Energy in Sweden 2006

OH-pictures, figure 1-60













Figure 3: Carbon dioxide emissions in Sweden, 1980, 1990–2004





SOURCE, 1980: STATISTICS SWEDEN, STATISTICAL NOTICES NO. 18. SOURCE, 1990–2004: SWEDEN'S REPORT TO THE UN CLIMATE CONVENTION, SWEDEN'S NATIONAL INVENTORY REPORT 2006.

Note: ¹ including industrial back-pressure power production, ² including coking plants and refineries, ³ including the use of solvents and products.

Figure 4: End-user prices of fuels for various customer categories in 2005, öre/kWh





SOURCE: SPI, STATISTICS SWEDEN, NATIONAL TAX BOARD, SWEDISH ENERGY AGENCY'S PROCESSING

Note: Prices for industry are given without consideration to any occurring bulk rebates. The share of taxes are given within brackets.

Figure 5: Quota obligation requirement in the electricity certificate system, 2003–2016. (As decided by Parliament, 2006)





SOURCE: THE ACT (2003:113) CONCERNING ELECTRICITY CERTIFICATES

Figure 6: Funding for research, development and demonstration activities



SOURCES: THE SWEDISH ENERGY AGENCY'S ANNUAL REPORT 2005, OFFICIAL DOCUMENT PLACING APPROPRIATIONS AT THE DISPOSAL OF THE SWEDISH ENERGY AGENCY FOR EXPENDITURE AREA 21, ENERGY, FOR BUDGET YEAR 2006, AND BUDGET BILL 2005/06:1



Note: For 2002–2005, the figure refers to approved funding. For 2006 the figure shows appropriations and for 2007 proposed appropriation. The information given is thus not directly comparable between the years.







¹ Preliminary statistics. Due to rounding of figures there may be differences in the totals.

² Heat pumps are large heat pumps as used in the energy sector. Input energy for the energy system relates to heat production, 6.1 TWh. Heat collected from the surroundings amounted to over 4.3 TWh, with 1.8 TWh of electrical drive

energy input. ³ Nuclear power energy quantities are gross, i.e. as gross fuel energy in accordance with UN/ECE guidelines ⁴ Net import of electricity is treated as supply.



Figure 8: Total energy use in Sweden, 1970–2005





SOURCE: STATISTICS SWEDEN; ADDITIONAL PROCESSING BY THE SWEDISH ENERGY AGENCY

Note: 1Calculated in accordance with the UN/ECE method for energy supply from nuclear power.

Figure 9: Sweden's total energy use in various user sectors, 1970–2005, with the conversion sector losses apportioned to the end–users





Figure 10: Energy supply in Sweden, 1970–2005, excluding net electricity export





SOURCE: STATISTICS SWEDEN; ADDITIONAL PROCESSING BY THE SWEDISH ENERGY AGENCY

Figure 11: Final energy use in the residential and service sector, 1970–2005





Figure 12: Electricity use in the residential and service sector, 1970–2005, after correction to statistically average climate conditions











Figure 14: Specific use of oil in industry, 1970–2005, 1991 price levels





Figure 15: Specific use of electricity in industry, 1970–2005, 1991 price levels



Swedish Energy Agency





Swedish Energy Agency

SOURCE: STATISTICS SWEDEN; ADDITIONAL PROCESSING BY THE SWEDISH ENERGY AGENCY

Figure 17: Final energy use in the transport sector, 1970–2005





SOURCE: STATISTICS SWEDEN; ADDITIONAL PROCESSING BY THE SWEDISH ENERGY AGENCY

Figure 18: Final energy use of renewable motor fuels, 2000–2005





SOURCE: STATISTICS SWEDEN, SWEDISH GAS ASSOCIATION

Figure 19: Sweden's electricity use, by sectors, 1970–2005





Figure 20: Power production in Sweden, by power source, 1970–2005





Figure 21: Fuel input for electricity production (excluding nuclear fuel), 1983–2005





Figure 22: Wind power production in Sweden, 1982–2005



SOURCE: SWEDISH ASSOCIATION OF ELECTRICAL UTILITIES AND THE SWEDISH ENERGY AGENCY

Note: Differences in the number of plants as shown in this diagram and in Table 5 are due to the fact that the electricity certificate system presents its data by metering points, which means that several wind power plants can be included in each metering point, while the Swedish Association of Electrical Utilities presents its data on a plant by plant basis.



Figure 23: Per-capita electricity production from different sources, 2004



SOURCE: IEA, ELECTRICITY INFORMATION 2005

Note: Hydro power includes other renewable energy, except biofuels. Fossil fuels include mainly coal or gas.

Figure 24: Sweden's electricity import (+) and export (–), January 2004–December 2005, GWh/week



Figure 25: Sweden's net import (+) and net export (-) of electricity, 1970–2005



Swedish Energy Agency **Figure 26:** Nord Pool's spot prices. Monthly and mean annual values of system prices and prices for the Swedish price area









Figure 28: Energy input to district heating, 1970–2005





Figure 29: District cooling supplies, 1993–2005, by suppliers





Figure 30: Use of natural gas in Sweden, 1985–2005, by sectors





Figure 31: World natural gas production, 2005. Total 2763 x 109 m³ (thousand million)





Figure 32: Use of oil products in Sweden, including foreign maritime traffic, 1970–2005





SOURCE: STATISTICS SWEDEN; ADDITIONAL PROCESSING BY THE SWEDISH ENERGY AGENCY













Figure 35: Nominal and real prices of light crude oil, 1970 – 2005, US dollar per barrel





SOURCE: WWW.BPAMOCO.COM AND THE WORLD BANK

Figure 36: Use of energy coal in Sweden, 1985–2005





Figure 37: Use of biofuels, peat etc. in industry, 1980–2005





Figure 38: Use of biofuels, peat etc. for district heating, 1980–2005





Figure 39: Supply of pellets to the Swedish market, 1997–2005





Figure 40: Commercial current energy prices in Sweden, 1970–2005 (including tax)





Figure 41: Global supplies of primary energy





SOURCE: ENERGY BALANCES OF NON-OECD COUNTRIES (2005 EDITION), IEA







Figure 43: Oil prices in Europe, 2002–2005





SOURCE: IEA OIL MARKET REPORT

Figure 44: Coal prices in Europe, USA and Japan, 2000–2005





SOURCE: IEA COAL AND NATURAL GAS IMPORT COSTS AND EXPORT PRICES, JUNE 2006

Figure 45: Import price of natural gas and crude oil price 1999–2005











Figure 47: World energy use in the transport sector 1994–2003





Figure 48: World energy use in the residential and commercial sector 1994–2003





Figure 49: World electricity production by energy sources 1994–2003





Figure 50: Regional world electricity production 1994–2003





Figure 51: Energy supply in the USA 1994–2004





Figure 52: Energy supply to EU-15 1994–2004





SOURCE: ENERGY BALANCES OF OECD COUNTRIES (2006 EDITION), IEA













Figure 55: Energy supply in China 1994–2003











Figure 57: Per-capita regional energy use in the world





Figure 58: Sulphur dioxide emissions in Sweden, 1990–2004



SOURCE: SWEDEN'S PROGRESS REPORT TO THE UN CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION (CLRTAP), SWEDISH ENVIRONMENTAL PROTECTION AGENCY, 2005, WITH ADDITIONAL PROCESSING BY THE SWEDISH ENERGY AGENCY.

> Note: ¹Including electricity production from industry and waste incineration ² Including coke and refineries ³ Including agriculture, forestry and fishery



Figure 59: NOx emissions in Sweden, 1990–2004



SOURCE: SWEDEN'S PROGRESS REPORT TO THE UN CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION (CLRTAP), SWE-DISH ENVIRONMENTAL PROTECTION AGENCY, 2005, WITH ADDITIONAL PROCESSING BY THE SWEDISH ENERGY AGENCY.

> Note: ¹ Including electricity production from industry and waste incineration ² Including coke and refi neries ³ Including agriculture, forestry and fishery



Figure 60: Per-capita and per-GNP carbon dioxide emissions from combustion in the EU and OECD states

Kg CO₂ per GDP (1995 US dollar)





SOURCE: OECD IN FIGURES - 2005 EDITION, HTTP://WWW.OECD.ORG