

Energy Efficiency Trends

Overview

Energy efficiency of final consumers has improved by almost 32% between 1990 and 2010, which translates into an average gain of almost 1.9%/year. Between 1990 and 2000 the improvement rate was 2% per year (1.8%/year after 2000). The largest improvements since 1990 have been realised in the household sector (2.2%/year) and manufacturing industry (2.4%/year), while transport lags behind with about 0.8%/year.

Industry

The energy efficiency progress in the manufacturing industry was 38% between 1990 and 2010 (2.4%/year), including negative developments since 2007 due to the economic crisis. From 1993, the starting year of Long Term Agreements on energy savings, the improvement was 2.9% per year. In the chemical sector, which is responsible for half of the energy consumption of industry, energy efficiency improved by 55% since 1990 (3.9%/year). The energy efficiency of the steel industry remained stable between 1993 and 2001, but has improved between 2001 and 2007. Negative savings occurred after 2007, due to the economic crisis. The overall improvement for the steel industry since 1990 was 15% (0.8%/year). The energy efficiency in the paper industry decreased until 1997, but the overall increase of efficiency since 1990 was 18% (1.0%/year).

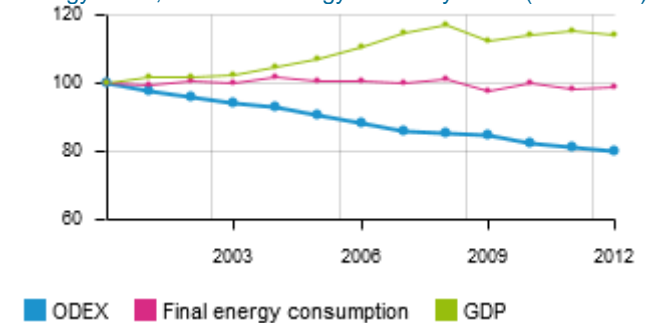
Households

Households improved their energy efficiency by 36% between 1990 and 2010. Progress came mainly from space heating, the largest end-use (about 67% of consumption), with an improvement of almost 39%. The improvement for electrical appliances was 37%; they only represent 7% of the household energy consumption of. More limited improvements took place for the others uses: water heating (14%) and cooking (15%) (share of 15% and 3% respectively), which explains why the overall energy efficiency improvement is 36%.

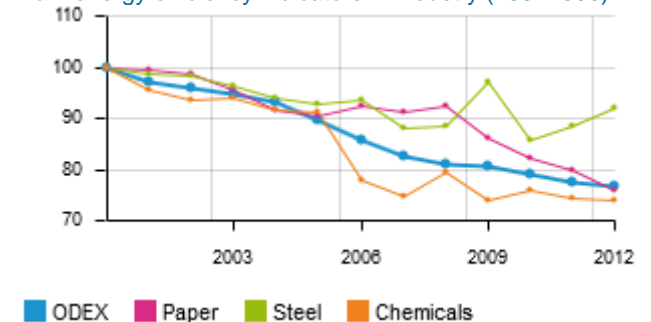
Transport

The efficiency of cars improved by only 2.5% between 1990 and 2010. The efficiency of trucks and light vehicles decreased by 9% between 1990 and 2010 (0.4%/year). This is the result of the increased share of goods transport by light trucks, which are less efficient. Despite the unsatisfactory trends for cars and trucks and light vehicles, the energy efficiency of the transport sector as a whole increased by 13% since 1990 as a result of a larger share for air transport (from 18% to 26%) and its 31% higher energy efficiency.

Energy cons., GDP and energy efficiency index (100=2000)

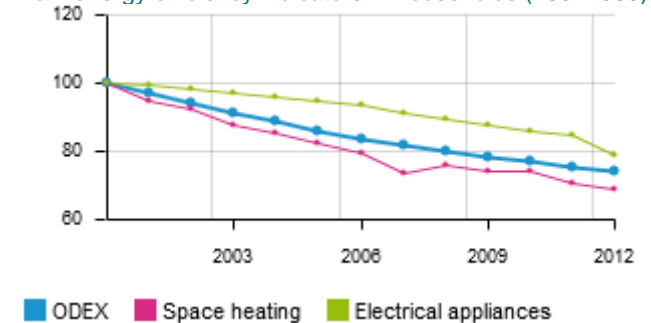


Main energy efficiency indicators in industry (100=2000)



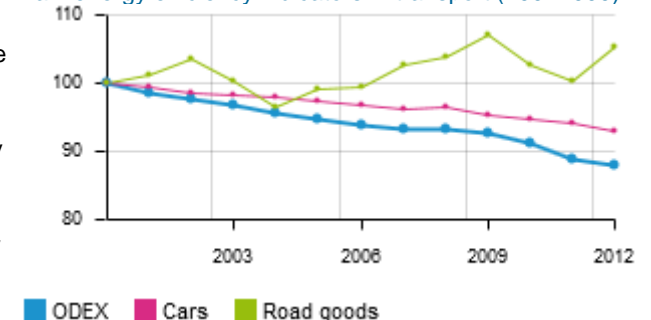
Chemicals : toe per unit of production index
Paper, steel: toe per tonne

Main energy efficiency indicators in households (100=2000)



Space heating : koe per m2
Large electrical appliances: kWh per dwelling

Main energy efficiency indicators in transport (100=2000)



Cars: litres per 100 km
Road traffic of goods (trucks): koe per tonne-km

Energy Efficiency Policy

Institutional and energy efficiency targets:

In the Clean and Efficient programme (Dutch: Schoon en Zuinig), introduced in 2007, the Dutch government set ambitious targets for 2020 for Greenhouse gas emission reduction (-30%), the share of renewables in the energy mix (20%) and the improvement in energy efficiency (increasing to 2,0% per year). The programme can be seen as an intensification of the existing multi-level policy approach. General cross-cutting measures such as energy taxation, fiscal measures such as the energy investment deduction and the European emission trading scheme form a general base for stimulating energy efficiency. Voluntary sectoral or sub-sectoral agreements were made with industries, services, major transport organisations and key players within the household sector. These agreements aim at a continuous improvement in efficiency. Energy efficiency standards have been introduced for most sectors to set a lower limit for efficiency. Innovators and frontrunners are financially supported.

In 2000, long-term agreements (LTAs), previously introduced in 1992 for the energy intensive industries have been replaced by a covenant on benchmarking in which they agree to be among the most efficient companies in the world.

This benchmarking covenant was amended by the “Long-term Agreement on Energy Efficiency for ETS enterprises” (LEE) in 2008

Since 1995 the building Decree contains minimum standards for new buildings. As part of the More with Less programme (Dutch: Meer met Minder), the government signed voluntary agreements with key players within the Dutch housing, energy and construction sector, to reduce energy consumption in existing buildings by 100 PJ in 2020. Reducing barriers for owners of buildings must stimulate them to invest in energy saving measures, which should lead to over 200.000 buildings being refurbished annually.

To stimulate more efficient cars and efficient driving, the government introduced a mix of financial policy measures. Fuel taxes, among other things, make Dutch fuel prices among the highest in Europe. The motor vehicle tax (Dutch: MRB) and private motor vehicle and motorcycle tax (Dutch: BPM) are differentiated according to CO₂ emissions to stimulate the sale of energy efficient cars

Main energy efficiency policy measures and their impacts

Sector	Main objectives and measures
Cross-sectoral	➤ Energy investment deduction (EIA).
Industry	➤ Environmental Action Plan ➤ Long-term agreements 2
Buildings	➤ Energy Performance Standard (EPN) ➤ More with less plan
Transport	➤ Long-term agreement with road transport ➤ Energy saving in transport (EBIT) ➤ New driving force campaign