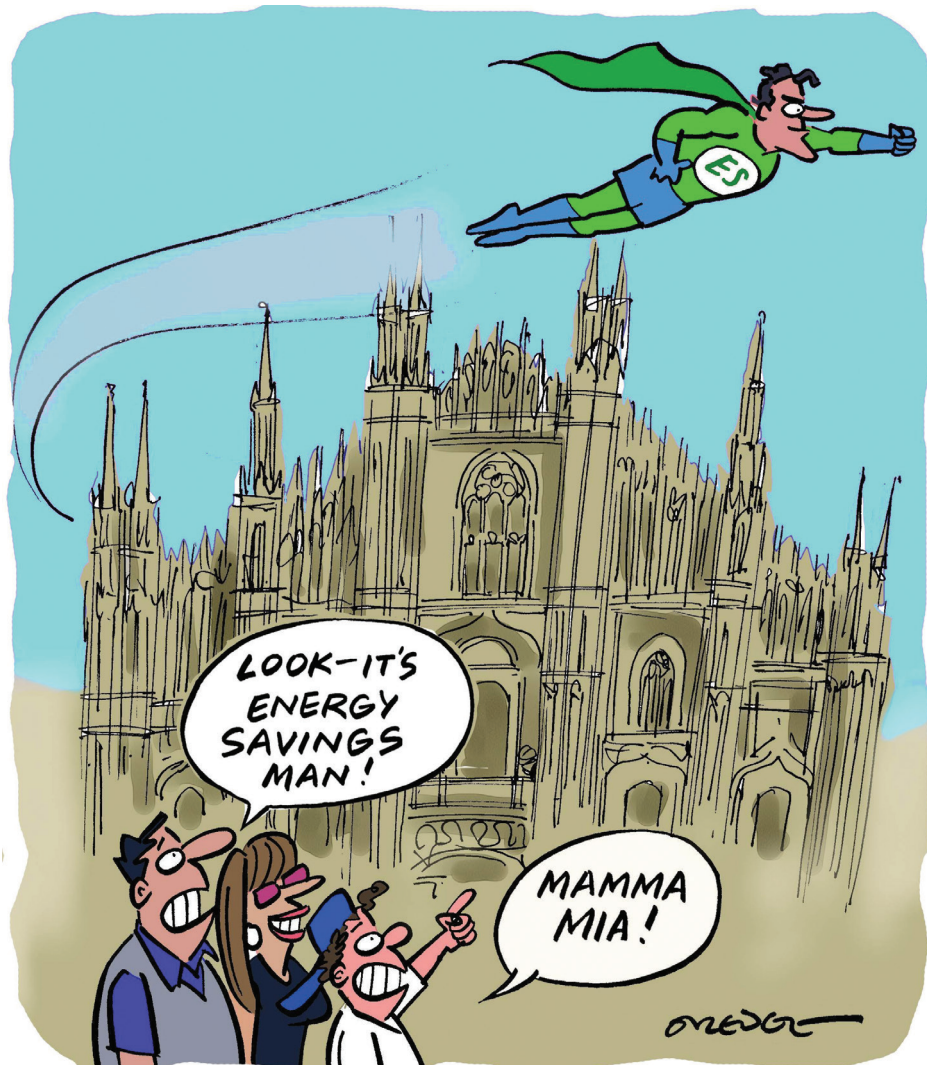


2030 Energy Savings Target

Ireland's guide to the Milan Informal Energy Council, 6th October 2014



**Friends of
the Earth
Europe**

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Milan's Metro



Summary

Efficiency: Europe's secret weapon against gas dependency

Nobody can doubt the benefits of an ambitious energy efficiency target for 2030. EU gas imports are expected to fall by just 9% with a 25% efficiency target, but by 22% with a 30% target and by 40% with a 40% target. As the Financial Times puts it, roof insulation is “Europe's secret weapon” against dependency on imported gas.

New data also predicts big economic and employment gains with higher ambition (you will see detailed numbers for Ireland in this briefing). Europe currently wastes €500 billion a year on oil and gas imports. Far better to invest that money in energy efficiency and renewables!

What about the costs? We now know the European Commission used three different methods to calculate the costs of the 2030 efficiency target. But it only published the most expensive method (an obsolete approach used as far back as 2003).

If you believe the Commission's published version, drilling for oil in Iraq on the edge of Islamic State territory is a safer investment than building zero-energy homes in Europe. It's absurd! But when more rational cost and risk assumptions are applied, the costs of the Commission's proposed 30% target fall by up to €600 billion. You can see the details on page seven.

We're convinced this points to one conclusion: member states must support three fair and adequate and binding targets for 2030 for greenhouse gas emissions, energy efficiency and renewables.

Tre obiettivi vincolanti!

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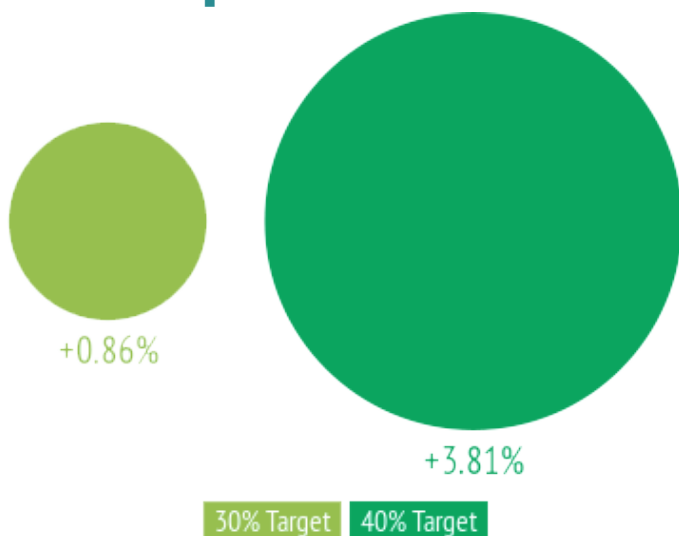
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Benefits for Ireland

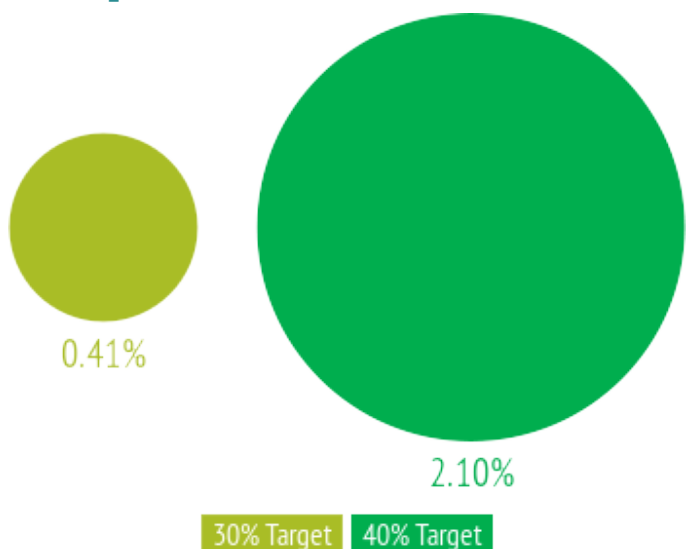
A binding energy efficiency target is a simple way to reduce expenditure on energy imports, cut infrastructure costs, combat climate change and alleviate energy poverty.

But it also has clear positive economic consequences, such as an increase in employment. Below are figures for Ireland, taken directly from the European Commission's impact assessment calculations, obtained with an Access to Documents request.

GDP Impact on Ireland



Increase in Employed People in Ireland

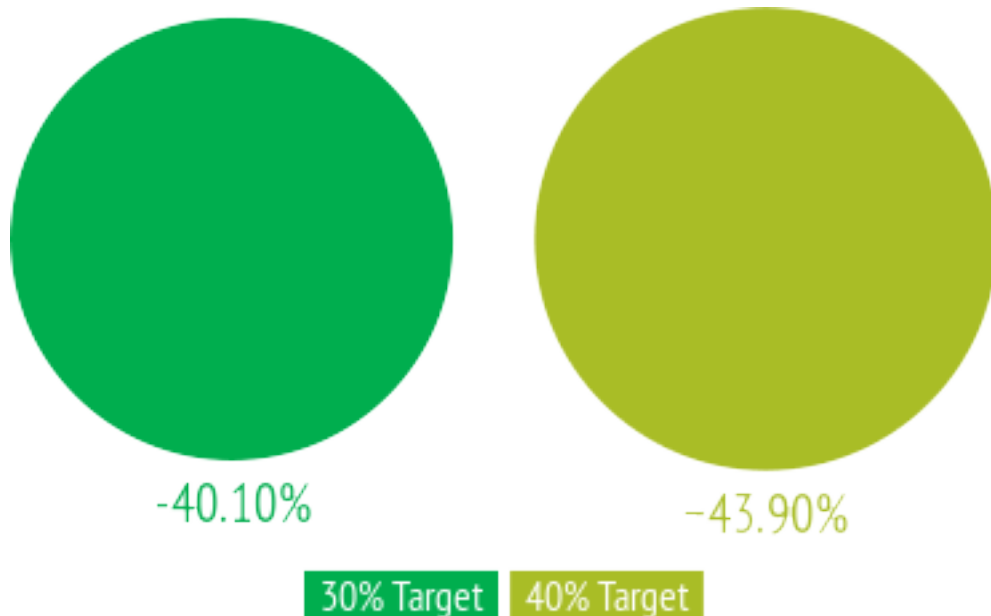


Benefits for the EU28

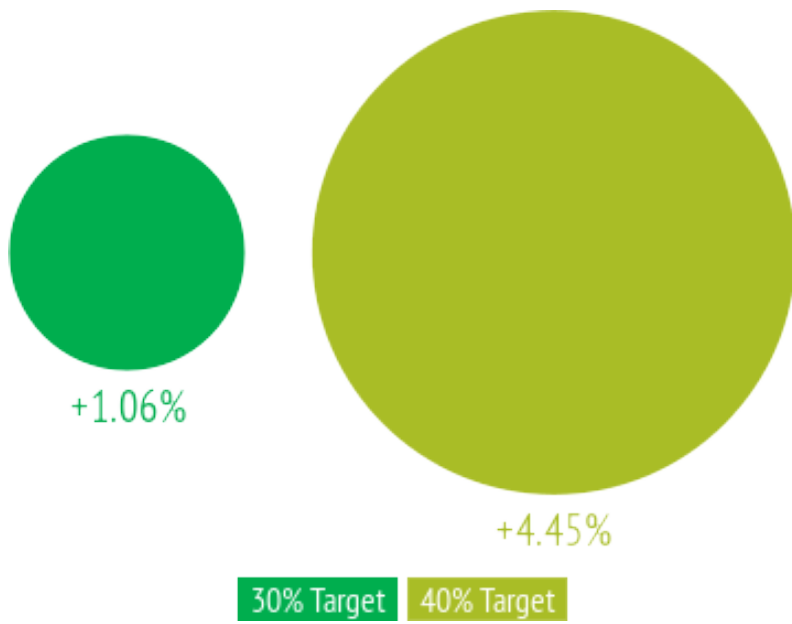
The benefits for the EU as a whole are clear. Higher energy efficiency targets produce more benefits in terms of greenhouse gas emissions, GDP, employment, gas imports, and overall import bills.

Crucially, however, the costs don't change significantly between the Commission-proposed 30% target and the more ambitious 40% target. The costs are similar, but the social and economic benefits are much higher.

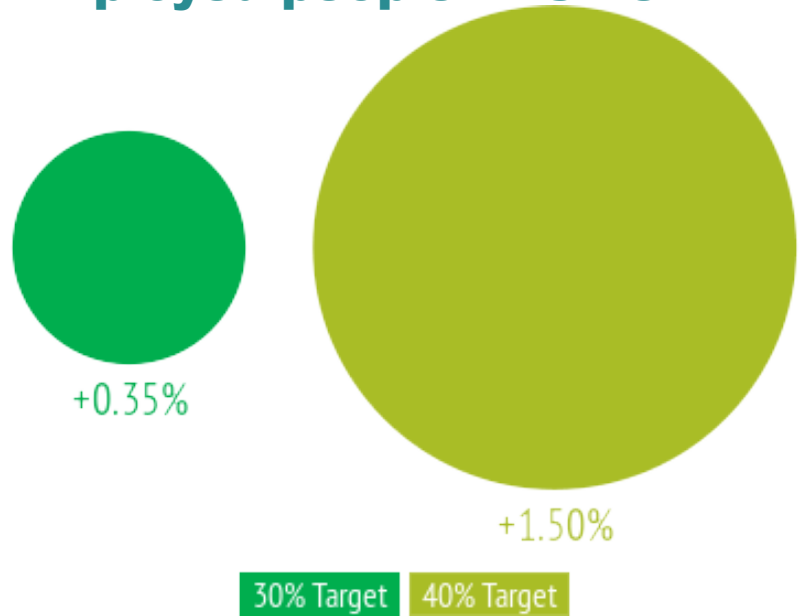
Greenhouse gas emissions across the EU 28



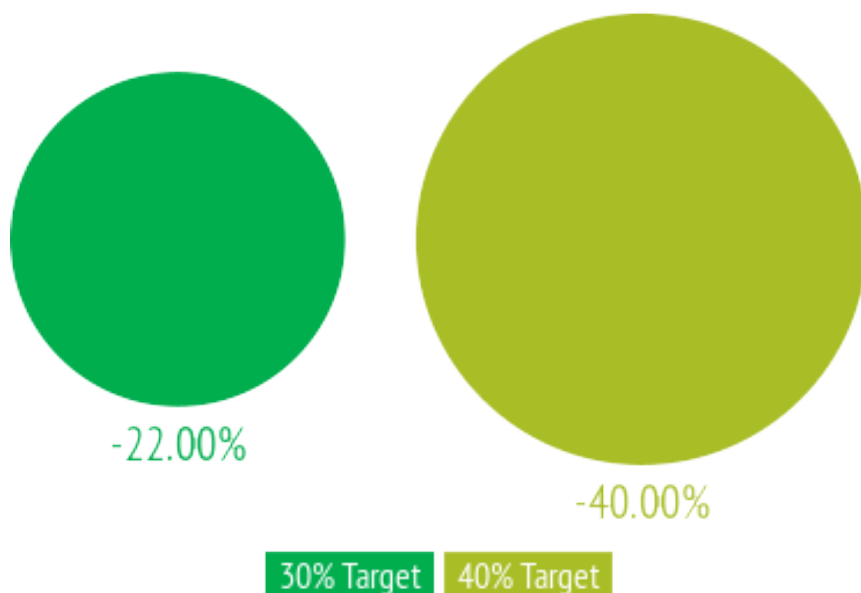
GDP - EU 28



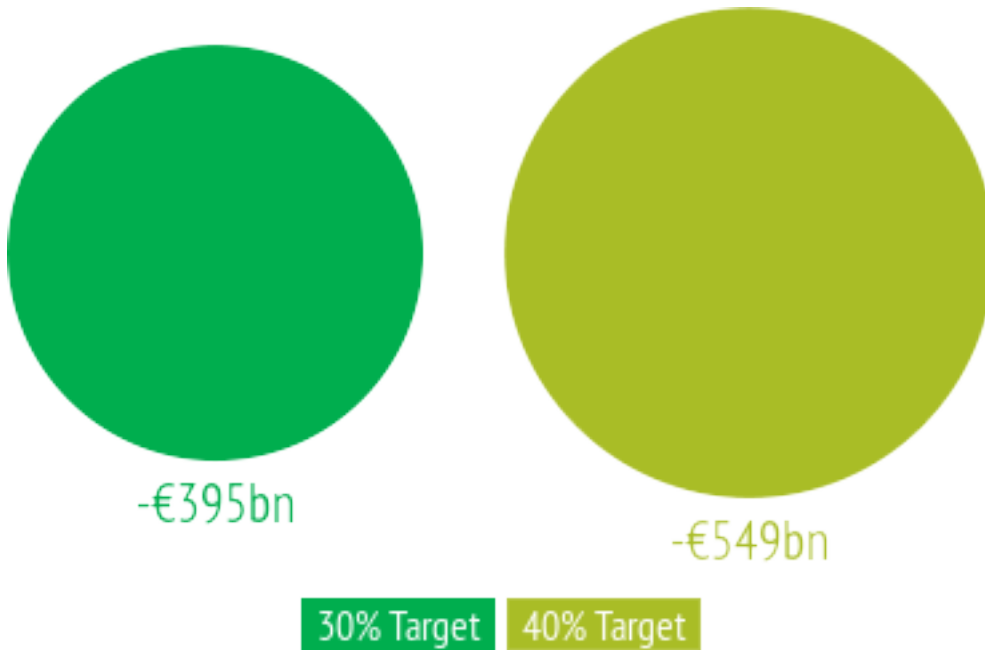
Employed people - EU 28



Reduction in gas imports - EU28

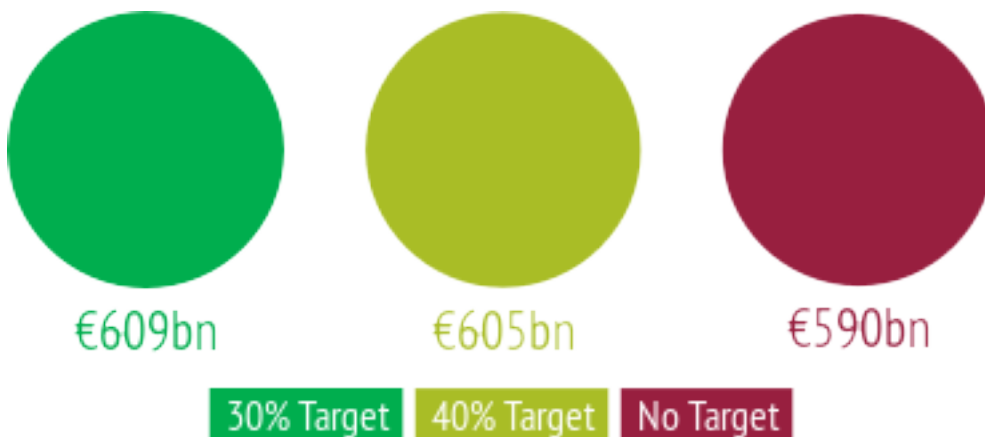


Fossil fuel import bill savings - EU28



Yet despite all these benefits, the capital costs of any policy are comparable.

Energy capital costs - EU28



Fiddling the Numbers

How the European Commission sidelined a fair and adequate 2030 energy efficiency target

New information from an Access to Documents request shows that the real costs of a 2030 efficiency target may be much lower than those published by the Commission.

The Commission developed three different ways of calculating costs: high, medium and low. The differences between the methods are striking:

(i) A 30% efficiency target using the low costs method is €600bn cheaper than the same target using the high costs method.

(ii) A 40% target using the medium costs method is the same price as a 28% target using the high costs approach.

But the Commission only published the most expensive method in its July proposal for a 30% by 2030 target. The other two methods were suppressed.

This risks dissuading member states from supporting an ambitious and binding energy efficiency target – and missing out on the multiple economic and other co-benefits.

For example, under the Commission's January communication, gas imports are expected to fall by just 9%. But with the 30% efficiency proposal from July 2014, they fall by 22%. With a 40% efficiency target, they fall by 40%.

What follows is a step-by-step demonstration of how the Commission censored analysis showing the lower costs of ambitious energy efficiency targets.

Step 1: The Commission used different methodologies to calculate energy system costs

The Commission used three different methodologies to calculate the system costs of the different energy efficiency scenarios [see p41 of ‘PRIMES modelling for the impact assessment’]:

(i) The first methodology (‘approach a’) uses a high discount rate of 17.5% for households (where much of the EU’s energy savings potential is concentrated). It is an obsolete approach used since 2003.

(ii) The second (‘approach c’) uses a social discount rate of 4%. This approach internalises the monetary and social benefits of energy efficiency. It is therefore the most comprehensive approach that can be used.

(iii) The third methodology (‘approach d’) uses a decreasing discount rate, falling to 10% in 2030 [see table 26 p80, part 2 of the Impact Assessment: http://bit.ly/Final_IA_part2. This takes into account the impact of policies to address barriers to energy efficiency.

Background explanation: PRIMES divides the economy into 5 main sectors: industry, households (also known as ‘private individuals’), tertiary, public transport and power generation, and attributes a discount rate to each sector. See Table 5 from the impact assessment of the 2050 Energy Roadmap.

Table 5: Discount rates for the different actors¹¹⁹

Discount rates	
Industry	12%
Private individuals	17.5%
Tertiary	12%
Public transport	8%
Power generation sector	9%

Essentially, the choice of discount rate depends on how much value is placed on future socio-economic conditions. The EU’s long-term commitment to cutting emissions by 80-95% by 2050 is based on the principle that the future is important. But the use of a 17.5% discount rate contradicts that principle by placing little value on future conditions, thus producing unjustifiably high cost estimates.

A high efficiency scenario for 2030 places much more emphasis on the household sector than an ETS-first scenario (because the household sector has the highest potential for energy savings). Consequently, the costs of a high efficiency scenario are very sensitive to the discount rate selected for the household sector. A 17.5% rate leads to very high costs and discourages policy makers from backing an ambitious efficiency target. But a decreasing discount rate (falling to 10% by 2030 in the Commission’s ‘approach d’) and especially a social discount rate of 4%, show dramatically lower costs.

The key take-home message is that a high rate ignores the multiple benefits of energy efficiency.

Step 2: Energy system costs vary hugely depending on the methodology used

The differences between the methods are striking. A 30% efficiency target using social discount rates is estimated to cost €1,888bn, compared to €2,481bn using the 17.5% discount rate. That is almost €600bn cheaper.

Table 18: System costs results by scenario for the EU28

M€'10	Cost reporting approach a			Cost reporting approach c			Cost reporting approach d		
	2020	2030	2050	2020	2030	2050	2020	2030	2050
Total system costs (excl. deductible auction payments) ¹⁷									
Reference plus	2111392	2336967	2701071	1716094	1847079	2100221	2042014	2251849	2596468
Reference plus LFR2.2	2110779	2340931	2701704	1715730	1850041	2097684	2041508	2255824	2597289
EE - 25	2107585	2383812	3104261	1710670	1863365	2353096	2037569	2291145	2981982
EE - 28	2108429	2416299	3154854	1709671	1864042	2340102	2037638	2282946	2966761
EE - 30	2106641	2481485	3327814	1706904	1888541	2413098	2035355	2318230	3048367
EE - 32	2106644	2526015	3355417	1706992	1908175	2428303	2035422	2352033	3068597
EE - 35	2105705	2662194	3593353	1705837	1971441	2543636	2034307	2449373	3227246
EE - 40	2106529	3032745	4006278	1706460	2167004	2760924	2034988	2728456	3517587

Note that these are the total energy system costs. Roughly 2/3 of the costs are due to energy purchases (e.g. oil, gas), which decrease with a more ambitious efficiency target. It is also important to note that these are ‘point in time’ figures, which provide cost estimates for 2020, 2030 and 2050. In the draft and final versions of the impact assessment, the Commission presented costs in an ‘average annual 2011-2030’ format. The two formats are not directly comparable.

Step 3: The Commission used decreasing discount rates in a draft of the impact assessment

A draft of the impact assessment was leaked in June (see <http://bit.ly/draftIA>). It showed that the Commission was calculating costs using the 17.5% discount rate (see table 4). But it also calculated costs using a decreasing discount rate (see table 6).

Table 4: Energy system costs and its components^{36,37}

Indicator <i>(figures are presented in a 2030/2050 format)</i>	Ref	Ref plus	Decarbonisation Scenarios					
			GHG40	EE25	EE28	EE30	EE35	EE40
Total System Costs in bn €'10 <i>(average annual 2011-30 and 2031-2050)</i>	2067 / 2520	2066 / 2519	2069 / 2727	2069 / 2657	2076 / 2701	2091 / 2820	2126 / 3016	2183 / 3369

Table 6: System and Capital costs under alternative cost reporting

Indicator <i>(figures are presented in a 2030/2050 format)</i>	Ref	Ref plus	Decarbonisation Scenarios					
			GHG40	EE25	EE28	EE30	EE35	EE40
Total System Costs in bn €'10 <i>(average annual 2011-30 and 2031-2050)</i>	2011 / 2424	2009 / 2423	2008 / 2589	2008 / 2535	2007 / 2524	2012 / 2578	2033 / 2708	2073 / 2958

A comparison of the two above tables shows that a 28% target using a high discount rate costs the same as a 40% target using a decreasing discount rate (average annual costs of €2076bn vs €2075bn).

Step 4: But the Commission only published the 17.5% discount rate method in the final version of the impact assessment

For its July proposal, the Commission only published the most expensive cost reporting approach. This is confirmed in table 3 page 33 of the final version of the impact assessment:

of renewable energy		
Representation of active public policy in energy efficiency and other sectors	“Carbon values” ³⁵ , and, post-2030, “enabling settings” ³⁶ . In addition, tighter CO2 standards for cars after 2030. The 2030 IA also included some scenarios with modelling of additional energy efficiency measures ³⁷ .	As “2030”
Discount rates used to depict decision-making by economic actors	8-17.5%; some energy efficiency measures can lower discount rates	As “2030” ³⁹
System costs	Calculated using standard (un-lowered) private discount rates ⁴⁰	As “2030”

⁴⁰ Households, private cars 17.5%; industry, tertiary, trucks, inland navigation 12%; power generation 9%; public transport 8%.

Italian Phrases

English

Italian

Hello/Goodbye

Ciao!

More ambition

Più ambizione

Three binding targets

Tre obiettivi vincolanti

At least 30% efficiency

Almeno 30% efficienza

40% efficiency, please

40% efficienza energetica, per favore!

40% efficiency, now!

40% efficienza, adesso!

I'm suspicious of the Commission Sec Gen's arguments

Dubito degli argomenti del Secretariat General della Commissione

The Commission assumes it's riskier to do energy efficiency in Europe than to drill for oil next to the Islamic State in Iraq. Crazy!

La Commissione ritiene l'efficienza energetica piu' rischiosa che scavare pozzi di petrolio vicino allo Stato Islamico in Iraq. Cose da pazzi!

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