

Environment and energy

Atmospheric pollution

The method used to estimate pollution figures presented in this section is that established during the European Coordination Information Air project (Corinair), which had the aim of harmonising, organising and developing information on atmospheric emissions, within the wider EU programme entitled "Coordination of information on the environment" launched in 1985. The estimates previously drawn up by ENEA¹ in the context of the Corinair project considered three pollutants (SO_x, NO_x, volatile organic compounds -VOC- including methane) and 120 activities divided into eight groups (combustion in thermoelectric and heating plants, petrol refinery, industrial combustion, industrial processes, solvent evaporation, road transport, natural sources, other). An update and perfection of the method was subsequently performed as part of the European work programme Corinair90², which aimed to draw up an inventory of emissions, in the context of the Convention on transboundary atmospheric pollution and the Framework Convention on climate change, ratified by the Italian Parliament in January 1994.

The main innovations introduced by Corinair90 were:

- 1) an extension of the range of pollutants considered, passing from three to eight, including sulphuric oxides, nitric oxides, volatile non-methane organic compounds, methane, carbon monoxide, carbon dioxide, nitrous oxide and ammonia, i.e. all types directly or indirectly linked to the greenhouse effect;
- 2) a more detailed and differently structured classification of activities and sources of pollution, covering more than 260 activities;
- 3) an increase in the number of countries involved.

In 1994, the Corinair90 method was reviewed again by the European Environment Agency, which launched the Corinair94³ project and developed a group of methodological proposals for estimating emissions, to be implemented on an annual basis.

In December 1997 the Kyoto Protocol was signed, representing the implementation of the United Nations Framework Convention on Climate Change, approved in New York on 09th May 1992, with the aim of combating and reducing the negative effects of climate change on our planet to a minimum. According to the Convention and the Kyoto Protocol, which entered into force in Italy on 16th February 2005, Italy undertook to develop, publish and regularly update national emissions inventories, in addition to formulating and implementing programmes to reduce emissions.

For each of the pollutants analysed,⁴ the annual updating of time series was performed by the Higher Institute for Environmental Protection and Research (ISPRA), using the EMEP-EEA (European Environment Agency) methodology in compliance with the indications provided by Corinair94. It was specified that, when necessary, the methodology would be updated by technical groups coordinated by the EMEP programme in collaboration with the EEA, and that the entire time series would be revised in order to guarantee coherence and comparability of data over time. The time series produced are the result of the national inventory of emissions. The values relating to emissions and

¹ For a complete illustration of the calculation methods used in 1985, please refer to the Enea, Central Research Department for the Corinair Project, Inventory of polluting emissions in Italy in 1985 (edited by W. Boccola, M.C. Cirillo, D. Gaudioso, C. Trozzi, R. Vaccaio, C. Napoletano), Rome, 1989.

² The Corinair90 system was developed in compliance with the EMEP programme (Evaluation and monitoring of long range transmission in Europe of air Pollutants) aimed at dealing with transboundary atmospheric pollution issues, and with the Ipcc/Oecd (Intergovernmental Panel on Climate change/Organization for the economic cooperation and development).

³ See European environment agency "Review of Corinair90 Proposals for air emissions 94", 1995.

⁴ In 1999 the responsibility for calculating national emissions passed from ENEA to ANPA, currently known as ISPRA.

absorption from natural sources are excluded. The totals obtained coincide with the official figure communicated by Italy as part of the United Nations Framework Convention on Climate Change (UNFCCC) – regarding carbon dioxide, methane and nitrous oxide⁵ - and the United Nations Economic commission for Europe convention on long range transboundary air pollution for the remaining pollutants.

⁵ These totals are net of Lulufc (*land use, land use change and forestry*).