



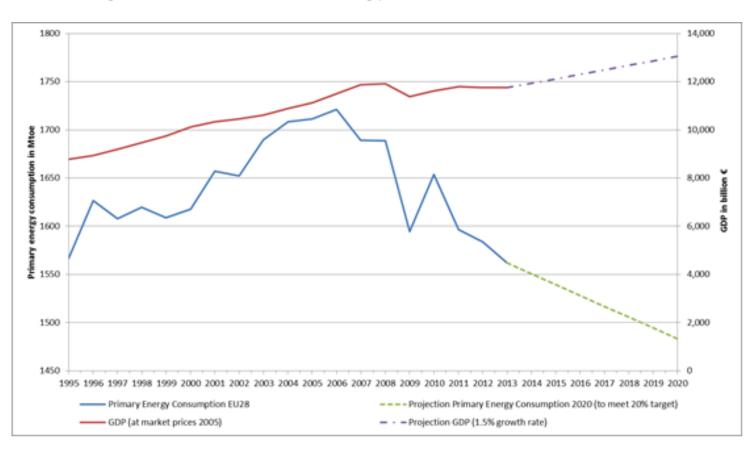
Energy Efficiency Communication

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Energy efficiency of the EU economy is steadily increasing; and economic growth is being decoupled from energy consumption



Source: Energy efficiency Communication 2014 - COM(2014) 520



Energy efficiency progress can be observed across all sectors:



Between 1995 and 2010 the average consumption of new cars in the EU decreased by 27%



New dwellings built today consume on average 40% less than dwellings built 20 years ago



The share of refrigerators meeting the highest energy efficiency labelling classes (A and above) increased from less than 5% in 1995 to more than 90% 15 years later



EU industry improved its energy intensity by almost 19% between 2001 and 2011, compared with 9% in the US



Energy Efficiency Communication 2014 – key questions addressed in the Impact Assessment

Are we on track for 2020? If not, what should we do about it?

Based on an analysis of Member State actions and additional forecasts, the Commission now estimates that the EU will achieve energy savings of around 18-19% in 2020.

What is the optimal level of ambition for energy efficiency in 2030?
What should be the approach to achieve it?

Target proposed: 30% savings by 2030 (vs. 2007 reference) ensures broadly that the **current level of energy efficiency policy ambition is continued** (reducing consumption at a little over 17 Mtoe per year).



Impact Assessment - Methodology

Framework conditions

- PRIMES 2013 Reference
- GHG 40%; split ETS/non-ETS maintained
- RES 27%

Policy options (scenarios analysed)

- Stepwise increase of EE policy ambition: 27%, 28%, 29%, 30%, 35% and 40% savings in 2030 (vs 2007 PRIMES)
- · No changes in policy mix (based on current); just intensity

Impacts assessed

- Energy system and security of supply
- Economic impacts (system costs, investment expenditure, energy prices, GDP, employment)
- Competitiveness and affordability
- Environmental impacts (CO₂, pollutants, health)



Impact Assessment – Elements that imply assumptions on behaviours of consumers

- Simulation and assessment of households preferences and decision making regarding energy-efficient technologies (both under business as usual and under policy scenarios)
- Modelling the impact of Energy Efficiency measures (EED, EBPD, Ecodesign and Labelling), in terms of reduced discount rates
- Indication on the optimal level of policy intervention

Behavioural discount rate

When people are given specific choices (would you like 10 € today, or rather 20€ in 2 years?), or their consumption and investments decision are observed, it's possible to extract their implicit discount rate.



Impact Assessment – Discount rates

Discount rates (in real terms)	Standard discount rates of PRIMES	Modified discount rates due to EED	
		2015	2020 - 2050
Power generation	9%	9%	9%
Industry	12%	12%	12%
Tertiary	12%	11%	10%
Public transport	8%	8%	8%
Trucks and inland navigation	12%	12%	12%
Private cars	17.5%	17.5%	17.5%
Households	17.5%	14.75%	12%

Source: Primes, Energy efficiency Communication Impact Assessment - SWD(214) 55 http://ec.europa.eu/energy/efficiency/events/doc/2014 eec ia ia adopted part2.pdf



Impact assessment – Limitations in modelling economic behaviour

- Energy modelling tools only to a limited extent take into account and represent decentralised microeconomic decision-making frameworks;
- Energy-economic modelling are focused on technological change and on the economic dimension of energy supply and use, with much less attention on behavioural drivers and barriers
- For private households, in the literature, there is great uncertainty about the amount of such discount rates and robust empirical evidence is lacking (typically examined through surveys)

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Key research needs in this area

Better understanding of households, industries and SMEs decisionmaking and their representation in models

- Disaggregation of households' consumers in clusters
- Modelling of non-financial market barriers
- Modelling of different/improved EE policies and financing schemes in different countries

More robust empirical estimates of behavioural Discount Rates

- Differentiated DR for costumer groups/cluster
- Assessment of the the impact of policies on time discounting and risk preferences



Thank you!



http://ec.europa.eu/energy/efficiency/

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