Emissions of air pollutants on steep decline since reunification

Greatest decrease seen in sulphur emissions – particulates remain worrisome

Some of the air pollutant emissions in Germany have sunk dramatically since 1990. Sulphur compounds ($SO_2$) in 2010 showed a 91.5 per cent decline since 1990; 85.6 per cent for dust, and 73.1 per cent for carbon monoxide (in the same time period). Fewer heavy metals and persistent organic compounds are entering the environment. These are the results of a new survey by the Federal Environment Agency (UBA). Fine particulates hazardous to health and other pollutants are clouding the otherwise positive picture, however. Although there is an overall decline in particulate emissions, the mere 30-per cent reduction over 1990 is far lower than with other air pollutants. Emissions of nitrous oxides and ammonia remain too high (minus 54.2 per cent and minus 20.8 per cent, respectively). UBA President Jochen Flasbarth is therefore calling for continued efforts, saying, “Air pollution control in Germany has scored numerous successes. The great reductions we have achieved with sulphur dioxide, for example, must now be repeated for particulates, nitrous oxides and ammonia.”

The foundation for clean air in Europe was laid by the Geneva Convention on Air Pollution, an international agreement which already addressed the issue of transboundary air pollution and included the area behind the Iron Curtain as early as 1979. The establishment of national emission ceilings throughout the EU and the restructuring of the economies of Eastern Europe after 1990 represent additional milestones. Lignite high in sulphur content has been gradually replaced by lower emissions fuels such as pit coal and natural gas, and power plants were fitted with flue gas cleaning equipment. Stricter caps on emissions from industrial facilities took effect. In road traffic, so-called EURO norms (1 to 5 for passenger cars and I to V for heavy goods vehicles) have greatly reduced motor vehicle emissions. Additional measures are planned for the future – such as the EURO 6/VI norm for passenger cars and heavy goods vehicles- which will further reduce emissions of nitrogen oxides. Transport played a decisive role in bringing about a decrease in emissions of heavy metals. In 1990 leaded petrol was still available at every petrol station, and a significant drop in emissions followed the ban on its sale in 1998. In fact, lead emissions in Germany declined by nearly 91 per cent from 1990 to 2010.
To reduce ammonia emissions from agriculture best practices must be applied consistently; that is, there must be compliance with guidelines on the application of fertilisers and on the storage of commercial fertilisers. Consumers can also do their bit by consuming less meat.

Emissions of harmful heavy metals like cadmium and mercury have seen sharp decreases of 69 per cent and 67 per cent, respectively. The development trends for persistent organic pollutants depict a similarly positive picture - with declines ranging from 91 per cent for dioxins to 78 per cent for benzo[a]pyrene (the product of incomplete burning of organic materials such as wood or coal), and a drop of up to 35 per cent in hexachlorobenzene (an undesired by-product of organic materials burning in the presence of chlorine compounds).

UBA updates its emissions inventories for air pollutants once a year. Information which covers the entire two decades since reunification has been published for the first time this year. This report reflects compliance with obligations set out in the Geneva Convention on Air Pollution which requires that all emissions be calculated and reported to the international organisations. The report covers 21 years of the developments in more than 20 different pollutants from all relevant emission sources - including large-scale power plants, transport, consumer goods production, and animal husbandry and waste management.

UBA publishes detailed information about emissions trends since 1990 in the form of trend tables, which are available here:

“Classic” air pollutants:
http://www.umweltbundesamt.de/emissionen/archiv/2012/2012_02_09_EM_Entwicklung_in_D_Trendtabelle_LUFT_v1.1.0.zip

Persistent organic compounds:
http://www.umweltbundesamt.de/emissionen/archiv/2012/2012_02_06_EM_Entwicklung_in_D_Trendtabelle_POP_v1.1.1.zip

Heavy metals:
http://www.umweltbundesamt.de/emissionen/archiv/2012/2012_02_06_EM_Entwicklung_in_D_Trendtabelle_HM_v2.0.2.zip

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