



Indicator fact sheet Environmental Signals 2001: Chapter air pollution

YIR01AP18 Policy Update Air Pollution

Air quality

The Air Quality “Framework” Directive 96/62/EC came into force in November 1996. This Directive establishes the basic principles of a common strategy to set objectives for ambient air quality in order to avoid, prevent or reduce harmful effects for human health and the environment. The Framework Directive requires that, if limit values are exceeded, Member States devise abatement programmes to reach the limit values within a set deadline. Table 1 summarises some of these limit values.

The first “daughter” Directive, 1999/30/EC, which came into force in July 1999, set limit values for sulphur dioxide, nitrogen oxides, particulates (PM₁₀) and lead in ambient air. This Directive will be reviewed and, if necessary, amended in 2003/2004. A second daughter Directive, 2000/69/EC, setting limits for CO and Benzene was adopted in April 2000 and entered into force on 13 December 2000. A third daughter Directive on ozone was originally proposed in June 1999 together with a Directive on national emission ceilings, with emission and air quality targets chosen in a consistent way. Political agreement on a common position was reached on an amended version of this proposal in October 2000.

Table 1

Limit/threshold values						
pollutant	averaging period	protects	value	no. of exceedances	to be met	reference
Sulphur dioxide	1h	health	350 µg/m ³	< 25 times	01-01-05	1999/30/EC
Sulphur dioxide	24h	health	125 µg/m ³	< 4 times	01-01-05	1999/30/EC
Sulphur dioxide	year/winter	ecosystems	20 µg/m ³	none	19-07-01	1999/30/EC
Nitrogen dioxide	1h	health	200 µg/m ³	< 19 times	01-01-10	1999/30/EC
Nitrogen dioxide	year	health	40 µg/m ³	none	01-01-10	1999/30/EC
Nitrogen oxides	year	ecosystems	30 µg/m ³	none	19-07-01	1999/30/EC
PM10 ¹	24h	health	50 µg/m ³	< 36 times	01-01-05	1999/30/EC
PM10 ¹	year	health	40 µg/m ³	none	01-01-05	1999/30/EC
Lead ²	year	health	0.5 µg/m ³	none	01-01-05	1999/30/EC
Ozone	8h	health	120 µg/m ³	< 26 days	2010	COM(2000) 613final ³
Ozone	May-July	ecosystems	AOT40<18 mg/m ³ .h	none	2010	COM(2000) 613final ³
Benzene	year	health	5 µg/m ³	none	01-01-10	2000/69/EC
Carbon monoxide	8h	health	10 mg/m ³	none	01-01-05	2000/69/EC

Notes:

1: Stage 1

2: Different limit value and attainment date around industrial installations

3: Amended in agreed Common Position 10-10-2000

Source: EEA

Air emissions

The first international treaty with strategies for reducing transboundary air pollution was the UNECE Convention on Long-Range Transboundary Air Pollution (CLRTAP). Several CLRTAP Protocols are in force for its European parties, including the EU and its Member States. The pollutants covered and the reduction targets are listed in Table 2. The Second Sulphur Protocol (UNECE, 1994) used for the first time an effect-based approach, setting national emission targets set to optimally reduce the exceedance of critical deposition levels for ecosystems (‘gap closure’). This Protocol thus resulted in national emission-reduction commitments that varied according to the sensitivity of the ecosystems affected.

In May 1999, the European Commission presented a proposal for a Directive on national emission ceilings (NECD) (European Commission, 1999) for the same pollutants as CLRTAP and, for the first time, for



ammonia. The proposed Directive uses a similar approach to the Second Sulphur Protocol, but extends it to include reduction in exceedances of critical limit values for ozone for human health and ecosystems.

In a parallel process, on 1 December 1999 the CLRTAP agreed on national emission ceilings for many European countries (including all EU Member States) and signed in Gothenburg a new multi-pollutant Protocol for the same four pollutants as NECD. For a number of Member States, however, the targets are less strict than those in the proposed Directive.

In June 2000, a Common Position was reached on the EC NECD. The targets agreed are slightly stricter than those in the Gothenburg Protocol. Note, however, that the targets are formulated as absolute emissions, rather than as reduction percentages, as presented in Table 2. Note also that there are substantial differences in emission ceilings, and resulting emission reduction percentages, between countries.

The proposed national emission ceilings for 2010 should be regarded only as interim as they will not provide full protection to ecosystems and human health. Assuming a baseline scenario (EEA, 1999), some ecosystems in 2010 will still be receiving deposition above critical loads, and threshold values for ozone will continue to be exceeded. Results from the second Auto-Oil Programme (European Commission, 2000) indicate that concentrations of PM₁₀, ozone, NO₂ and benzene will still be exceeding limit values in 2010.

Table 2 summarises the main current and proposed emission targets for the EU.

Policy/Pollutant	Base year	Target year	Reduction (%)
UNECE-CLRTAP			
Sulphur dioxide ¹	1980	2000	62
Sulphur dioxide ³	1990	2010	75
Nitrogen oxides ³	1990	2010	50
Non-methane VOCs ²	1987	1999	30
Non-methane VOCs ³	1990	2010	59
Ammonia	1990	2010	17
NECD⁴			
Sulphur dioxide	1990	2010	77
Nitrogen oxides	1990	2010	51
Non-methane VOCs	1990	2010	60
Ammonia	1990	2010	18

Source: EEA

Notes:

¹ Target from the 1994 Second Sulphur Protocol. The different emission ceilings for each Member State correspond to a 62 % emission reduction for the EU.

² Targets from NMVOCs Protocol. These are the same for individual Member States and for the EU.

³ Targets from the multi-pollutant Protocol (1 December 1999). The emission reduction target for the EU (corresponding with different emission ceilings for each Member State) is shown.

⁴ Targets from the Common Position reached in June 2000 on the 1999 proposal for a national emission ceilings directive (NECD). The emission reduction target for the EU (corresponding with different emission ceilings for each Member State) is shown, based on the most recently available 1990 estimates (which may differ from earlier estimates).

Policies and measures (EU)

To help reach these targets, current European Community legislation aimed at reducing acidifying pollutants and ozone precursors includes a Directive on the reduction of emissions from large combustion plants and various recent Directives on vehicle emissions, the quality of petrol and diesel fuels and the sulphur content of certain liquid fuels (see YIR01AP14 and AP15 for the effects of these). A Directive on the storage and distribution of petrol and the Solvents Directive on the reduction of emissions from the industrial use of organic solvents both aim to limit emissions of volatile organic compounds (VOCs).



As a result of the Auto Oil 2 programme (European Commission, 2000) various measures have been proposed. The Commission adopted a proposal in 2000 for a Directive tightening the emission standards for two- and three-wheeled vehicles. Technical updates of Directives concerning light-duty and heavy-duty vehicles, and an amendment of the fuel quality directive 98/70/EC concerning sulphur levels in petrol and diesel, are expected to be proposed by the Commission in 2001.

Apart from the NECD, there is currently no EU legislation aimed at reducing ammonia emissions. Legislation and targets for abatement of direct emissions of fine particles (PM₁₀) are also still lacking.

Measures to reduce greenhouse gas emissions (particularly carbon dioxide) could, as a side effect, reduce acidifying substances and ozone precursors. One such measure is fuel switching to natural gas. Another measure is the reduction of CO₂ emissions from new passenger cars resulting from improved fuel efficiency (see CC8).

Future development of policies and measures is likely to be undertaken in parallel by UNECE/CLRTAP and the EU, in the context of the Clean Air for Europe Programme (CAFE), following the same approach as for the recently proposed emission ceilings.

References

European Commission (1999). Proposal for a Directive setting national emission ceilings for certain atmospheric pollutants and for a Daughter Directive relating to ozone in ambient air. COM (99)125. European Commission, Brussels.

ERM and TNO (2000). Executive summary of the consultant report for the Clean Air for Europe (CAFE) Programme, 27 October 2000.

European Commission (2000). A Review of the Auto-Oil II Programme, COM(2000) 626 final, Brussels.

European Community (2000). Council conclusions of June 2000, Common position on the proposed Directive on national emission ceilings for certain atmospheric pollutants. Council of the European Union.

European Environment Agency (1999). Environment in the European Union at the turn of the century, European Environment Agency. Copenhagen.

UNECE (1994). Protocol to the convention on long-range transboundary air pollution on further reduction of sulphur emissions (1994 Sulphur Protocol). UN Economic Commission on Europe, Geneva.

UNECE (1999). Protocol to the 1979 convention on long-range transboundary air pollution (CLRTAP) to abate acidification, eutrophication and ground-level ozone, Gotheburg, Sweden, 1 December 1999.