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Climate protection: Greenhouse gas emissions down by 2.4 percent in 2007

Warm weather, high cost of energy and continued strong growth in renewable energies sector account for braking

Overall emissions of greenhouse gases in Germany declined by roughly 24 million tonnes in 2007 as compared to 2006 (minus 2.4 percent). With a total of 981.3 million tonnes of CO₂ equivalents emissions are now below the one billion threshold for the first time. Since 1990 Germany had achieved, by the end of 2007, an overall reduction of its greenhouse gas emissions of 20.4 percent. These are the results of the short term forecasts carried out by the Federal Environment Agency for 2007 emissions of greenhouse gases. At first glance it seems that Germany is a mere one tenth of a percentage point short of its goal to reduce greenhouse gas emissions by 21 percent compared to 1990 levels. However, a continued decline in emissions can only be expected if the climate protection measures set out by the federal government are consistently implemented.

Carbon dioxide emissions showed the greatest proportional fall, shrinking by 23.7 million tonnes (minus 2.7 percent). CO₂ emissions represent 87 percent of total greenhouse gas emissions in Germany. "The reason for lower CO₂ emissions owes mainly to decreased demand for oil and gas as a result of steep price increases for these fossil fuels, as well as above-average temperatures", said Prof. Dr. Andreas Troge, President of the Federal Environment Agency (UBA). "These results are a one-off effect and provide no grounds for easing up on climate protection efforts", continued Troge. Due to very mild winter temperatures, demand for indoor heating was lower than usual. Furthermore, renewable energies, e.g. wind, water, biomass and solar energy, grew by 15 percent in the energy supply market in 2007. The increase of the value added tax rate at the beginning of 2007 also accounts for the brake on CO₂ emissions. Many citizens had bought heating oil before year's end in 2006, whilst emissions from use in 2007 are still accounted for in 2006. As a result, use of the fossil fuels petroleum and gas sank in 2007 by 9.4 percent and 5.1 percent, respectively.

The only increase in CO₂ emissions can be traced to the use of black coal and lignite as the sharp spike in gas prices resulted in a greater price difference between coal and gas. Coal thus became more cost-effective for a number of power plant operators. In addition, the

significantly lower price per tonne of CO₂ in the emissions trading market—unlike the scenario in 2006—offered operators less incentive to use natural gas as the less climate-warming alternative to coal.

Emissions of nitrous oxide and methane (also greenhouse gases) dropped by 1.7 and 0.4 percent, respectively, in 2007. This was the case for methane in particular since untreated waste may no longer be stored to landfills. With less non-degradable waste, less of the digester gas methane is produced. In the case of nitrous oxide, which is produced primarily through agricultural processes and in the chemical industry, emissions reflected economic developments and dipped slightly.

Emissions of fluorinated climate gases, i.e. perfluorocarbons (PFCs), hydrofluorocarbons (HFCs) and sulphur hexafluoride, showed differing trends. Emissions of PFCs continued to decrease, especially in the manufacture of aluminium and semi-conductors, and produced a 9.0 percent reduction. On the other hand emissions of HFCs increased by 4.5 percent as its use as a refrigerant is on the rise. Emissions of sulphur hexafluoride, a gas used for insulation purposes, rose by 6.9 percent, which can be traced to greater rates of disposal of used sound-insulated windows (gas escapes when the panes break).

On the whole, Germany had reduced its greenhouse gas emissions by 20.4 percent at the end of 2007 (compared to 1990). At first glance it seems that Germany is a mere one tenth of a percentage point short of its goal to reduce greenhouse gas emissions by 21 percent compared to 1990 levels. However, the result of the effects described (e.g. altered purchasing patterns in anticipation of the higher rate of value added tax, warm winter) alone will not lead to a continued decline in greenhouse gas emissions.

It is also uncertain whether above-average temperatures will reoccur in 2008. Germany can only continue to reduce its greenhouse gas emissions in the long term through the rapid implementation of the Federal Government's integrated energy and climate programme, whereby the government set a target of reducing greenhouse gas emissions by 40 percent by 2020, compared to 1990 levels.

Calculations done by UBA are based on data published in *Energieverbrauch in Deutschland 2007* [Energy Balances for Germany 2007] by the Working Group on Energy Balances - AGEb, and in *Bruttoinlandsprodukt 2007 für Deutschland* [Gross Domestic Product 2007 in Germany], published by the Federal Statistical Office. UBA determines emissions by using simplified methods of calculation and with the help of expert estimates. Finalised statistics on CO₂ emissions for 2007, including data on various emitter groups, are anticipated after publication of detailed data on energy consumption in the middle of this year. Final publication of greenhouse gas emissions for 2007 will only occur at the beginning of 2009.

Short-term forecasts for 2007 carbon dioxide emissions and other greenhouse gases are illustrated in tables at

<http://www.umweltbundesamt.de/uba-info-presse/2008/pdf/pd08-016-1.pdf> (in German).

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