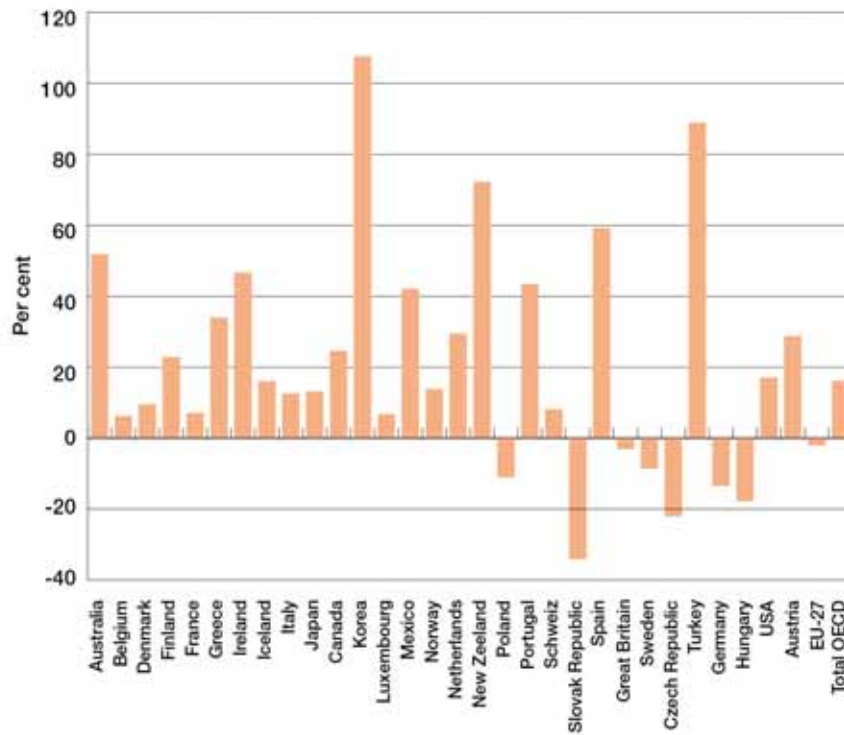


# Energy in Sweden 2009

OH-pictures, figure 1-62

**Figur 1**  
 Change in carbon dioxide emissions within the EU and  
 OECD states, 1990–2006  
 Source: OECD in figures, 2008 edition

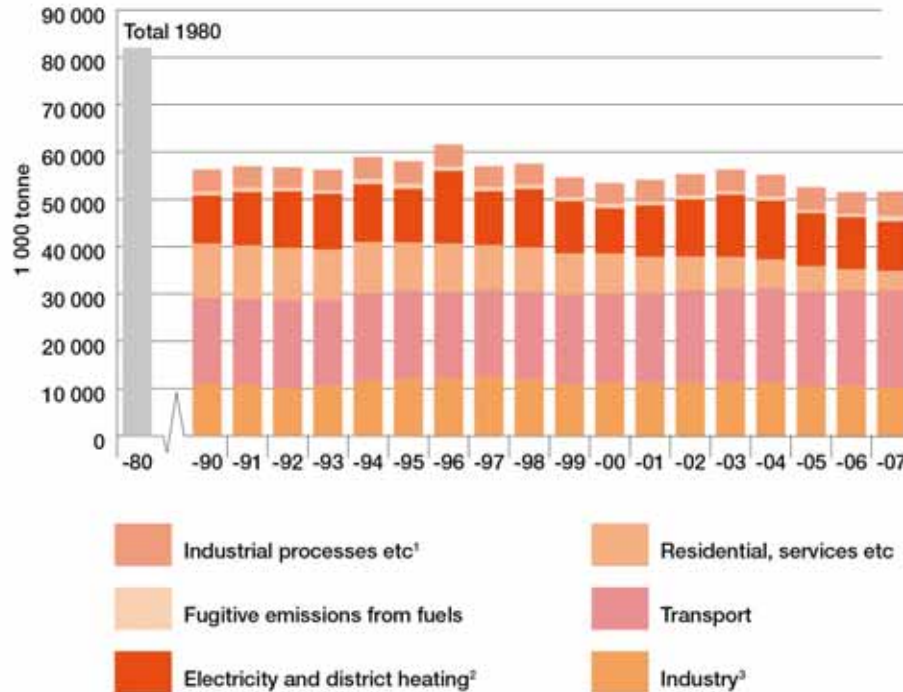


**Figur 2**

Carbon dioxide emissions in Sweden, 1980, 1990–2007

Source, 1980: Statistics Sweden, Statistical Notices, NA 18

Source, 1990–2007: Sweden's reporting to the UN Climate Convention, Sweden's National Inventory Report, 2009

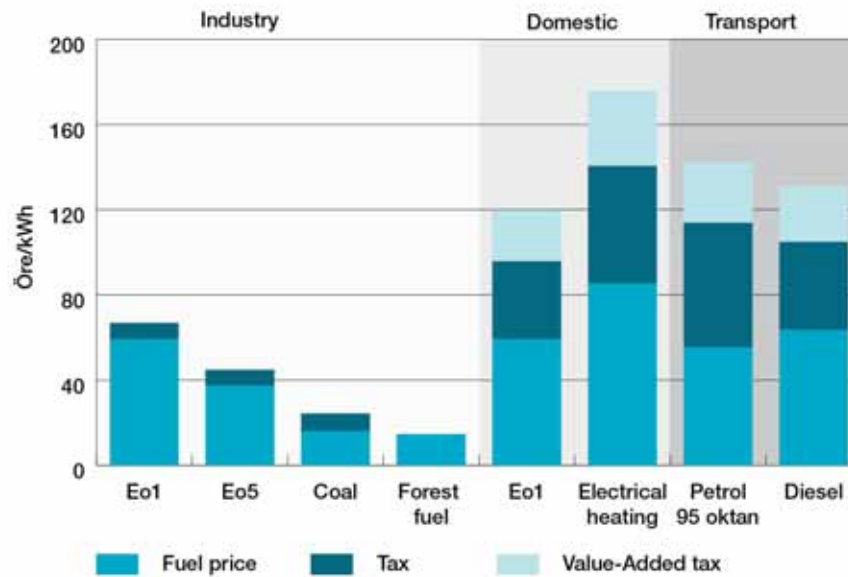


Notes: <sup>1</sup> Including industrial back-pressure generation. <sup>2</sup> Including coking plants and refineries. <sup>3</sup> Including solvents and own use of products.  
Details for all years have been revised, and differ from those shown in previous editions.

**Figure 3**

Total energy price for various user categories, 2008

Source: SPI, Statistics Sweden and the National Tax Board

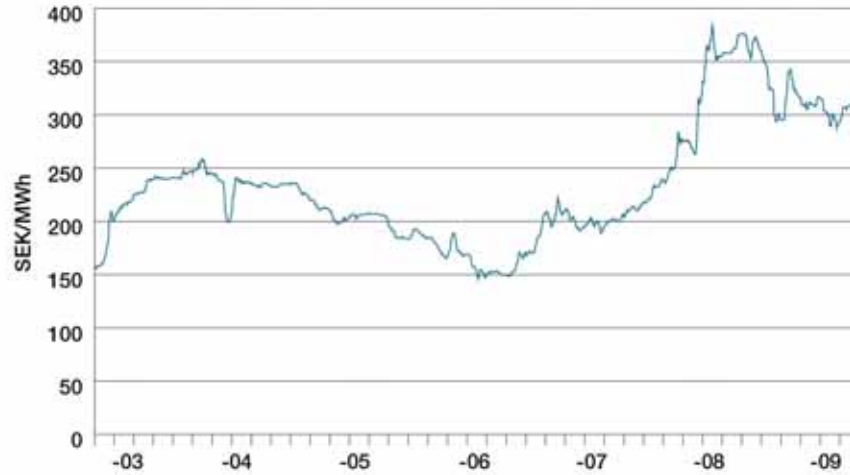


Note: Prices for industry do not include any volume discounts.

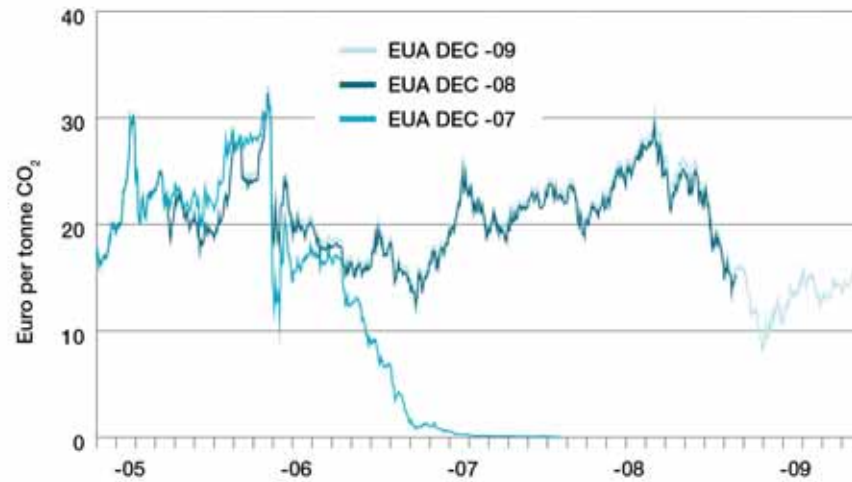
**Figure 4**

Average price of electricity certificates on the spot market, 2003–2009

Source: SKM, Svensk Kraftmäkling



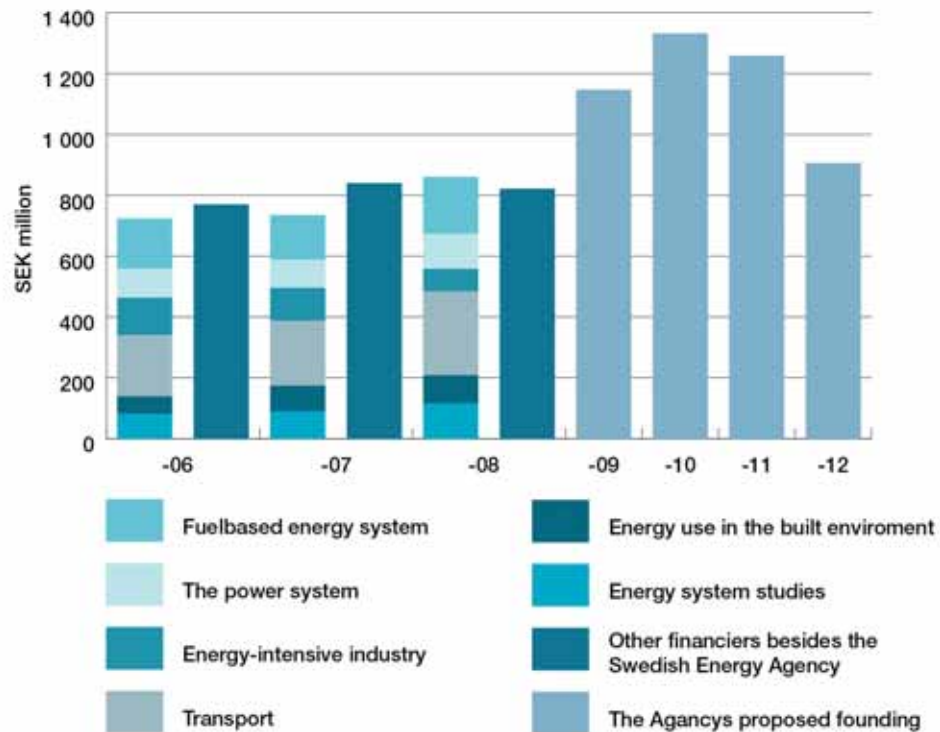
**Figure 5**  
Prices of emission allowances, 2005–2009  
Source: exc (www.climateexchange.com)



**Figure 6**

Funding for research, development and demonstration activities, 2006–2012

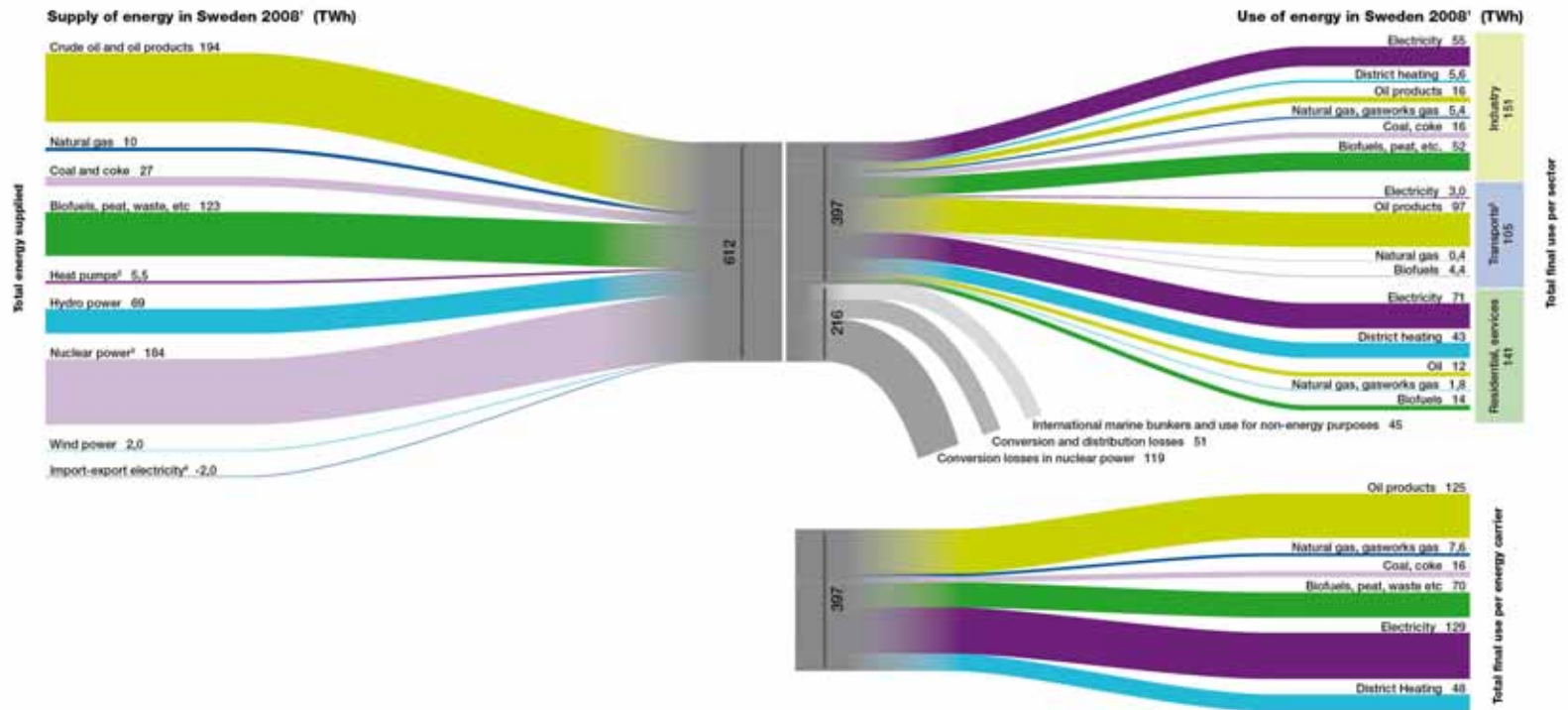
Source: Budget Bill 2009/10:1 Expenditure Area 21, Energy



Note: For 2006–2008, the figure refers to approved funding. For 2009, the figure shows proposed funding, while for 2010–2012 it is expected funding. The figures are therefore not strictly comparable between years.

**Figure 7**

Energy supply and use in Sweden, 2007, TWh  
 Source: Statistics Sweden and the Swedish Energy Agency.



<sup>1</sup> Preliminary statistics. Due to rounding of figures, there may be differences in the totals.

<sup>2</sup> These are large heat pumps in the energy sector. <sup>3</sup> Nuclear power is shown as gross power, i.e. as the nuclear fuel energy input, in accordance with the UN/ECE guidelines.

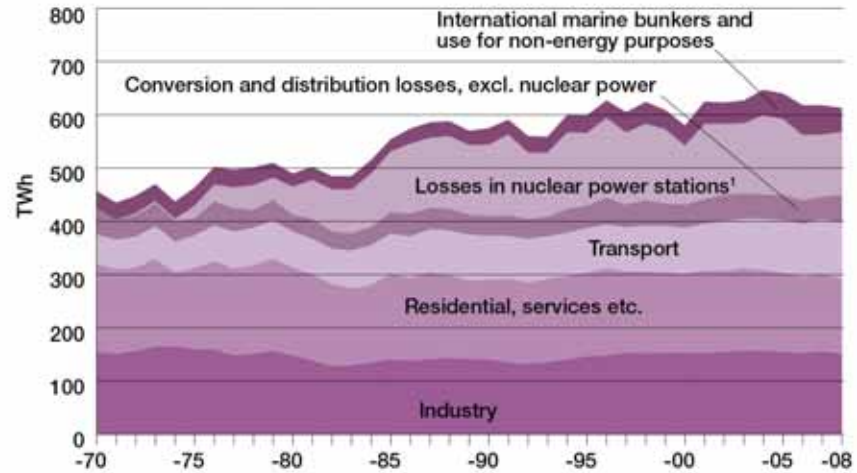
<sup>4</sup> Net import of electricity is treated as supply. <sup>5</sup> Includes foreign aviation, amounting to about 9 TWh in 2008.



**Figure 8**

Sweden's total energy use, 1970–2008

Source: Statistics Sweden and the Swedish Energy Agency.

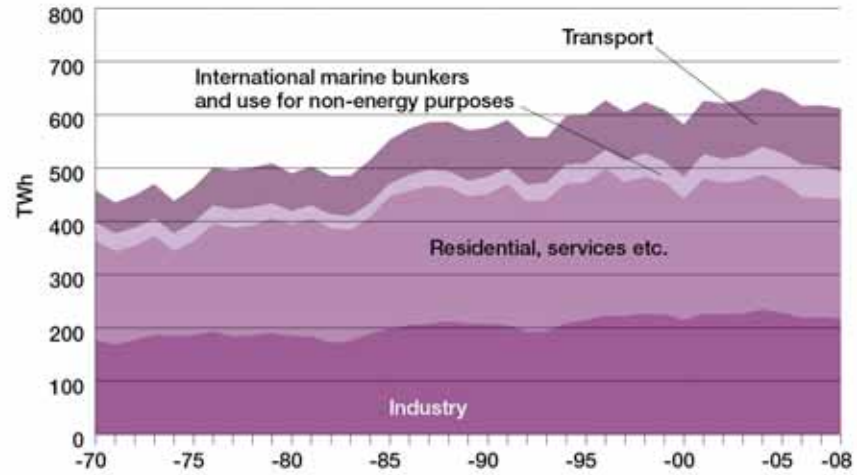


<sup>1</sup> Calculated in accordance with the UN/ECE method for energy supply from nuclear power.

**Figure 9**

Total energy use in Sweden, 1970–2008. Conversion losses in the production sector are apportioned to end users

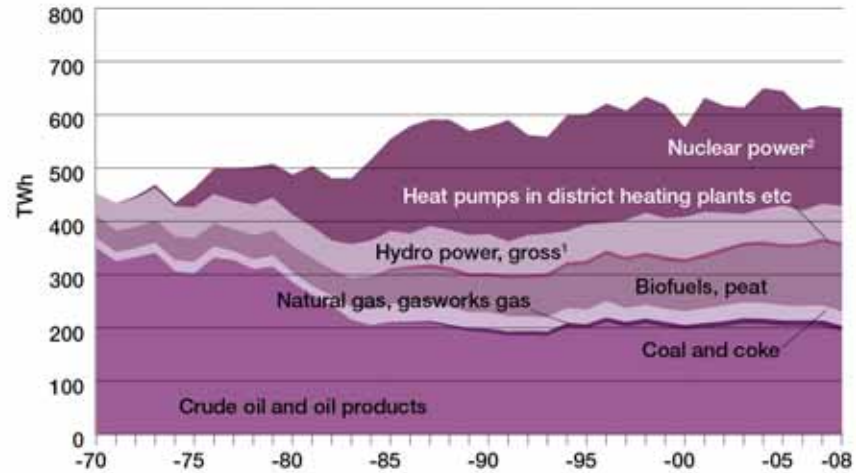
Source: Statistics Sweden and the Swedish Energy Agency



**Figure 10**

Total energy use in Sweden, 1970-2008, excluding net electricity exports

Source: Statistics Sweden and the Swedish Energy Agency

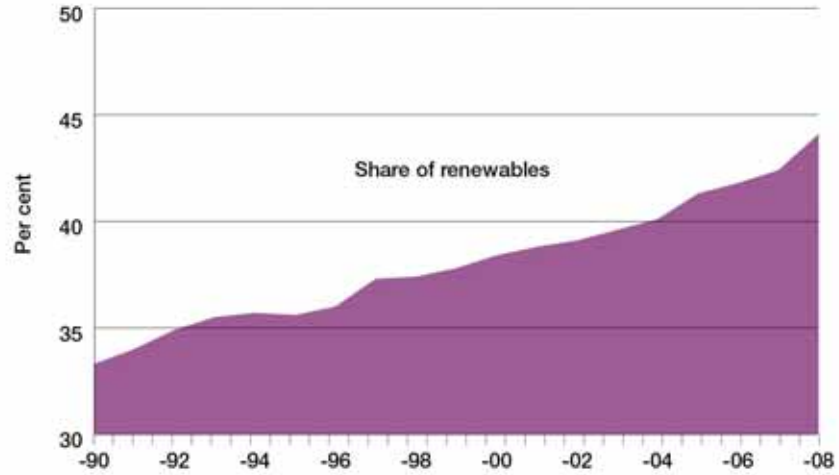


<sup>1</sup> Including wind power until 1996. <sup>2</sup> Calculated in accordance with the UN/ECE method for energy supply from nuclear power.

**Figure 11**

Sweden's total proportion of renewable energy sources, 1990–2008

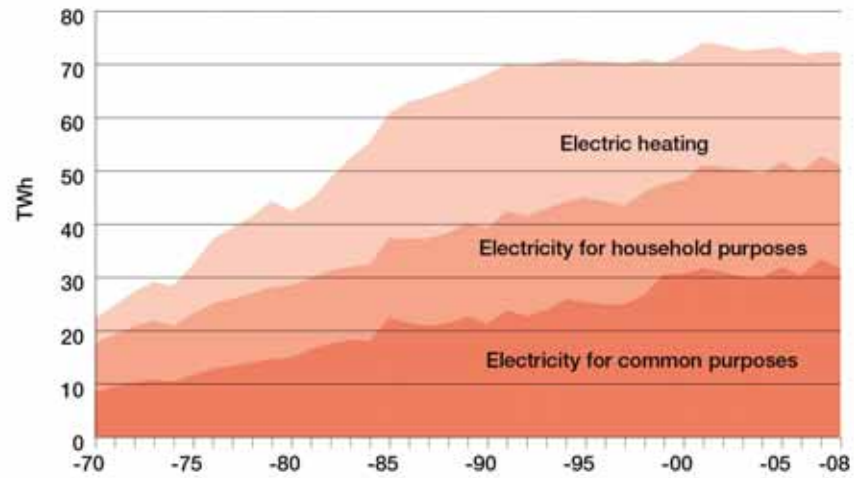
Source: Statistics Sweden and the Swedish Energy Agency



**Figure 12**

Electricity use in the residential and service sector, 1970–2008, corrected to a statistically average climate year

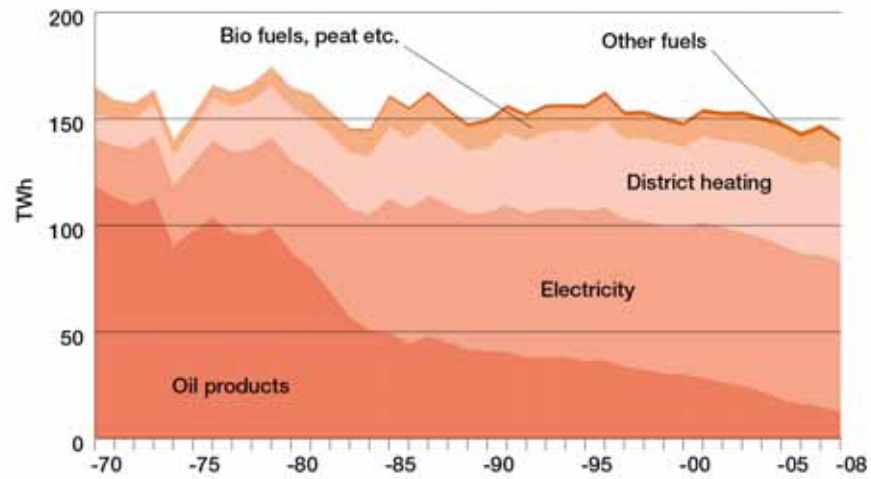
Source: Statistics Sweden and the Swedish Energy Agency



**Figure 13**

Final energy use in the residential and service sector, 1970–2008, corrected to a statistically average climate year

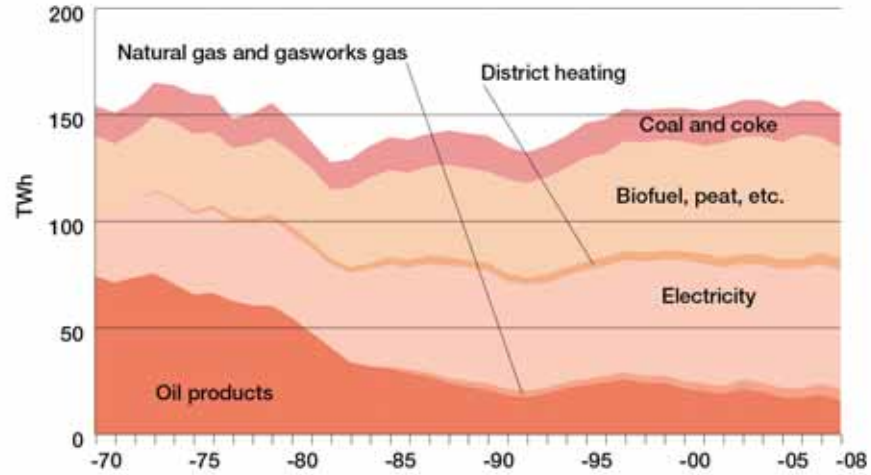
Source: Statistics Sweden and the Swedish Energy Agency



**Figure 14**

Final energy use in the industrial sector, 1970–2008

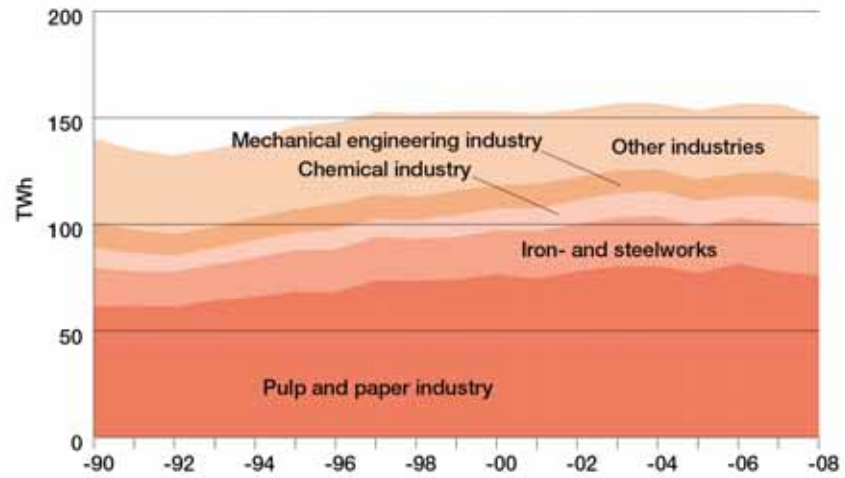
Source: Statistics Sweden and the Swedish Energy Agency



**Figure 15**

Energy use in industry, by sectors, 1990–2008

Source: Statistics Sweden and the Swedish Energy Agency

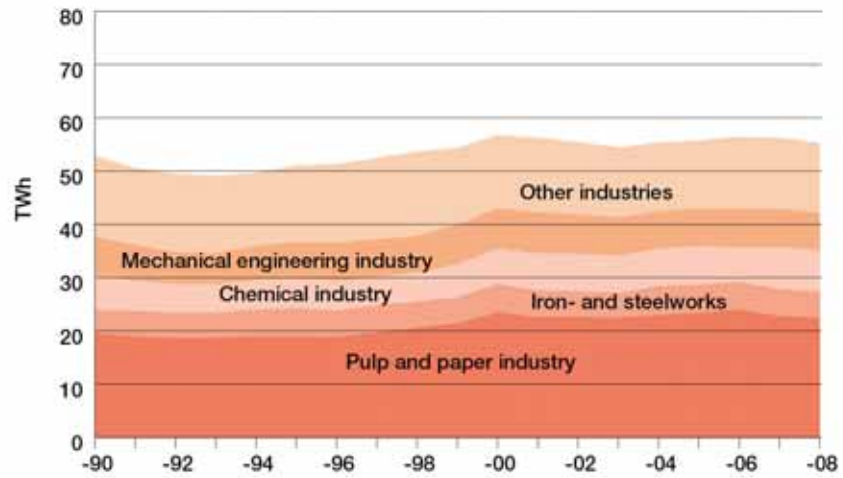




**Figure 16**

Electricity use in industry, by sectors, 1990–2008

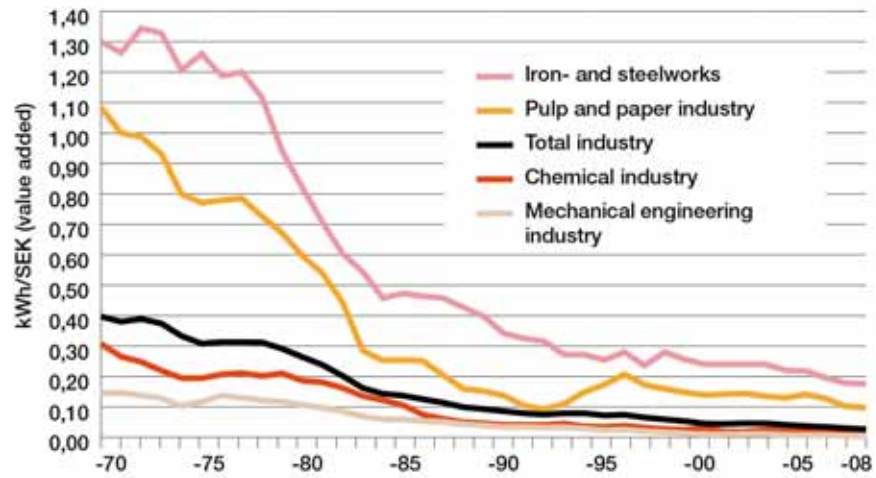
Source: Statistics Sweden and the Swedish Energy Agency



**Figure 17**

Specific use of oil in industry, 1970–2008, prices as of 2000

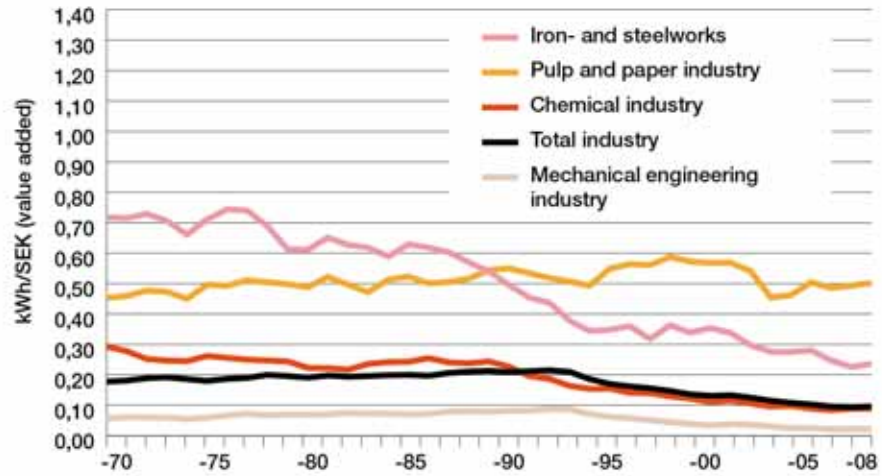
Source: Statistics Sweden and the Swedish Energy Agency



**Figure 18**

Specific use of electricity by industry, 1970–2008, prices as of 2000

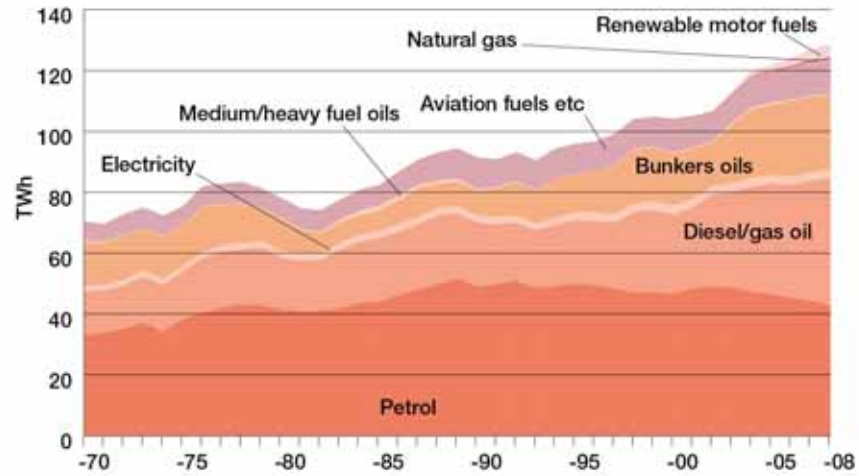
Source: Statistics Sweden and the Swedish Energy Agency



**Figure 19**

Final energy use in the transport sector, 1970–2008, including international marine bunkers

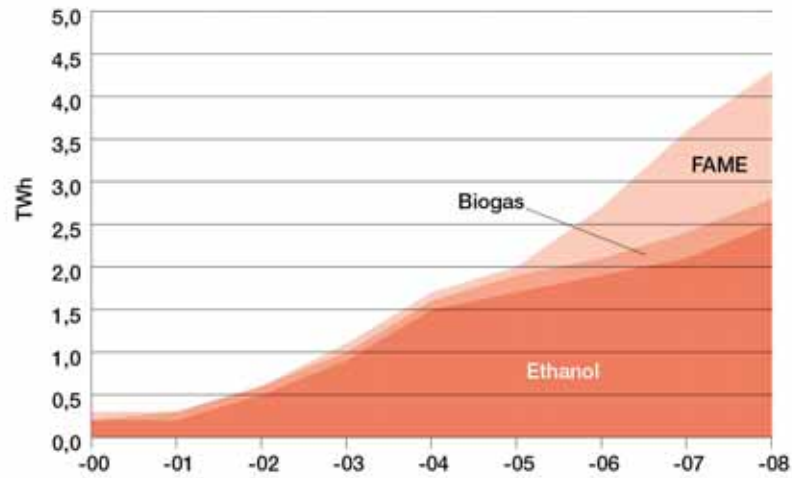
Source: Statistics Sweden, the Swedish Energy Agency and the Swedish Gas Association



**Figure 20**

Final energy use of renewable motor fuels, 2000–2008

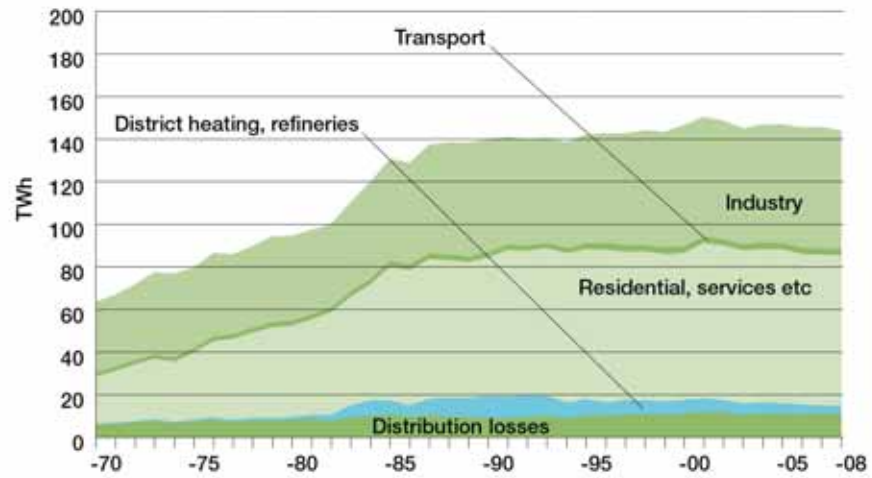
Source: Statistics Sweden, the Swedish Energy Agency and the Swedish Gas Association



**Figure 21**

Electricity use in Sweden, by sectors, 1970–2008

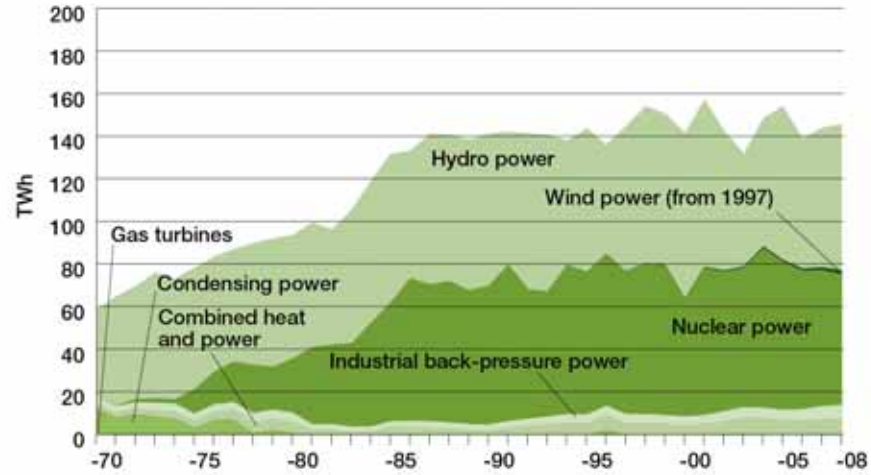
Source: Statistics Sweden and the Swedish Energy Agency



**Figure 22**

Electricity production in Sweden, by types of production plant, 1970–2008

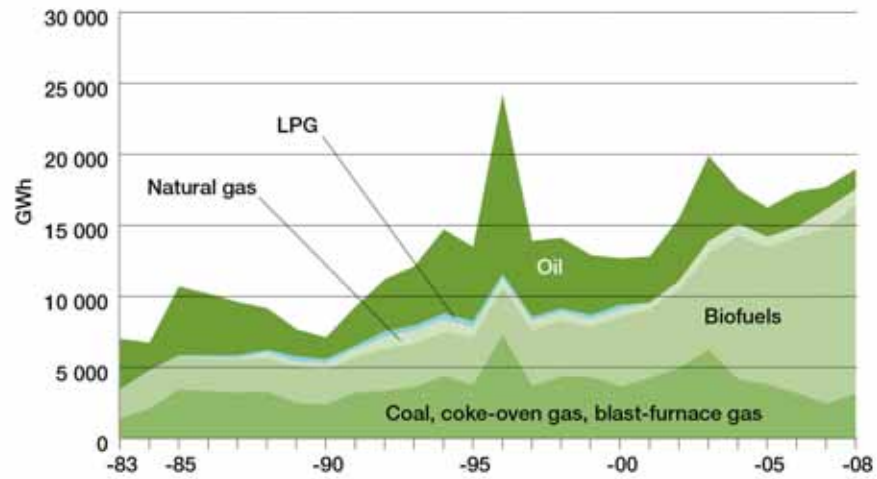
Source: Statistics Sweden and the Swedish Energy Agency



**Figure 23**

Fuel input for electricity production (excluding nuclear fuel), 1983–2008

Source: Statistics Sweden and the Swedish Energy Agency

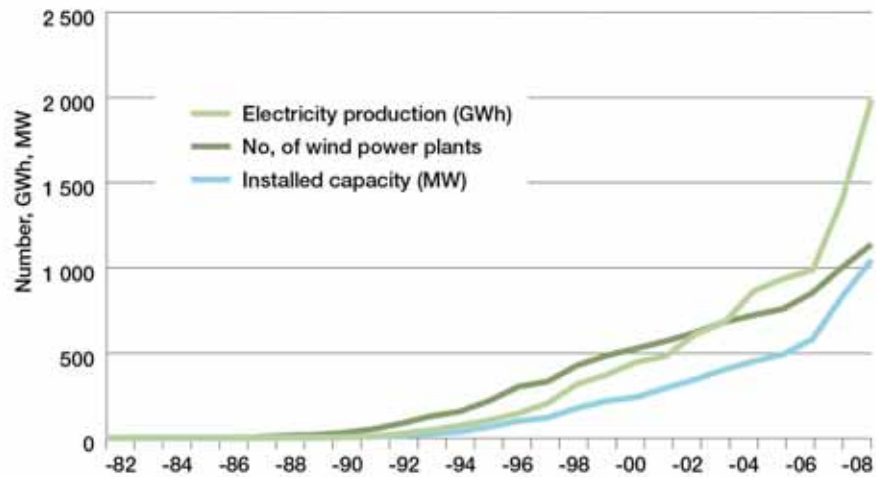




**Figure 24**

Wind power production, 1982–2008

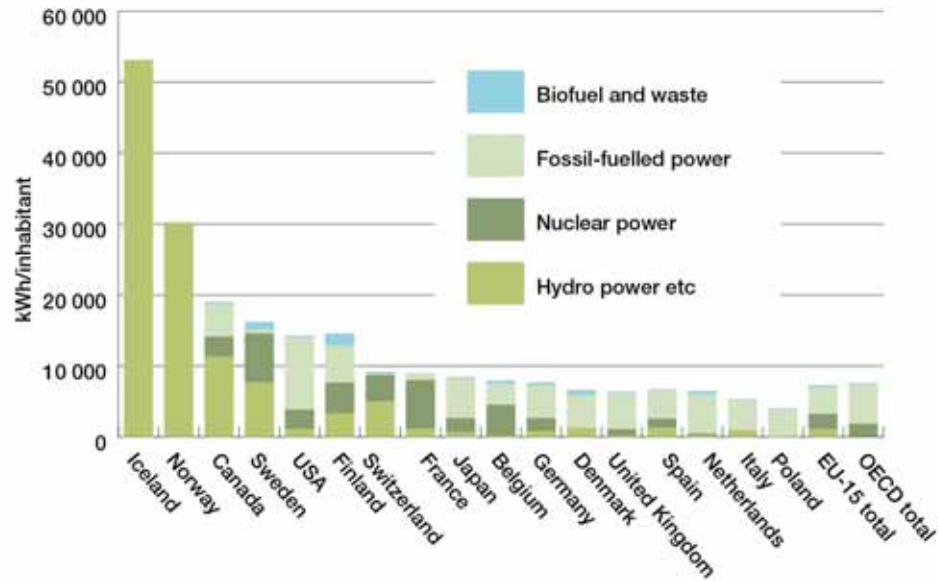
Source: Elforsk and the Swedish Energy Agency's Annual Report on the Electricity Certificate System



**Figure 25**

Per-capita electricity production, by types of production, 2008

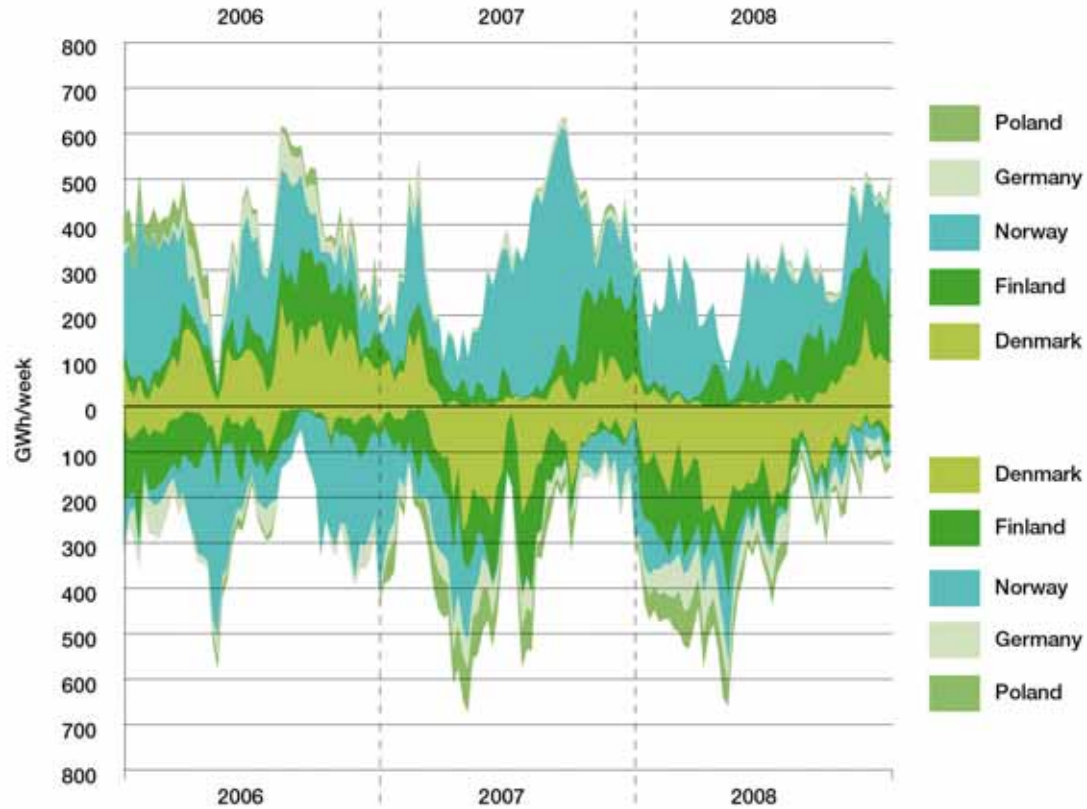
Source: Electricity Information, 2009 IEA/OECD



**Figure 26**

Swedish electricity import (+) and export (-), January 2006–December 2008

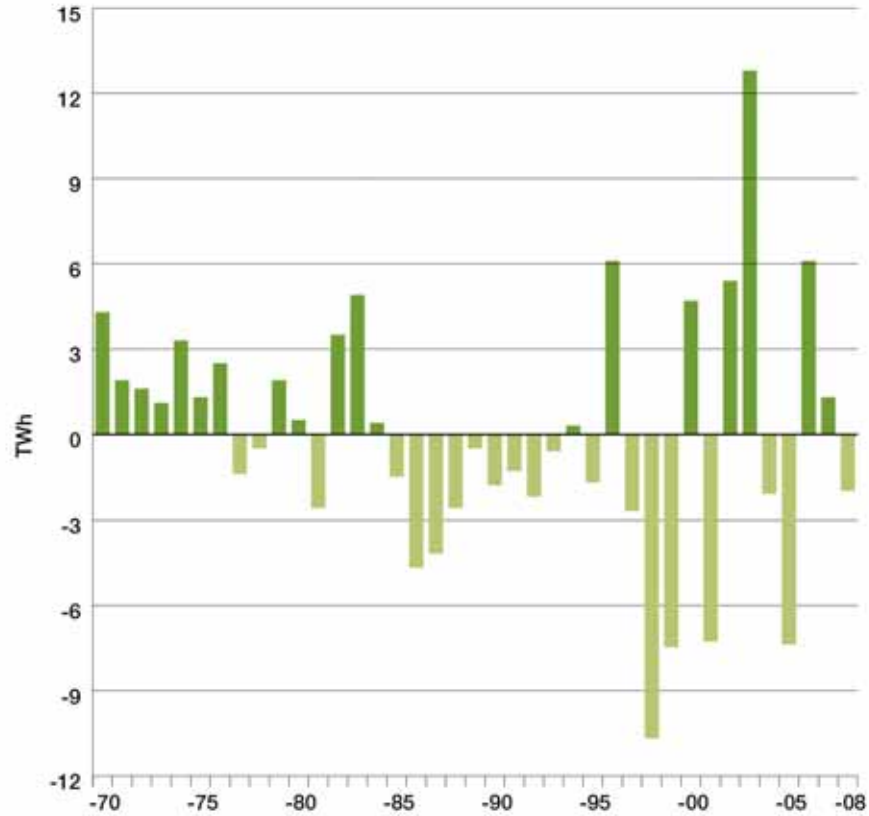
Source: Swedenergy and the Swedish Energy Agency



**Figure 27**

Sweden's net import (+) and net export (-) of electricity, 1970–2008

Source: Statistics Sweden and the Swedish Energy Agency



**Figure 28**

Spot prices on Nord Pool. Monthly and annual average prices for the system and for Sweden, January 1996–May 2009

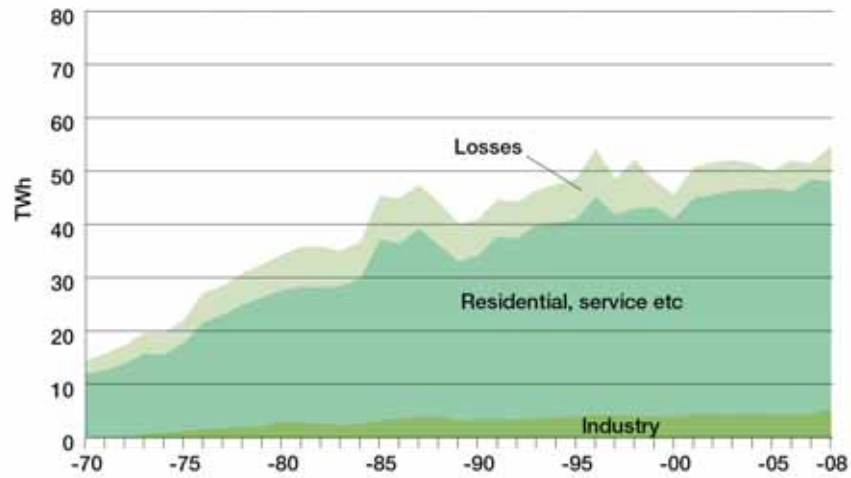
Source: Nord Pool, FTP Server



**Figure 29**

District heating use, 1970–2008

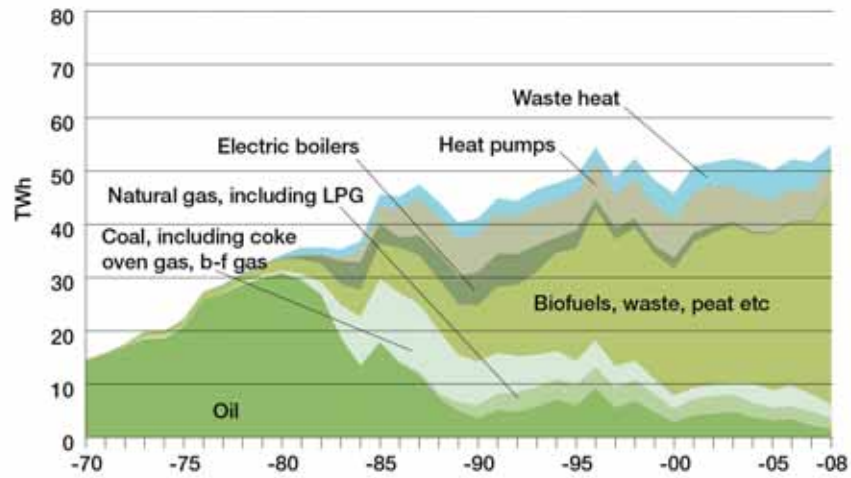
Source: Statistics Sweden and the Swedish Energy Agency



**Figure 30**

Energy input to district heating systems, 1970–2008

Source: Statistics Sweden and the Swedish Energy Agency



**Figure 31**

District cooling supplied, 1993–2008

Source: Swedish District Heating Association

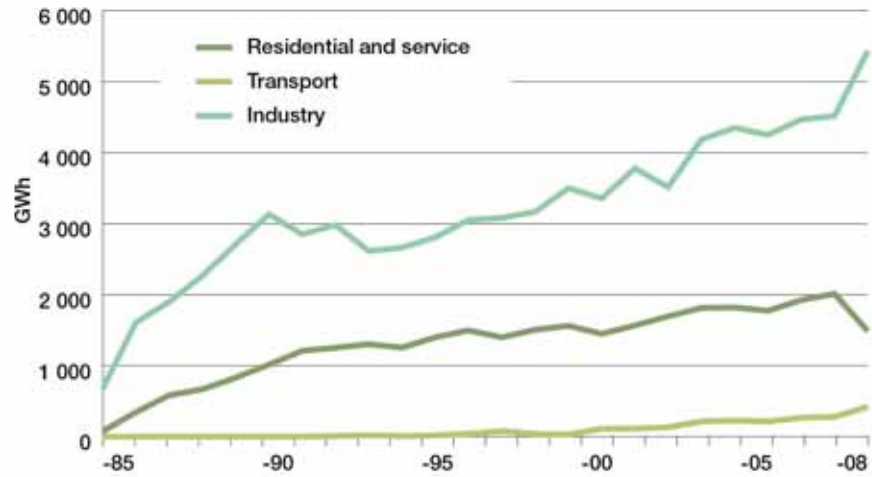




**Figure 32**

End use of natural gas in Sweden, 1985–2008, by sectors, GWh

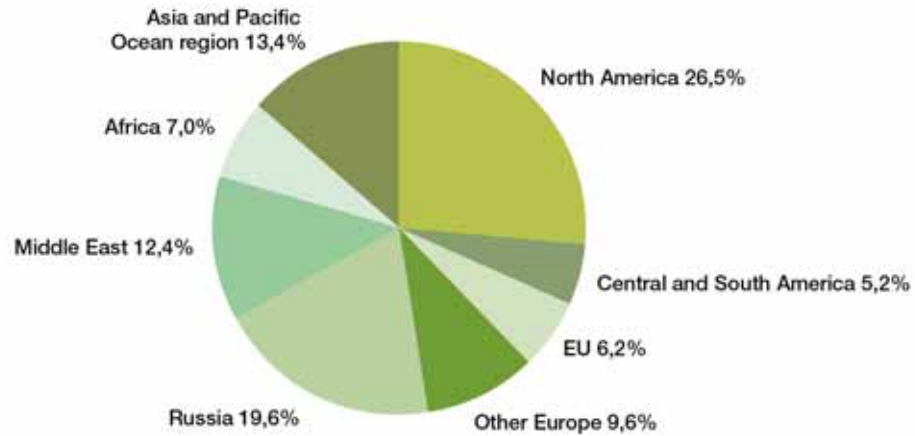
Source: Statistics Sweden and the Swedish Energy Agency



**Figure 33**

World natural gas production in 2008, total: 3 066 thousand million m<sup>3</sup>

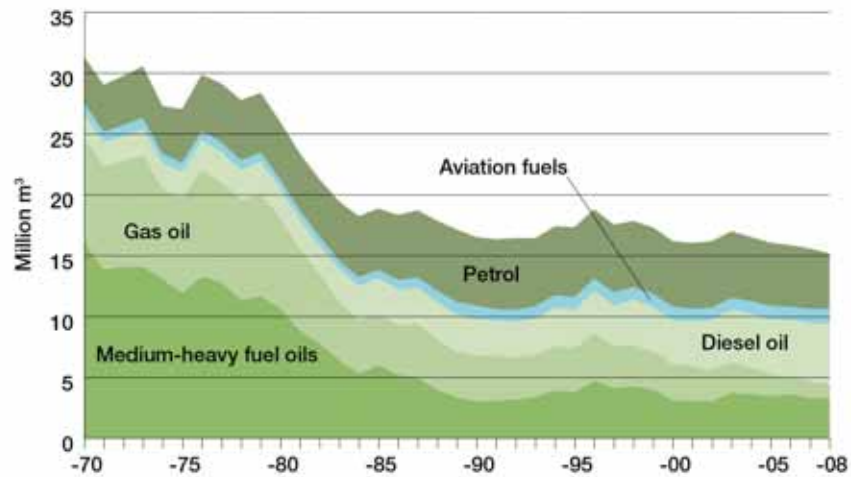
Source: Statistical Review Of World Energy 2009



**Figure 34**

Use of oil products in Sweden, including international marine bunkers,  
1970–2008

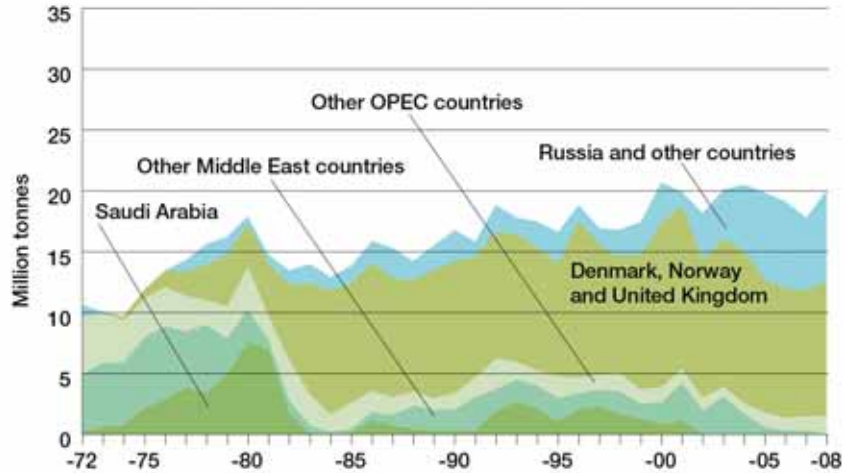
Source: Statistics Sweden and the Swedish Energy Agency



**Figure 35**

Swedish net imports of crude oil and oil products, by country of origin, 1972–2008

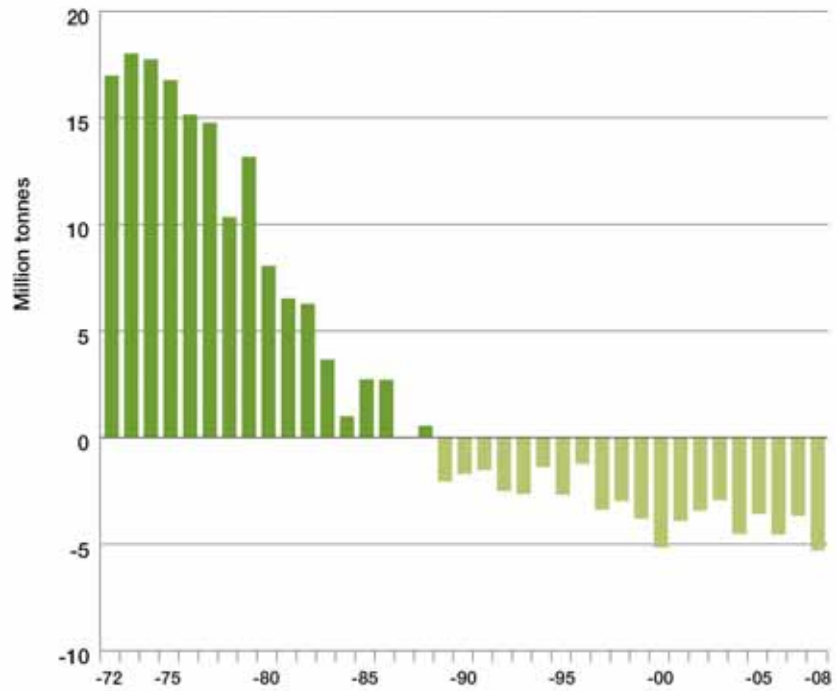
Source: Statistics Sweden and the Swedish Energy Agency



**Figure 36**

Net imports (+) and exports (-) of refinery products, 1972-2008

Source: Statistics Sweden and the Swedish Energy Agency



**Figure 37**

Nominal and real prices of light crude, 1970–2008, USD/barrel

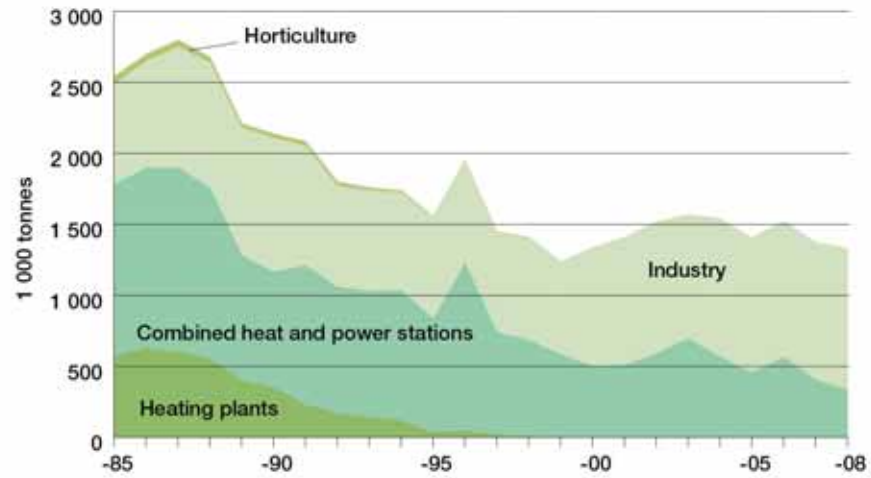
Source: www.bp.com and the World Bank



**Figure 38**

Use of energy coal in Sweden, 1985–2008

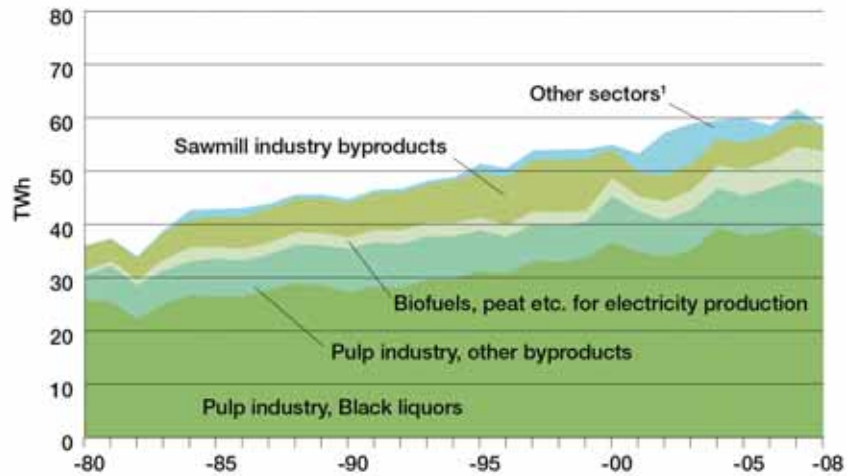
Source: Statistics Sweden and the Swedish Energy Agency.



**Figure 39**

Use of biofuels, peat etc. in industry, 1980–2008

Source: Statistics Sweden and the Swedish Energy Agency.



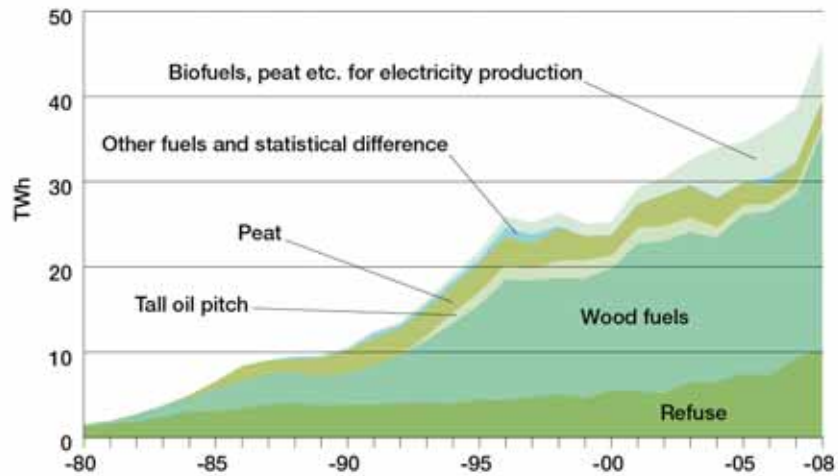
Note. The statistics for 2008 are preliminary and should be treated with considerable care: see "Uncertainties in the 2008 statistics".



**Figure 40**

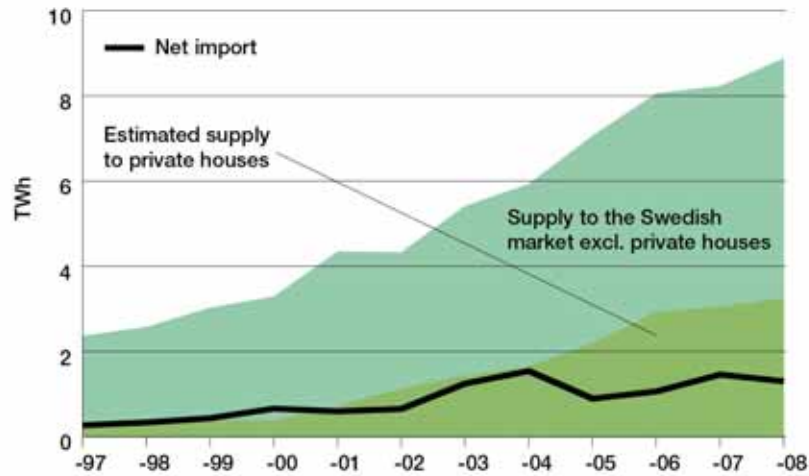
Use of biofuels, peat etc. in district heating plants, 1980–2008

Source: Statistics Sweden and the Swedish Energy Agency.



Note. The statistics for 2008 are preliminary and should be treated with considerable care: see "Uncertainties in the 2008 statistics".

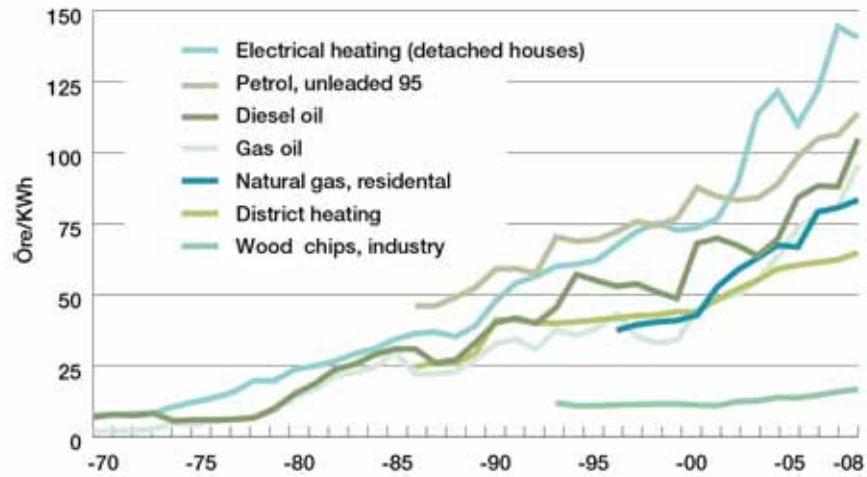
**Figure 41**  
Deliveries of pellets to the Swedish market, 1997–2008  
Source: The Swedish Pellet Association (PIR)



**Figure 42**

Actual energy prices in Sweden, including tax, 1970–2008

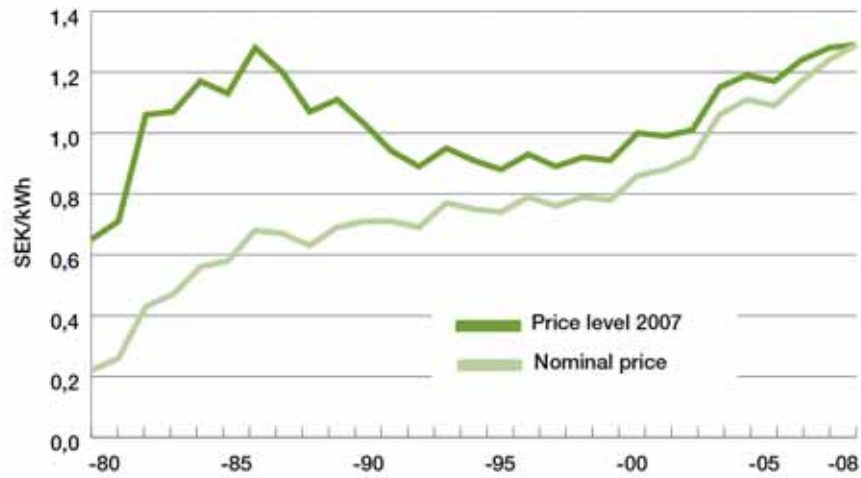
Source: SPI, Statistics Sweden, Swedish Energy Agency and Eurostat



**Figure 43**

Price development of purchased energy (2008 price level), 1980–2008

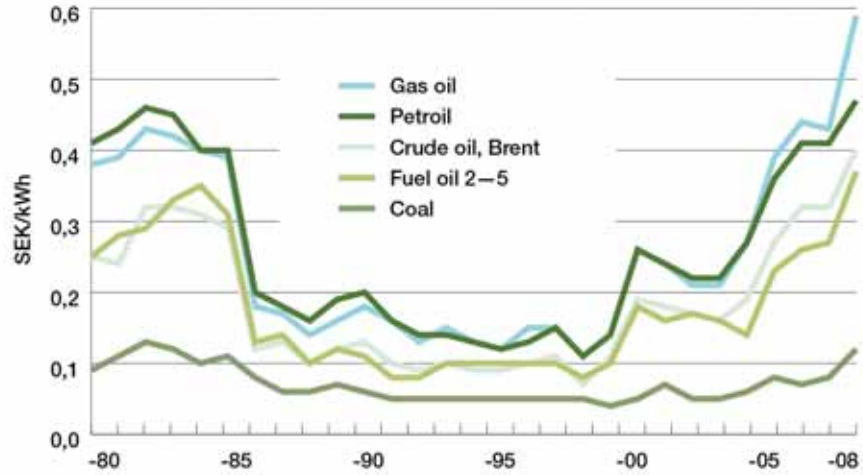
Source: Statistics Sweden, Bank of Sweden and IEA, Energy Prices and Taxes



**Figure 44**

Import prices of fossil energy (weighted annual average), 1980–2008

Source: Statistics Sweden, Bank of Sweden and IEA, Energy Prices and Taxes



**Figure 45**

Real price of electricity (2008 price level), 1980–2008

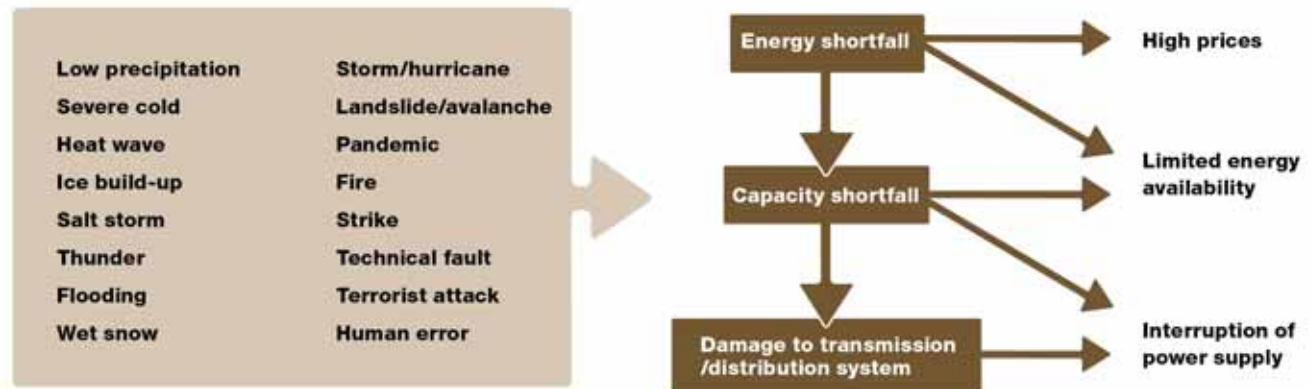
Source: Statistics Sweden, Bank of Sweden and Nordpool



Note: The price of electricity for domestic and industrial users has been weighted in proportion to the respective sectors' proportions.

**Figure 46**

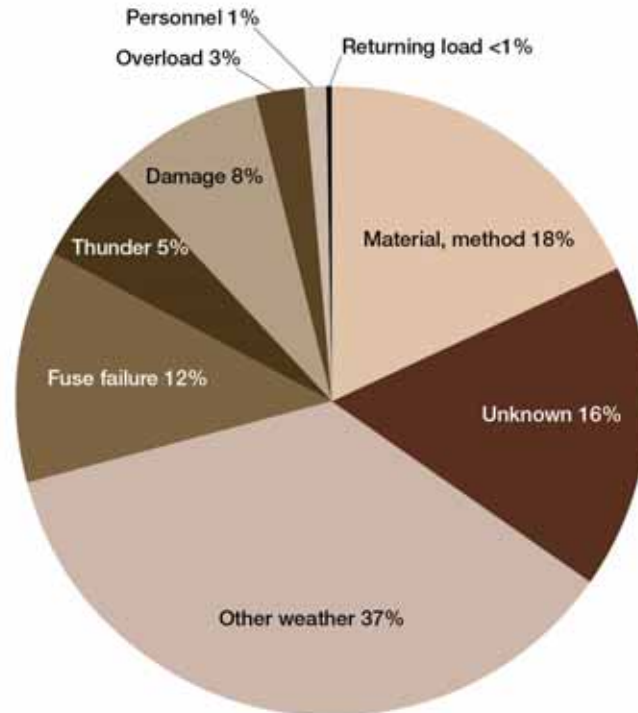
Cause and effect relationships between events, and consequences for end users



**Figure 47**

Causes of power failures in Sweden, 2007

Source: Operational problems and power failure statistics, DARWin



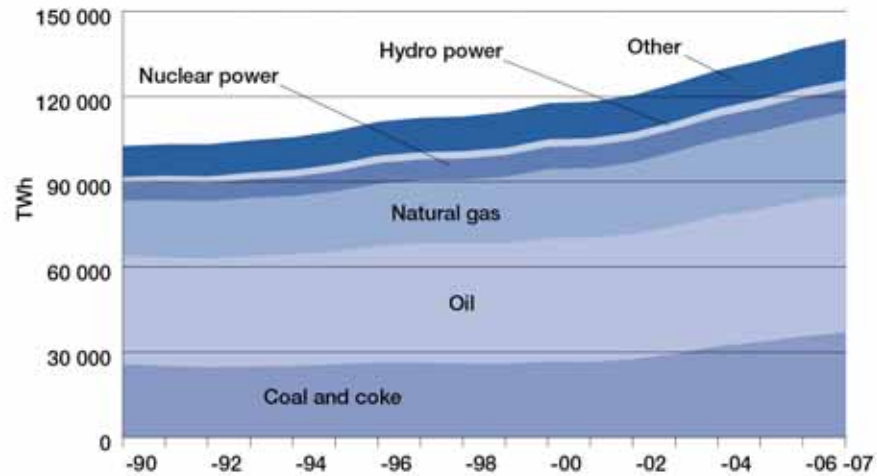
Note: The diagram includes only power failures lasting for more than three minutes.



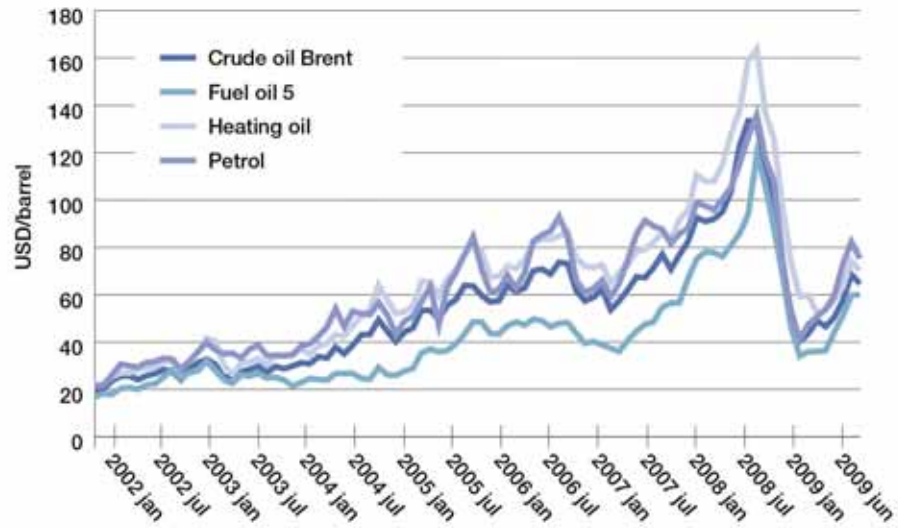
**Figure 48**

Global primary energy supply, 1990–2007

Source: IEA, Energy Balances of non-OECD Countries, 2009; IEA, Energy Balances of OECD Countries, 2009, and BP Statistical Review of World Energy, 2009



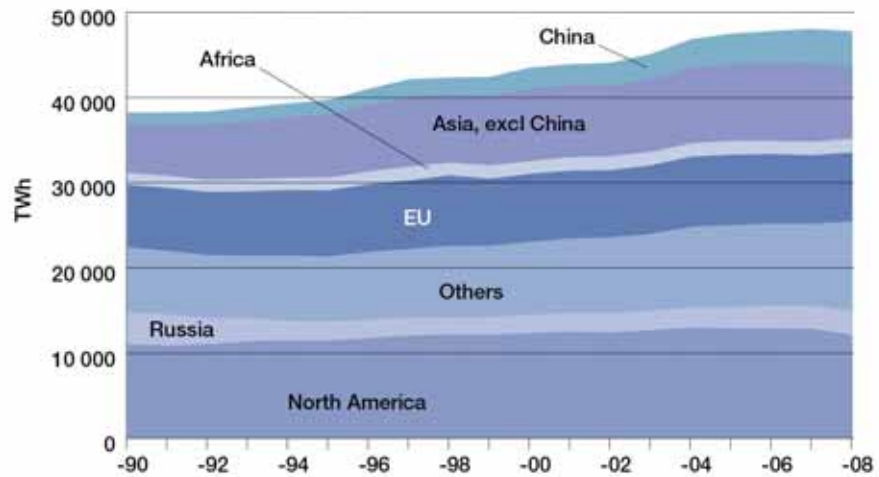
**Figure 49**  
Oil prices in Europe, 2002–June 2009  
Source: IEA Oil Market Report



**Figure 50**

World use of oil, 1990–2008

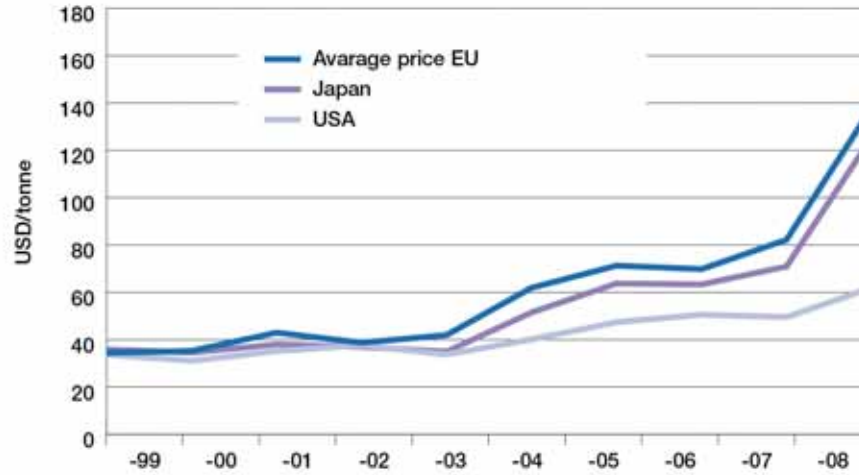
Source: IEA, Energy Balances of non-OECD Countries, 2009; IEA, Energy Balances of OECD Countries, 2009, and BP Statistical Review of World Energy, 2009



**Figure 51**

Coal prices in the EU, USA and Japan, 1999–2008

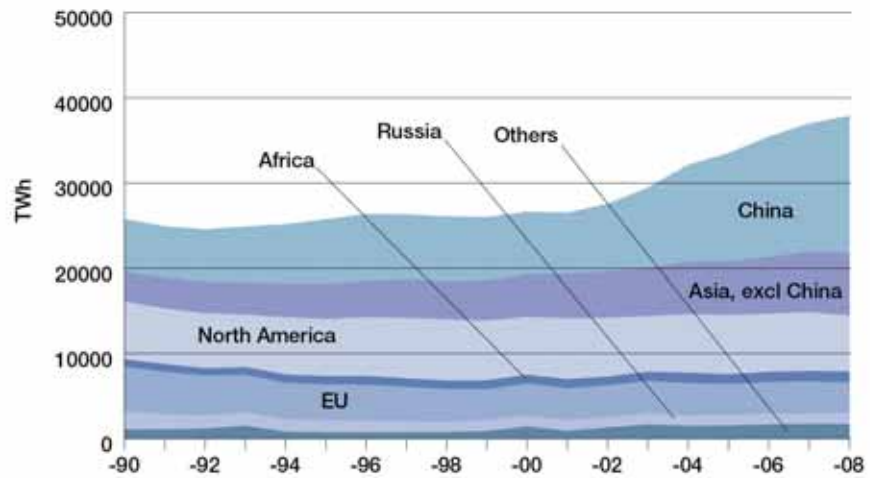
Source: IEA Energy Prices & Taxes, Quarterly Statistics, Second Quarter 2009



**Figure 52**

World use of coal, 1990–2008

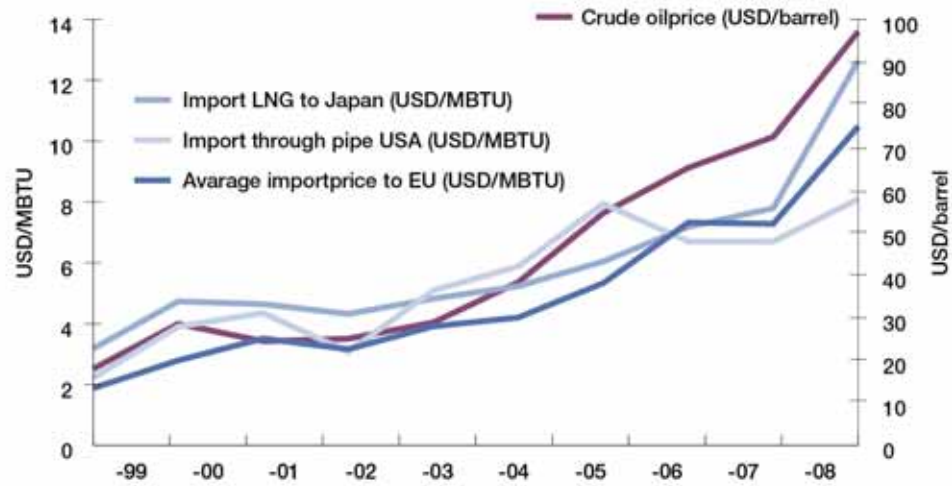
Source: IEA, Energy Balances of non-OECD Countries, 2009; IEA, Energy Balances of OECD Countries, 2009, and BP Statistical Review of World Energy, 2009



**Figure 53**

Import prices of natural gas and crude oil, 1999-2008

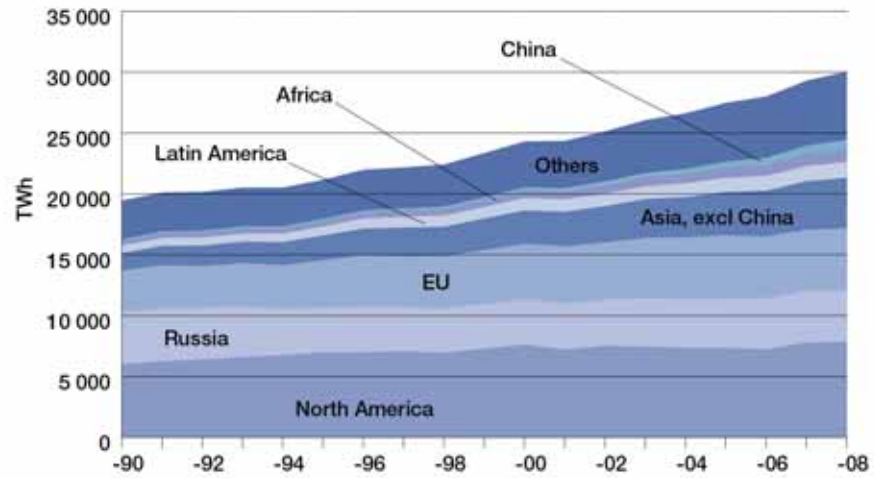
Source: IEA Energy Prices & Taxes, Quarterly Statistics, Second Quarter 2009



**Figure 54**

World use of gas, 1990–2008

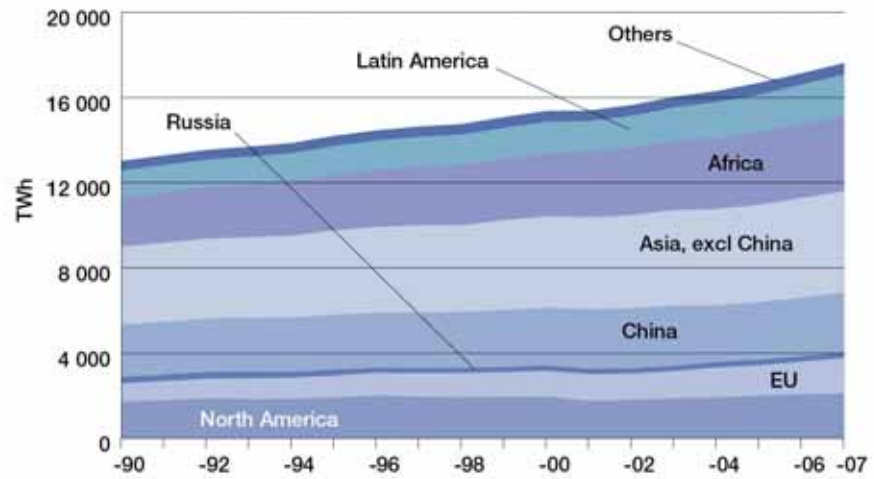
Source: IEA, Energy Balances of non-OECD Countries, 2009; IEA, Energy Balances of OECD Countries, 2009, and BP Statistical Review of World Energy, 2009



**Figure 55**

World use of renewable energy, 1990–2007

Source: IEA, Energy Balances of non-OECD Countries, 2009; IEA, Energy Balances of OECD Countries, 2009

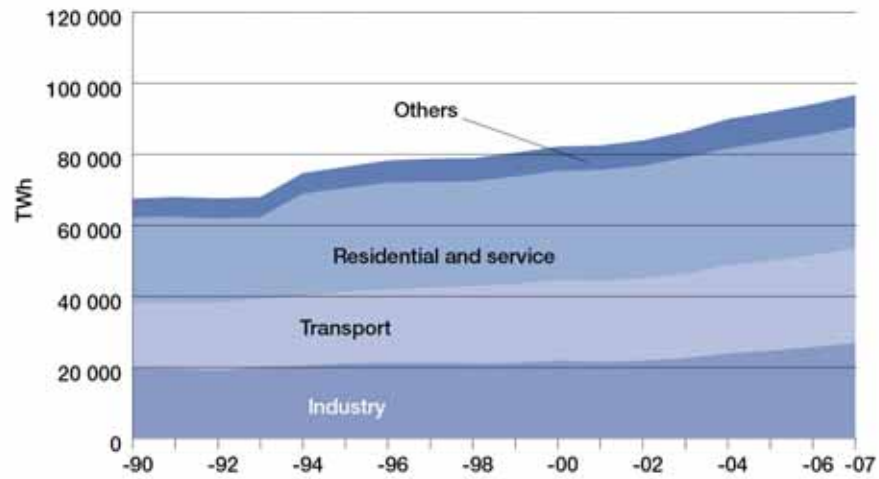




**Figure 56**

World energy use, by sectors, 1990–2007

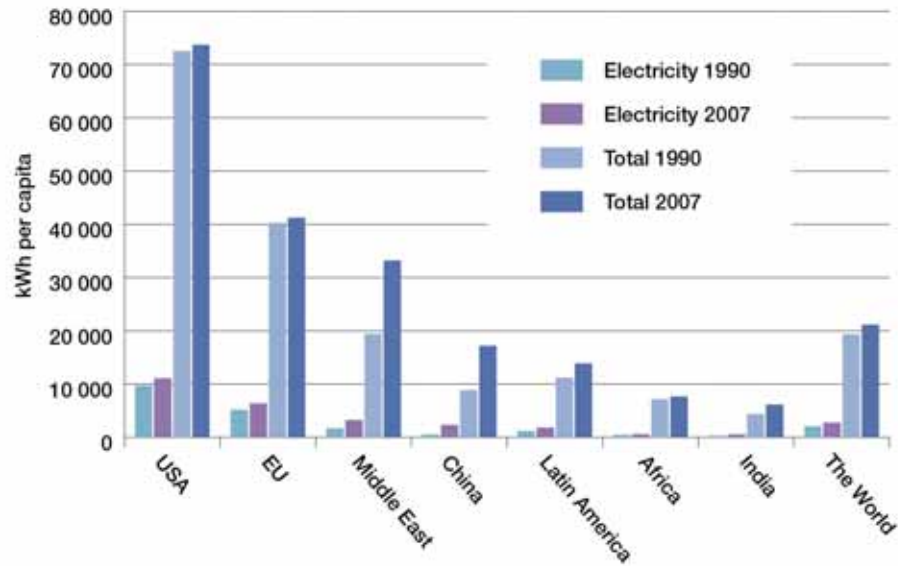
Source: IEA, Energy Balances of non-OECD Countries, 2009



**Figure 57**

Regional per-capita energy use, 1990 and 2007

Source: IEA, Energy Balances of non-OECD Countries, 2009; IEA, Energy Balances of OECD Countries, 2009, and BP Statistical Review of World Energy, 2009

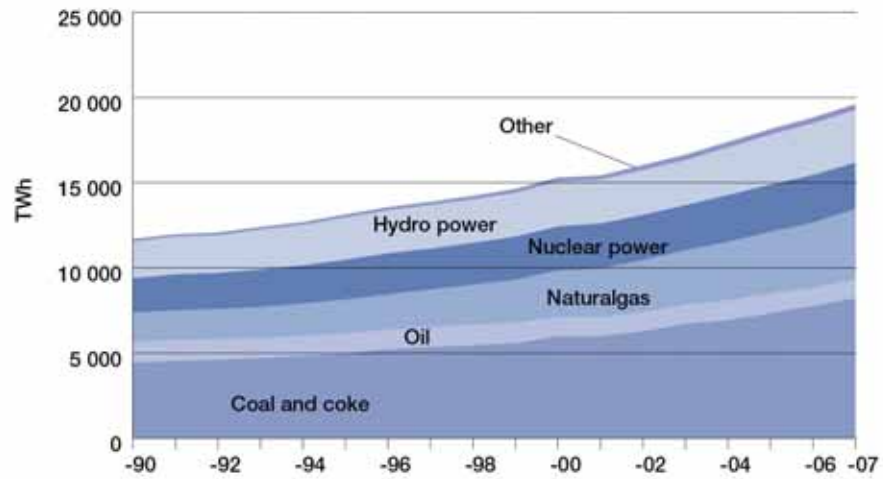


Note: These statistics, which are taken from the IEA, are being extensively revised. Historical values may be changed by up to 5 % from one year to another, and should therefore be regarded with caution. However, they do indicate approximate quantities and relationships between countries.

**Figure 58**

World electricity production, by type of plant, 1990–2007

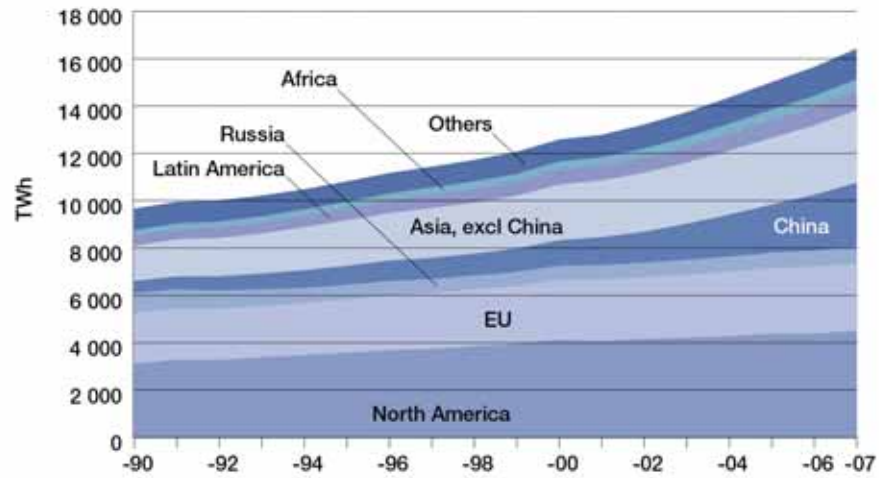
Source: IEA, Energy Balances of non-OECD Countries, 2009; IEA, Energy Balances of OECD Countries, 2009



**Figure 59**

Regional electricity use, 1990–2007

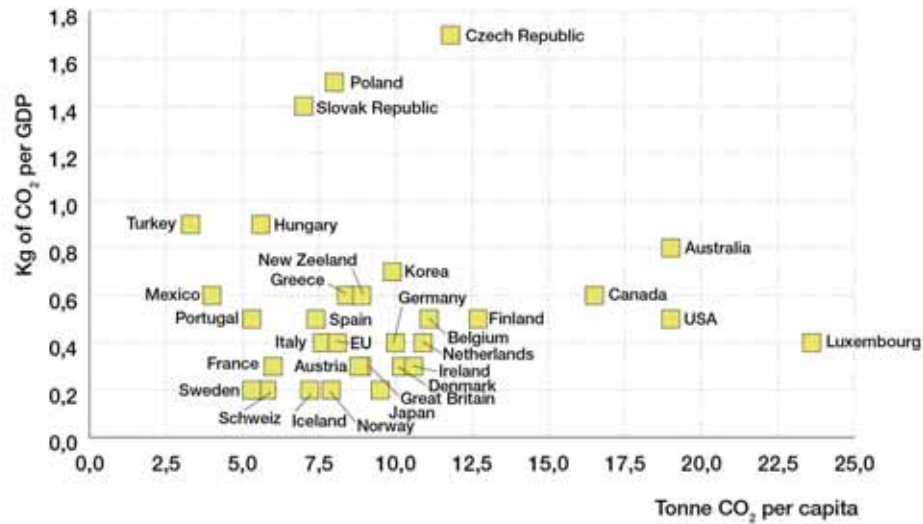
Source: IEA, Energy Balances of non-OECD Countries, 2009; IEA, Energy Balances of OECD Countries, 2009



**Figure 60**

Per-capita and per-GDP emissions of carbon dioxide from combustion in EU and OECD countries in 2006

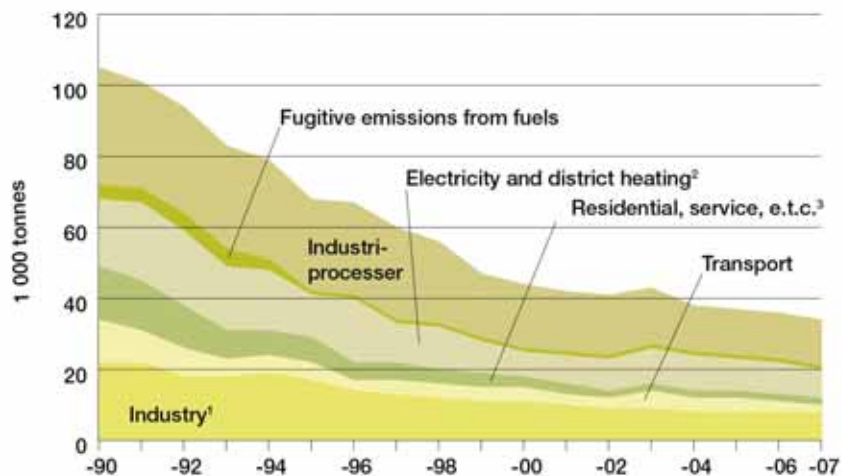
Source: OECD In Figures, 2008 Edition



**Figure 61**

Sulphur dioxide emissions in Sweden, 1990–2007

Source: Sweden's report to the UN Air Pollution Convention, Swedish Environmental Protection Agency, 2009. Additional processing by the Swedish Energy Agency.



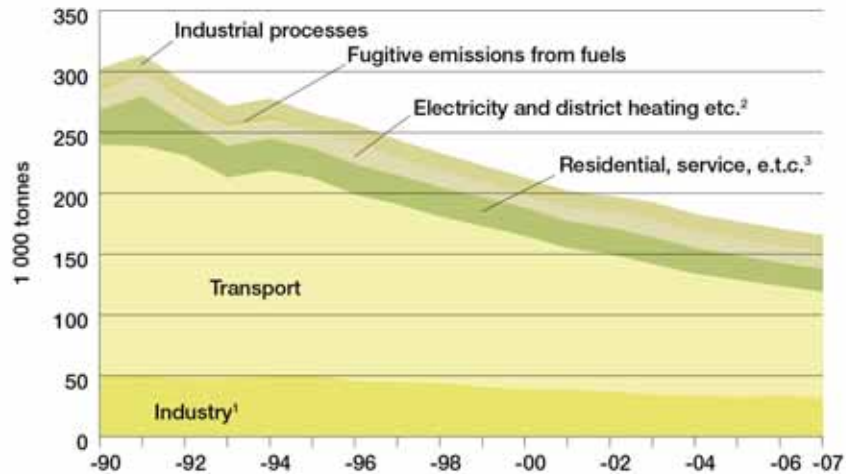
Note: The method of calculation for emissions to air has been reviewed by the Swedish Environmental Protection Agency and by Statistics Sweden. Figures for all years have been revised in comparison with those shown in the previous issue of Energy in Sweden.

<sup>1</sup> Includes industrial back-pressure production and waste incineration. <sup>2</sup> Includes coking plants and oil refineries. <sup>3</sup> Includes agriculture, forestry and fishing.

**Figure 62**

NOx emissions in Sweden, 1990–2007

Source: Sweden's report to the UN Air Pollution Convention, Swedish Environmental Protection Agency, 2009. Additional processing by the Swedish Energy Agency.



Note: The method of calculation for emissions to air has been reviewed by the Swedish Environmental Protection Agency and by Statistics Sweden. Figures for all years have been revised in comparison with those shown in the previous issue of Energy in Sweden.

<sup>1</sup> Includes industrial back-pressure production and waste incineration. <sup>2</sup> Includes coking plants and oil refineries. <sup>3</sup> Includes agriculture, forestry and fishing.