

The EU Parliament's 2030 resolution could achieve emissions reductions of up to 54%

An assessment of the greenhouse gas emissions in 2030 associated with the 30/40 resolution of the European Parliament

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On 5 February 2014 the European Parliament (EP) voted in favour of a resolution supporting a 30% share of renewables in final energy consumption by 2030 and a 40% energy savings target ("30%/40% target")¹. Next to this, the resolution states a minimum greenhouse gas (GHG) emissions reduction target of 40%, compared to 1990 levels. We estimated that the energy savings and renewable energy target from the resolution could reduce GHG emissions by 2030 by more than 40%, more likely in the range between 45% and 54%.

Emission reductions associated with the 30%/40% target

We analysed the impact of the energy savings target by using the 2030 Target Tool, developed by Ecofys. This tool is designed to develop energy savings, renewable energy and GHG emissions reduction targets that are consistent. We used the 30% renewable energy target and the 40% energy savings target as input and calculated the associated emissions reductions.

The resolution of the EP refers to a study on the energy savings potential by Fraunhofer ISI², which estimated a total potential of over 40%, relative to the final energy consumption in the 2009 PRIMES baseline. However, the energy savings targets of the EU have historically been defined relative to the primary energy consumption baseline³ and a new baseline has been published in 2013⁴. Therefore, we study the 40% target by using different baselines. Furthermore, the targets related to non-energy emissions are not defined in the resolution⁵. To accommodate this uncertainty, we use a range of 30-50% GHG emissions reductions from non-energy use⁶. The results of the analysis are shown in the table below.

1 European Parliament (2014). Resolution of 5 February 2014 on a 2030 framework for climate and energy policies (2013/2135 INI). Available [online](#)

2 Fraunhofer ISI (2012). 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. Accompanying scientific report. Available [online](#)

3 European Commission (2010). EU energy trends to 2030 — UPDATE 2009. Available [online](#)

4 European Commission (2013). EU Energy, Transport and GHG Emissions. Trends to 2050. Reference Scenario 2013. Available [online](#)

5 Emissions from e.g. agricultural activity and waste

6 Non-energy related emissions were already reduced with 27% in 2010, compared to 1990

Table 1. Estimated GHG emissions reductions by 2030 at a 30% renewable energy target (share of gross final consumption) and the 40% energy savings target relative to different baselines and non-energy emissions reduction targets.

Baseline	Estimated emissions reductions in 2030 (relative to 1990)	
	- 30% non-energy	- 50% non-energy
2013 Baseline - Final Energy	49%	54%
2013 Baseline - Primary Energy	48%	53%
2009 Baseline - Final Energy	47%	53%
2009 Baseline - Primary Energy	45%	50%

Table 1 shows that if the resolution of the European Parliament is implemented, the emissions reductions that will be achieved will reach at least 45% by 2030. If the non-energy emissions reduction pathway follows the overall GHG emissions reduction trends, the reduction exceeds 50%. Note that in both cases, fuel shifts (e.g. coal to gas, fuel to electricity) and other low-carbon technologies (nuclear power, CCS) are not taken into account. These measures could add a few more percentage points to the reduction. Figure 1 below shows both the absolute and relative impact on GHG emissions.

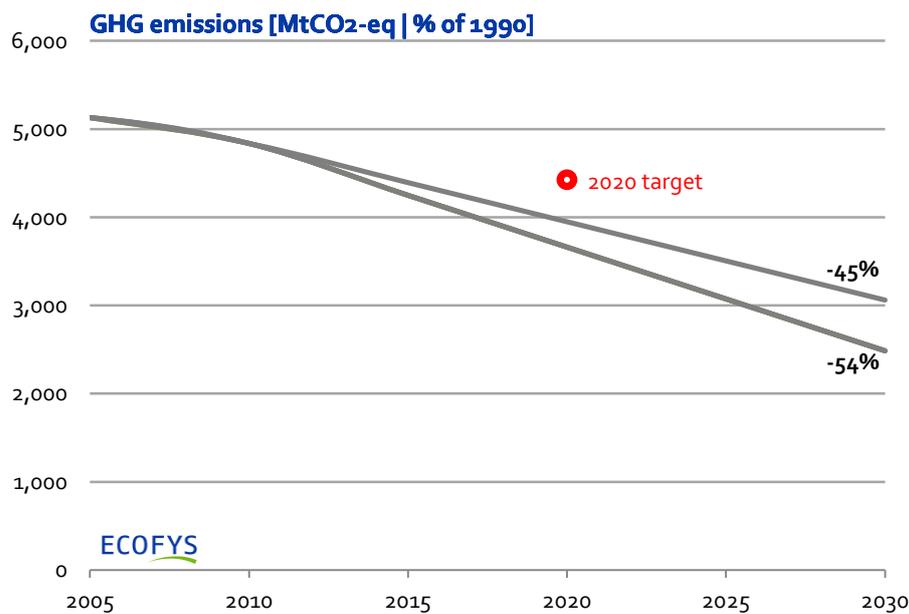


Figure 1 The range (upper and lower limit) of possible emissions reductions resulting from the 30%/40% target, depending on the baseline that is used to express the energy savings and the amount of reductions that are realised for non-energy emissions reductions. The pathways are indicative.

Evolution of the energy consumption

Figure 2 below outlines the (indicative) evolution of the primary, final and renewable energy demand if the 30%/40% target is implemented. In the graph, the 40% is taken relative to the final energy demand in the 2009 baseline. Despite the higher share of renewable energy in the resolution of the EP compared to the proposal of the European Commission of 22 January 2014, the absolute amount of final renewable energy is slightly lower. This is due to the lower final – and primary – energy demand.

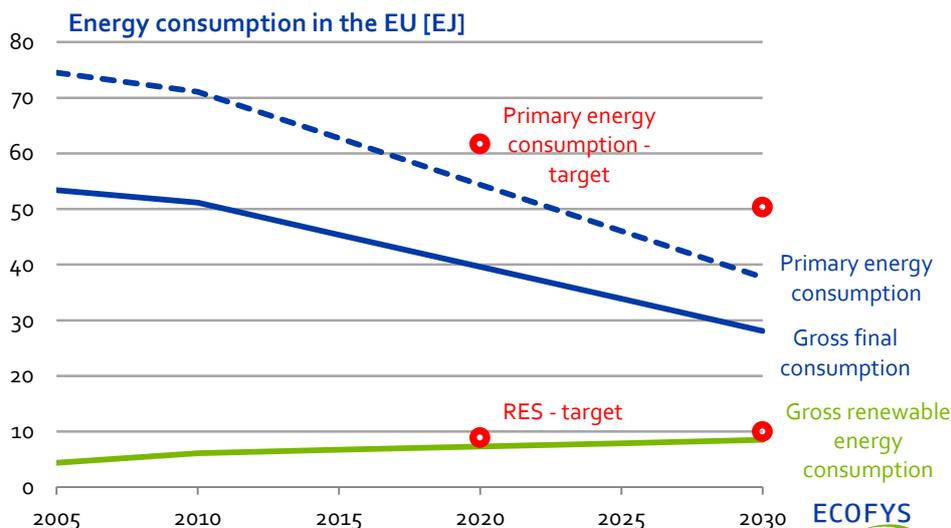


Figure 2 Indicative evolution of primary, final and final renewable energy consumption in the EU if the 30%/40% target is implemented. The red dots indicate the 2020 targets and the (approximated) 2030 targets as proposed by the European Commission.

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