



Energy Efficiency Profile : EU27

January 2009

Energy Efficiency Trends

Overview

Energy efficiency improved by about 22% or 1.3% per year between 1990 and 2006 in the EU-27 . All sectors participate to this improvements.

Industry

Energy efficiency improved by about 2.1%/year since 1990. Each branches, except textile contributed to decrease the overall industrial efficiency index.

Since 1998, structural changes towards less energy-intensive branches now strengthen the influence of efficiency improvements on actual energy intensity in industry. However the impact of these structural changes is limited : they explain about 13% of the reduction in the industrial intensity since 1998. The situation is meanwhile different in countries: structural changes explain a high share of the reduction in 5 countries (Hungary, Czech Republic, Romania, Sweden, Ireland)

Households

Energy efficiency improved by 1.1%/year since 1990. Space heating and large appliances experienced the greatest energy efficiency improvement: since 1990, close to 1.5%/year each.

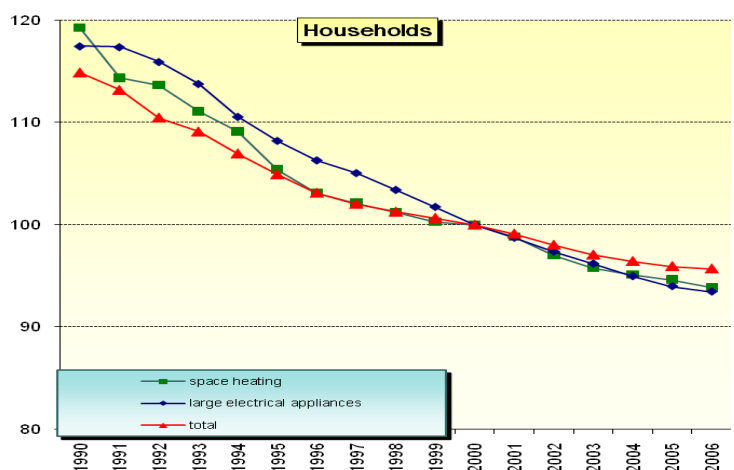
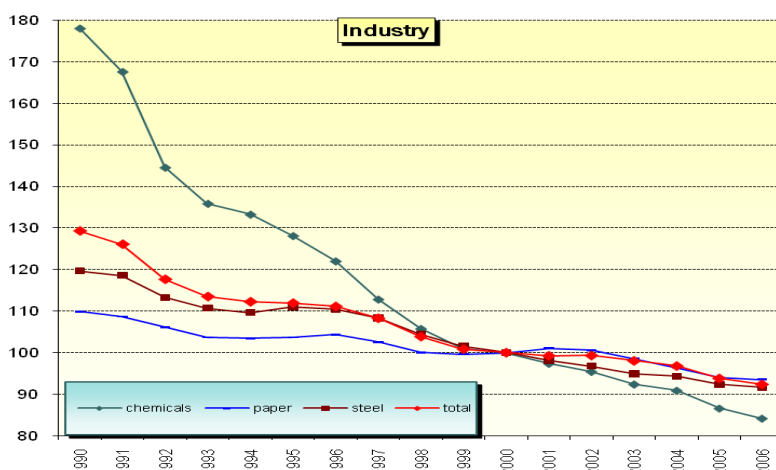
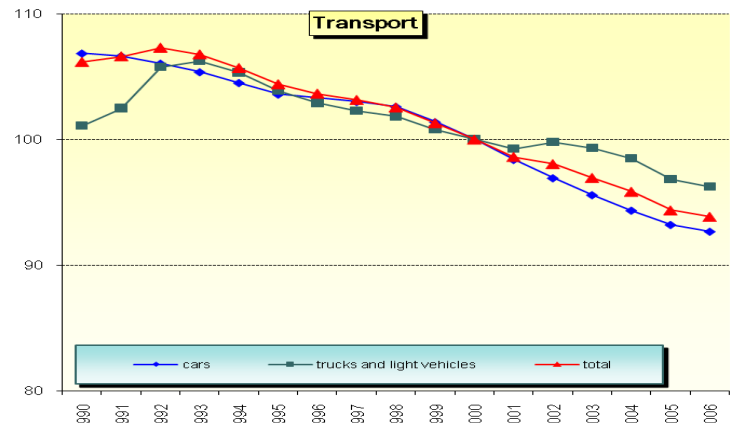
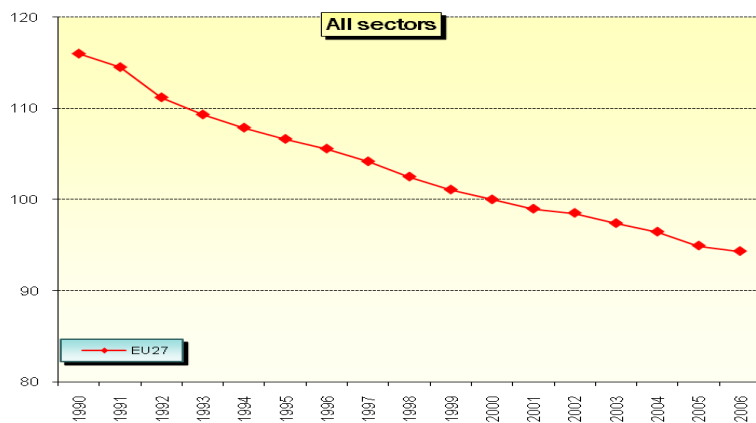
Transport

Energy efficiency improved by 0,8% /y since 1990 .

The specific consumption of cars in litres/100km is regularly decreasing (-0.9%/year since 1990), with a more rapidly improvements for new cars since 1995 (-1.6%/year). However, part of this gain is offset by a shift to larger cars.

For road goods transport, the energy consumption per ton-km has decreased regularly since 1993 because of a better management (increase in ton-km/veh except from 1998 to 2002)

Energy efficiency index



Energy Efficiency Policy Measures

Institutions and programmes

On January 2007 the European Commission presented an **Energy and Climate Change Package** including a **Strategic Energy Review**. This package was finally agreed on December 2008. On March 2007 the EU Summit of Head of States agreed on a two-years action plan, including among others:

- a target to save 20% of the EU's total primary energy consumption by 2020;
- a binding target to raise the EU's share of renewables to 20% by 2020;
- an obligation of 10% biofuels in the transport fuel mix by 2020 for each EU member;
- a European Strategic Energy Technology Plan for low carbon technologies;

Industry

The main measure driving energy efficiency continues to be the **European Emissions Trading Scheme**. After the first experimental phase 2005-2007, the system entered the second phase 2008-2012. The revised EU ETS accepted in December 2008 will apply over 2013-2020 and should lead to a reduction in greenhouse gas emissions of the participants in the system of 21% compared to 2005 levels. The Community-wide quantity of allowances issued each year will decrease in a linear fashion, so as to reduce gradually the overall level of emissions each year. Auctioning is seen as the main instrument to allocate certificates but the industry sector will be, at least partially and for a transition period, exempted from auctioning and certificates will be allocated based on benchmarks.

Households, Services

Recast of the Energy Performance of Buildings Directive: The existing Energy Performance of Buildings Directive, adopted in 2002, is a key element to improve buildings energy performance. Important changes envisaged are:

- Energy performance certificates have to be included in all advertisements for sales or renting.
- Use of a specific benchmarking system.
- All existing buildings when undergoing major renovation should meet certain efficiency levels; not only those above 1000m².
- Member States should increase the number of low or zero energy/carbon buildings. The public sector should show a leading example investing in such buildings.

The European Commission's draft regulation "implementing Directive 2005/32/EC with regard to eco-design requirements for non-directional household lamps" aims at **progressively phasing out incandescent bulbs** between 2009 and 2012. It is estimated that the EU will save close around 40 TWh and 15 Mt CO₂ per year.

The Commission has adopted in December 2008 the **eco-design regulation to reduce standby energy consumption** of all household and office products. The regulation will cut the standby electricity consumption by almost 75% by 2020. The standby consumption of new products has to be less than 1- 2 W as of 2010 and less than 0.5-1 W in 2013.

Transport

The main EU initiative is **mandatory CO₂ standards** as voluntary agreements on performance have failed to reach their target. A new regulation will set an average target of 130g CO₂/km for new passenger cars to be reached by improvements in vehicle motor technology. A long term target is introduced for 2020 at 95 g CO₂/km. Manufacturers will be given interim targets (65% of their fleets in 2012, 75% in 2013, 80% in 2014 and 100% from 2015). In case their average emissions exceed the targets, manufacturers will have to pay fines.

A new **directive for a labelling scheme for tyres** is proposed, with a view to promoting wider use of fuel-efficient tyres. In December 2008 the EU agreed on a **10% 'green fuel' target for 2020** (including biofuels, hydrogen, green electricity).

Selected Energy Efficiency Measures

Sectors	Title of Measure	Since	Energy (Mtoe)	CO ₂ (Mt)
Households	EU labelling scheme	1992	1(2000)	5 (2000)
Households	Recast of the Directive on the energy performance of buildings	2002/2008	3 (2010)	9 (2010)
Transport	Car labelling Directive 1999/94/EC	1999	7	20
Transport	Standards on CO ₂ emissions from cars	2008	Potentially very large impact	120/130 g CO ₂ /km in 2012/2015; 95 g/km in 2020
Industry	EU emission trading scheme	2005	Small impact due to overallocation	
Industry	Minimum standards for electric motors	2011	Potentially large impacts. IE2 standards in 2011; IE3 standards in 2015	
Tertiary	GreenLight programme (voluntary programme)	2000	potentially large but currently small (little participation)	
Tertiary	European Green Building Programme	2005	cooperative measure with potentially large impact	
Tertiary	Code of Conduct on Data Centers	2008	Proposed co-operative Measures. Impact small	
Cross-cutting	Energy Service Directive	2006	9% of final energy (excl. emission trading)	
Cross-cutting	Eco-Design Directive 2006/32/EC	2006	Various implementing Directives: phase-out of incandescent light bulbs; stand-by power; tertiary sector lighting; set-top boxes....	
Cross-cutting	Action Plan for improving Energy Efficiency in EU	2007	Covers standard setting; financing facilitation; informational measures etc.	

