

# Stefan Scheuer

Environmental &  
Energy Policies  
EU Affairs

## **The Energy Efficiency Directive and emissions reductions**

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Analysis by Stefan Scheuer Consulting shows that new and additional energy savings resulting from an extension of the most important requirements of the Energy Efficiency Directive (EED) to 2030, as required to realise the EU's cost-effective potential for energy savings, would significantly reduce GHG emissions in the sectors not included under the EU Emission Trading System (non-ETS sectors).

Specifically extending and strengthening of Article 7 of the EED<sup>1</sup>, 1.5% annual energy savings to 2030, could be sufficient to realise the overall EU target for reducing GHG emissions in the non-ETS sectors of 30% by 2030. Further emission reductions from EU product standards beyond 2020 (for example, vehicle efficiency standards) and, at national level, reduction of non-CO2 emissions from agriculture or waste would further reduce emissions and lead to overachievement of the target.

The national picture is more diverse: for most EU member countries the national GHG emission reductions in the non-ETS sector resulting from 1.5% annual energy saving deviate significantly from the targets under a new efforts sharing decision for 2030<sup>2</sup> as shown in the following graph. This shows that some Member States, including Bulgaria, would achieve or over-achieve their non-ETS targets by implementing the EED until 2030 with greater ambition. While for others, including Ireland, would only achieve a percentage of their target.

This deviation is to be expected as the potential for energy efficiency improvements is fairly equal across all Member States<sup>3</sup> - with the ease of tapping these potentials limited by non-economic barriers, such as lack of information and access to financing, which can be overcome by energy efficiency policies and programmes, while non-ETS effort sharing targets are mainly related to national GDP differentials.

Our analysis is based on several scenarios, including the no further action option which means ending the main requirements of the EED in 2020 and the extension of the EED to 2030 without exemptions to realising the 1.5% savings each year, and uses PRIMES 2013 projections as a basis and makes several assumptions including that:

- The reduction in energy demand due to article 7 reduces GHG emissions in both ETS and non-ETS sectors by the same amount;
- There is no change in non-energy related emissions due to article 7; and
- There is no change to the energy mix beyond those modelled by PRIMES (2013).

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<sup>1</sup> Article 7 of the EED requires MSs to deliver final energy savings in end-use sectors, an important aspect to achieving the overarching EU energy efficiency target. The savings must be cumulative, which means that it is based on incremental annual savings of 1.5% every year that deliver a total volume of savings by 2020. Member States are allowed to use exemptions in setting their targets for article 7, which on average reduces the delivered savings to 0.75% per year. For this analysis it is assumed that the target would be extended to 2030 and exemptions would no longer be allowed (ie. sales of energy to transport would be included in the target), this would mean the target would be the full 1.5% per year and therefore closer to the cost-effective energy efficiency potentials identified by research commissioned by DG Energy in 2014 (Fraunhofer ISI et al.).

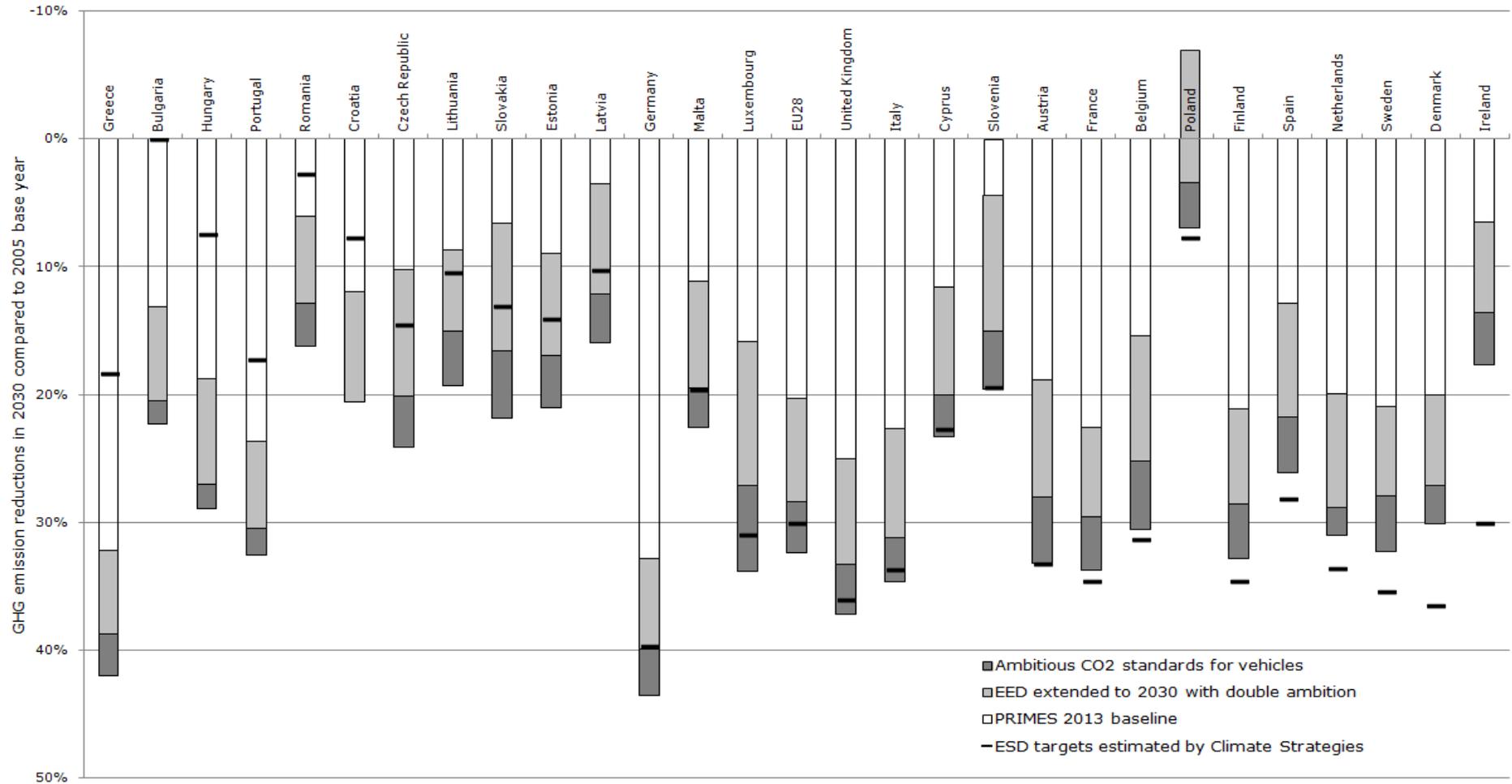
<sup>2</sup> As estimated by Climate Strategies, Enhanced flexibility in the EU's 2030 Effort Sharing Agreement: issues and options. Final Report. April 2015 <http://climatestrategies.org/wp-content/uploads/2015/03/CS-2030-ESD-flexibility-FINAL.pdf>

<sup>3</sup> Fraunhofer ISI 2010; Concrete Paths of the European Union to the 2°C Scenario: Achieving the Climate Protection Targets of the EU by 2050 through Structural Change, Energy Savings and Energy Efficiency Technologies, published by BMU

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## Impact of extending the EED and transport measures to 2030 on non-ETS GHG emissions<sup>4</sup>



<sup>4</sup> No data is available for transport measures in Croatia.