

Non-Paper on energy consumption versus energy intensity targets

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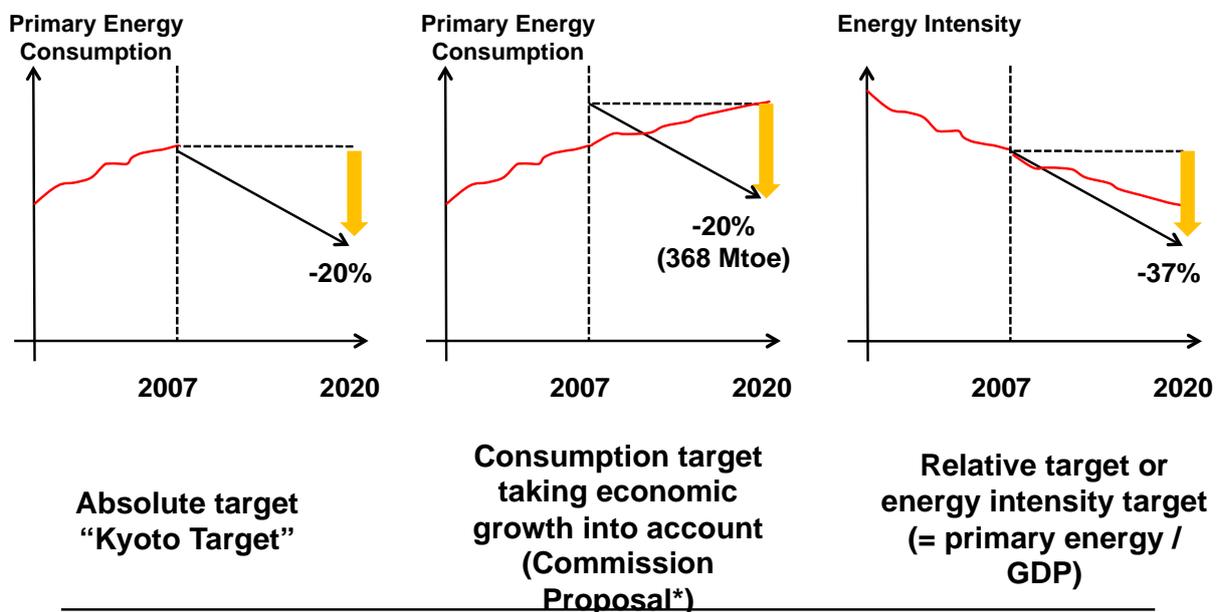
(taking into account the experts hearing organized by ITRE committee)-12 /12 / 2011

What are the different options discussed?

The figure below shows the different energy efficiency target options which are currently on the table:

- **absolute target** – "Kyoto" type target (advocated by certain NGOs)
- **consumption target** taking economic growth into account (as proposed by the Commission and supported by the EP draftperson)
- **energy intensity target** (as proposed by EPP)

How to define Energy Efficiency Targets?



What is the difference between consumption and intensity targets?

- **Consumption targets** aim to deliver reductions in energy use relative either to projections for future consumption or to consumption levels in a base year. **The proposed Union's 20% target is a consumption target, expressed in relative terms - as it is compared to projections of energy consumption (excluding non energy uses) in 2020; it is equivalent to a 12% reduction compared to current levels of energy use.** If applied to the national level, this method means that most countries will reduce, some stabilize and a few increase their overall consumption, depending on the country specific starting positions and economic development projections. This represents a possible sharing of the EU energy saving target. **Your draftsman intends to stick to the Commission's proposal.**
- **Intensity targets** set standards for the number of units of energy required to produce a unit of GDP, often for particular industry sectors or processes. By relating energy consumption to an activity indicator, economic growth is explicitly excluded.

Will consumption targets affect economic growth?

- **They will stimulate economic growth:** Research prepared for the European Commission shows that meeting the 20% target will bring about a net increase in GDP, jobs and investment, while reducing energy costs.
- **They allow for flexibility:** consumption targets - or intensity targets if not broken down to sectors - are not targeted to specific sectors and therefore allow Member States to shape their rules in accordance to their national context. Results are the sole criteria.
- **They cope with economic crises in the right way:** A consumption target is easier to fulfill in times of economic crisis and more difficult to fulfill in times of strong economic growth. Thus it respects the economic dynamic – **in times of economic growth there is a higher turn over and higher revenue and thus more availability of both capital and willingness to invest and replace existing production energy consuming goods.** Translating the consumption target to an intensity target will make it harder to reach from the current perspective of lower economic growth.
- **They allow a 4% per year growth for the EU economy.** The concrete formulation for the consumption target by the EU Commission (based on PRIMES 2007, i.e. a pre-crisis baseline) allows for substantial economic growth. The EE target of 1474 Mtoe is based on an average annual growth of the EU economy of 2.4% between 2010 and 2020, i.e. 2.2% annual growth for the EU15 and 4.4% for the other 12 MS. **Given the economic crisis and the growth projections to 2013, an annual average growth of the EU 27 economy as a whole of 4% between 2013 and 2020 is possible within the actual target setting as proposed by EU Commission and supported by your draftsman. Central and Eastern EU economies could even growth above 4.4% yearly from now** (based on original pre-crisis modeling assumptions).
- **They will not affect energy intensive industries growth potential.** The consumption projections for the Union in 2020 as foreseen by the EU Commission **exclude from its scope the non-energy use in industry**, which represents 6% to 7% of the EU primary

energy consumption. The fact that non-energy uses are not part of the target takes therefore into account worries that of some industries might have regarding the consumption target as proposed by the Commission.

What are the benefits of national consumption targets?

- **Reduce energy costs and increase energy security.** Guaranteeing a clear and EU wide reduction in energy consumption, which this approach achieves, means reducing energy imports by some 50 billion Euros annually and cutting fuel bills overall by about 200 billion Euros a year. This money will help to tackle the economic challenges in a clever way, by investing in efficient and renewable energy in Europe, creating local and stable new jobs.
- **Enhancing predictability for energy investments and climate change mitigation efforts:** Setting a target for energy consumption in 2020 facilitates accurate planning for energy infrastructure investments and other measures to increase energy security. Less investment into energy infrastructure and into new power production will be needed with an energy consumption of 1474 Mtoe (the 20% target) than with a consumption of 1842 Mtoe (estimated energy use in 2020 without savings). It avoids misguided investments and reduces problems with the acceptance of enhanced interconnections and grid infrastructures.
- **Create visibility for a “negawatt energy efficiency services market.** Defining an overall consumption target and combining it with the article 6 suggested end-use efficiency target of 1,5% yearly cumulated savings will lead to the creation of a multi billion EU market for energy saving and energy efficiency services. Such a market creation will not only create local jobs and added value but will also enhance competition in the EU energy market with as a possible result a downward pressure on EU's electricity and gas spot market prices.

Why are national intensity targets not a useful measurement?

- **Intensity targets are more difficult to reach in low growth times.** Historic data show that energy intensity targets are more difficult to reach when the economic growth is slow. Translating the consumption target into an intensity target will make it harder to reach the target in the current perspective of lower economic growth.
- **Creating uncertainty:** energy intensity targets do not guarantee a known level of energy consumption, making infrastructure planning very difficult, risking greater reliance on energy imports, failing to reduce energy bills and not contributing in any predictable way to climate change mitigation efforts.
- **Relocation of energy intensive industry:** relocating a country's most energy-intensive industry would be an obvious way to improve a country's energy intensity. Any suggestion that setting intensity targets rather than consumption targets can help avoid possible relocation of industry ('carbon leakage') are therefore logically flawed.

- ***A country's economy contains many different sectors (housing, industry, etc) that require hugely different amounts of energy:*** energy intensity can only be usefully applied as a measurement if comparing like with like, such as steel or cement production in different countries. This is already done by using EU Best Available Technique (BAT) reference values in permitting industrial installations. At this micro-level, energy intensity, expressed as energy per unit steel or cement, can be used to support the achievement of overall national energy consumption targets. But at an economy-wide level, energy intensity is too broad-brush to be meaningful.
- ***Energy intensity is already covered*** in the energy efficiency scenario of the Commission. It projects a continuation of the decreased in energy intensity of industrial value added by 1.4% per year on average during 2005-2030.
- ***Rebound effects:*** a criticism often leveled at efforts to improve energy efficiency is the notion that the money such efforts saved will be used to increase energy consumption in the same or other areas. Because no overall reduction in energy use is stipulated, the scale of these 'rebound' effects is likely to be much greater with intensity targets than with consumption targets.

Summary:

Although the intensity target proposed by EPP amendments is more ambitious than the relative consumption target as proposed by EU Commission, the rapporteur for the reasons explained above, prefers to follow the line as proposed by EU Commission.

Summary	Mtoe	Year
Required primary energy savings based on PRIMES 2007 (Mtoe)	368,4	2020
Distance to target (Mtoe): Primary savings still to be achieved beyond PRIMES 2009 baseline	223,0	2020
Distance to target (Mtoe) with intensity approach (104 toe/M€05)	349,1	2020
Distance to target (Mtoe) with intensity approach (data directly from PRIMES: 102 toe/M€05)	378,2	2020
Statistical distance to target (Eurostat)	202,6	2008
	103,6	2009