether this is a sound justification is not the subject of our analysis here, but given that the targets are relative and there are many examples of small jurisdictions achieving higher savings targets (Rhode Island and Vermont in the US, for example), it is certainly debatable.

Malta and Cyprus, the only two countries in the EU that are likely to be classified as small insular Member States, provide just 0.13 percent of the total cumulative savings across the EU-28.<sup>14</sup> Lowering their targets from 1.5 percent to 0.8 percent would result in lowering the share of savings generated by Malta and Cyprus to about 0.06 percent. The impact on the combined savings target for Europe would therefore be minimal.

## Summary of impact analysis

Overall, the proposed loopholes will undoubtedly reduce the ambition levels in the Commission proposal, of currently 0.71 percent annual savings from efficiency (after exclusions and exemptions), to less than 0.56 percent. This represents at least a 21 percent reduction in ambition.

**Figure 2: Impact of Council proposal**



\*\*\* depending on interpretation of provision

However, there are significant uncertainties around the amount of excess savings and to what

<sup>14</sup> Forster, D., Kaar, A.L., Rosenow, J., Leguijt, C., & Pato, Z. (2016). Study on evaluating the implementation of Article 7 of the Directive 2012/27/EU on energy efficiency. Report for the European Commission. Retrieved from [https://ec.europa.eu/energy/sites/ener/files/documents/final\\_report\\_evaluation\\_on\\_implementation\\_art\\_7\\_eed.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/final_report_evaluation_on_implementation_art_7_eed.pdf)

extent savings from new buildings can be counted fully (the Council text is ambiguous). In the worst-case scenario—assuming high excess savings of 2014 and 2015 continue over the entire period 2014–2020 and all savings from new buildings are fully counted—this could in effect reduce the annual savings target to just 0.04 percent. In the most optimistic scenario, excess savings would be minimal and few Member States would use the option of counting savings from new buildings. It is not possible at this stage to provide a credible assessment with any certainty of what the actual savings are going to be based on the Council’s proposal. What is clear, though, is that there is a risk that the energy savings goals of the EED will be significantly watered down if excess savings are uncapped and if savings from new buildings can count fully.

**Table 4: Potential impact of the Council proposal**

<b>Provision</b>	<b>Cumulative target after...</b>	<b>Annual target after...</b>
<b>... existing exclusions and exemptions</b>	443,453 ktoe	0.71 percent
<b>... lower headline target after 2025</b>	403,139 ktoe	0.65 percent
<b>... increasing exemptions cap</b>	349,387 ktoe	0.56 percent
<b>... allow excess savings to count towards new period</b>	uncertain, could be as low as 227,237 ktoe if uncontrolled	uncertain, could be as low as 0.36 percent if uncontrolled
<b>... potential double counting energy savings from new buildings standards/codes</b>	uncertain, could be as low as 27,237 ktoe if uncontrolled	uncertain, could be as low as 0.04 percent if uncontrolled
<b>... weaker additionality provisions</b>	not quantified	not quantified
<b>... lower target for insular island states</b>	not quantified / minimal impact	not quantified / minimal impact



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