



# Energy Efficiency Profile : Sweden

October 2008

## Energy Efficiency Trends

### Overview

Since 1990, energy efficiency has improved by 10 % for the economy as a whole. Since 2000, the efficiency has improved by 5%, a bit less than the average in EU27.

### Industry

The efficiency in the industrial sector has progressed by 14 % between 1990 and 2005. The greatest efficiency improvement is made within the chemical industry, followed by paper and pulp. Energy efficiency within the steel industry, as measured per ton of steel, has decreased. This can be due to a shift towards more high quality products and the fact that the largest share of the production increase comes from production of crude steel, which is more energy consuming than steel coming from scrap.

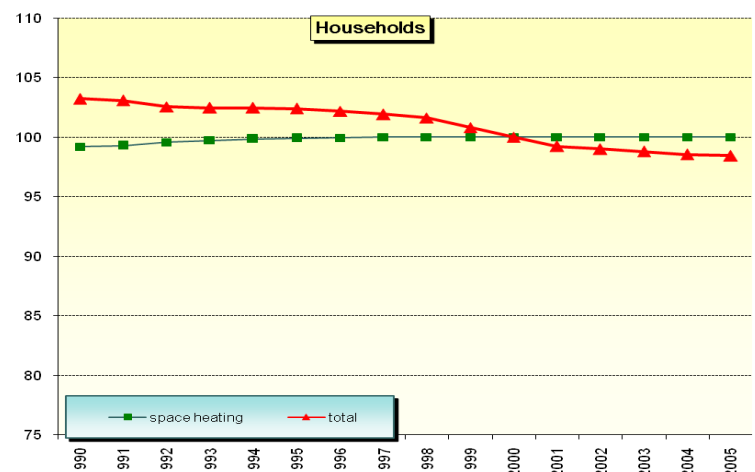
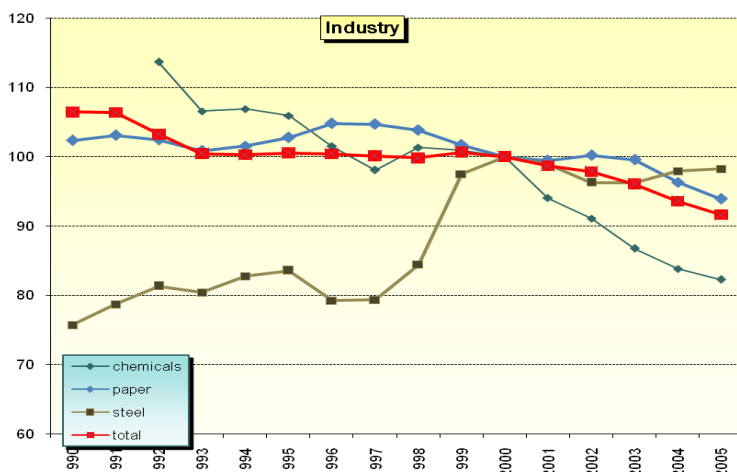
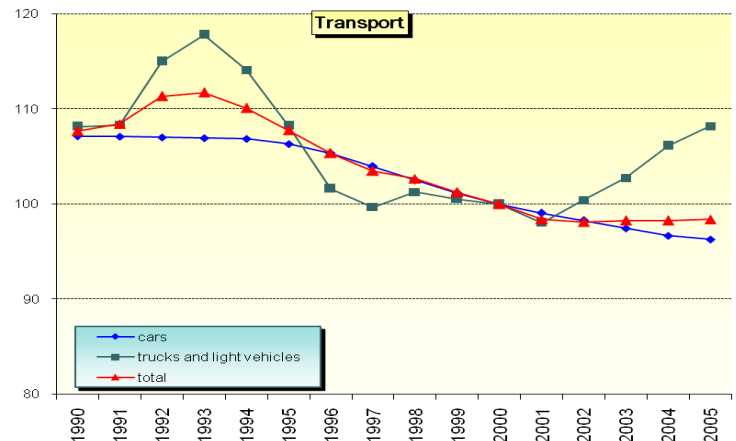
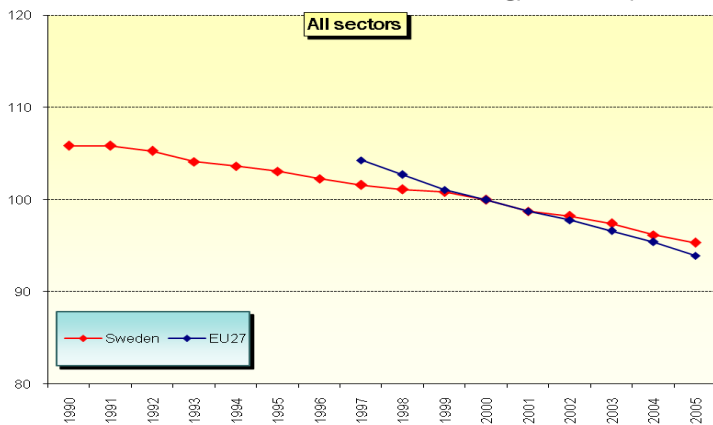
### Households

In the household sector, the energy efficiency has improved by 5 % since 1990. The efficiency of heating has remained stable over the whole period.

### Transport

The overall efficiency improvement for transport is 9 % since 1990. The efficiency of cars has improved more, whereas trucks and light vehicle shows a decrease in efficiency.

Energy efficiency index, base 100=2000



# Energy Efficiency Policy Measures

## Institutions and programmes

Since 1997 the Swedish Energy Agency (STEM) is the authority responsible for the implementation of energy policies set out by the government. There are also 13 regional energy offices as well as 290 local energy consultancy services that are funded by state support. Current energy efficiency policy was adopted in the 2008 Budget Bill. It extends the focus on commercialisation of newly developed technologies for energy efficiency, that origin in the support for research, development and demonstration. The measures should focus on policy measures that support the efficiency that occurs spontaneously in society and is adjusted to market mechanisms.

Climate Investment Programmes, Klimp, were introduced in 2003. Local authorities, business enterprises and other actors are encouraged to go through with long term investments in order to reduce GHG emissions and to improve energy efficiency. Since 1998, state support is given to municipalities that practice energy counselling directed at the general public, SMEs and to local organisations.

## Industry

In July 2004, the tax on industrial process-related electricity was raised from 0 to 0,5 Euro per MWh. Industries are able to escape the tax by taking part in the Programme for Energy Efficiency in Energy Intensive Industry (PFE). During the first two years the firm needs to implement and certify a standardized Energy Management Systems (EMS), perform Energy Mapping and analyses over energy consumption, introduce energy efficiency routines for projections, plan changes and renovations of its plants and for the purchase of electricity consuming equipment. At the two year follow up of the programme, the participating companies submitted over 900 measures to be taken to improve energy efficiency, corresponding to 1 TWh of saved energy.

## Selected Energy Efficiency Measures

## Households, Services

Since 2006 households can benefit from a 30 % tax credit when converting from direct electric heating and oil-based heating to systems based on bio mass or heat pumps. The solar heating support has been prolonged, and now lasts until 2010. Also the support for installation of energy efficient windows has been prolonged with extra funding during 2009.

From 2005 to 2008, there is a grant for energy efficiency measures in public buildings. Funds are eligible for measures to improve energy efficiency, for conversion to biofuel based heating, district heating, or installation of heat pump. It also includes installation of solar cells in public buildings. The grant for energy efficiency and conversion are up to 30 % of the investment cost, while 70 % of the installation is given to projects to install solar cells.

## Transport

Measures in the transport sector include general excise tax on energy and a green tax on CO<sub>2</sub>. For renewable fuels these are set to zero. A tax based on CO<sub>2</sub>-emissions instead of weight was introduced in 2006. From 2007 to 2009 there is a grant when purchasing a new, environmentally friendly car. Since late 2007, it is compulsory to include eco driving as part of the test to obtain a driver's license.

## Energy prices and taxes

Since 1991, there is a tax on carbon dioxide. In 2008, the tax was at around 100 Euro/ton for households and lowered to around 20 Euro/ton for industry.

## Budgets

Over the five-year period 2003-2007, MSEK 1000 has been allocated to initiatives for efficient energy use. MEuro 15 to information, testing and training, MEuro 55 to local and regional initiatives and MEuro 35 to technology procurement and market introduction.

| Sectors   | Title of Measure   | Since |
|-----------|--|-------|
| Industry  | Programme for Energy Efficiency (PFE)  | 2005  |
| Tertiary  | Tax credit for Solar Cell Systems  | 2006  |
| Tertiary  | Tax credit for energy efficiency measures  | 2005  |
| Household | Tax reduction for energy efficient windows   | 2004  |
| Household | Grant for converting from electric heating or fossil fuels to district heating, heat pump etc. | 2006  |
| Transport | Eco driving in driver's license  | 2007  |
| Household | Energy declarations  | 2006  |
| Transport | Change in vehicle taxation   | 2006  |
| Transport | Subsidy for clean car purchase   | 2007  |

Source: MURE data base  
[www.mure2.com](http://www.mure2.com)

