

Air Quality: The European Perspective

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1. INTRODUCTION

In the 1970's and 1980's the European Community introduced several pieces of legislation pertaining to air quality objectives and emission reduction (Figure 1).

Figure 1.

Summary of earlier initiatives relating to air quality and emission reduction

- Directive 70/220/EEC relating to measures to be taken against air pollution by emissions from motor vehicles.
 - Directive 80/779/EEC on air quality limit values and guide values for sulphur dioxide and suspended particulates.
 - Directive 82/884/EEC on a limit value for lead in the air.
 - Directive 85/203/EEC on air quality standards for nitrogen dioxide.
 - Directive 88/609/EEC on the limitation of emissions of certain pollutants into the air from large combustion plants.
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Air quality standards were established for sulphur dioxide and particulate material (black smoke), nitrogen dioxide and lead. Emission controls were introduced for combustion plants: vehicle emission standards were introduced on a voluntary basis as early as 1970. However, it would be fair to say that these initiatives were not particularly structured, systematic or coordinated. The 5th Environmental Action Program which was adopted by the Commission in 1992, set down specific objectives with regard to a range of environmental issues including air quality and the reduction of atmospheric emissions (Figure 2).

Figure 2.

Objectives for acidification/transboundary
atmospheric pollution set down in the 5th
Environmental Action Program

Acidification/Transboundary Pollution		
	Objective	Targets up to 2000
NOx	No exceeding ever of critical loads and levels	30% reduction
SOx	idem	35% reduction
General VOC's	idem	30% reduction

These objectives have recently been confirmed/reinforced in the Review of the 5th Environmental Action program which was adopted by the Commission in 1996. The 5th Environmental Action Program provides a coherent and consistent framework which serves as the Commission's blueprint for future action/initiatives on the Environment.

With regard to air quality, Community policy operates in the following manner. Air quality objectives are established and agreed at the level of the Community. However, these standards are minimum standards: Member States are fully at liberty to pursue a more aggressive policy and many do so. However, the air quality standards agreed at the level of the Community must be respected everywhere throughout the 15 Member States. These standards are the legal guarantee to the European Citizens that they will have the

basic right of clean air to breathe.

Clearly, air quality standards on their own will not automatically produce cleaner air: they must be linked to parallel initiatives to reduce polluting emissions. The Community clearly has a role to play in reducing emissions. However, the approach which we have developed is built on the principle of partnership and burden sharing: the Community's emission reduction policy consists of a number of interlocking and complementary actions at the level of the Community, the Member States, the Regions, the Cities and the individual citizens. Together these interlocking and complementary measures must result as a minimum in the achievement of the Community air quality standards throughout all the Member States (Figure 3).

Figure 3.

How Community, national and local measures
combine to achieve air quality objectives

Community measures + National measures + Local measures

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Together must as a minimum achieve

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Air quality standards adopted at the level of the Community

It must however, be clear that the existence of a clear set of air quality policy objectives at the level of the Community does not and cannot, imply that the solution to the challenge of air pollution resides exclusively with the Community institutions. The most effective level for action is and will continue to be at the level of the Member States and the cities.

2. NEW AIR QUALITY STANDARDS FOR THE NEW MILLENNIUM

As I mentioned at the start of my speech, air quality standards for a number of key pollutants have existed for many years. However, in January of this year the European Council adopted a new directive on the management and assessment of ambient air quality. This directive will provide the framework for the development of future policy on air quality over the next twenty years (Figure 4).

Figure 4.

Directive on ambient Air Quality

Objectives

- Define and establish objectives for ambient air quality (AAQ).
 - Asses AAQ on common basis.
 - Obtain information on AAQ and make it available to public.
 - Maintain/improve AAQ.
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Under the framework directive it is foreseen that new air quality standards will be laid down for a wide range of pollutants and that common procedures will be developed for monitoring and assessing air quality as well as providing comprehensible and timely information to the general public.

The framework directive sets down a very tough time schedule for the Commission to come forward with proposals dealing with individual pollutants (Figure 5).

Figure 5.

Air Quality Pollutants / Calendar					
1)	SO ₂	31/12/96	5)	Pb	31/12/96
2)	NO ₂	31/12/96	6)	O ₃	01/04/98
3)	Fine Part.	31/12/96	7)	Benzene	31/12/97
4)	SPM	31/12/96	8)	CO	31/12/97

By June of this year the Commission will come forward with proposals for SO₂, NO₂, Particulate material and lead. Proposals on CO and Benzene will follow by the end of the year. Ozone will be the subject of a proposal in the Spring of 1998.

In developing these proposals for daughter directives on individual pollutants, the Commission has worked very closely with the experts in the Member States. There has also been very close contact with the EPA. Representatives of the EPA have participated in meetings of the management group responsible for overseeing the development of the daughter directives. The starting point for the development of the air quality standards for the individual pollutants are the recommendations from the WHO Regional Office for Europe.

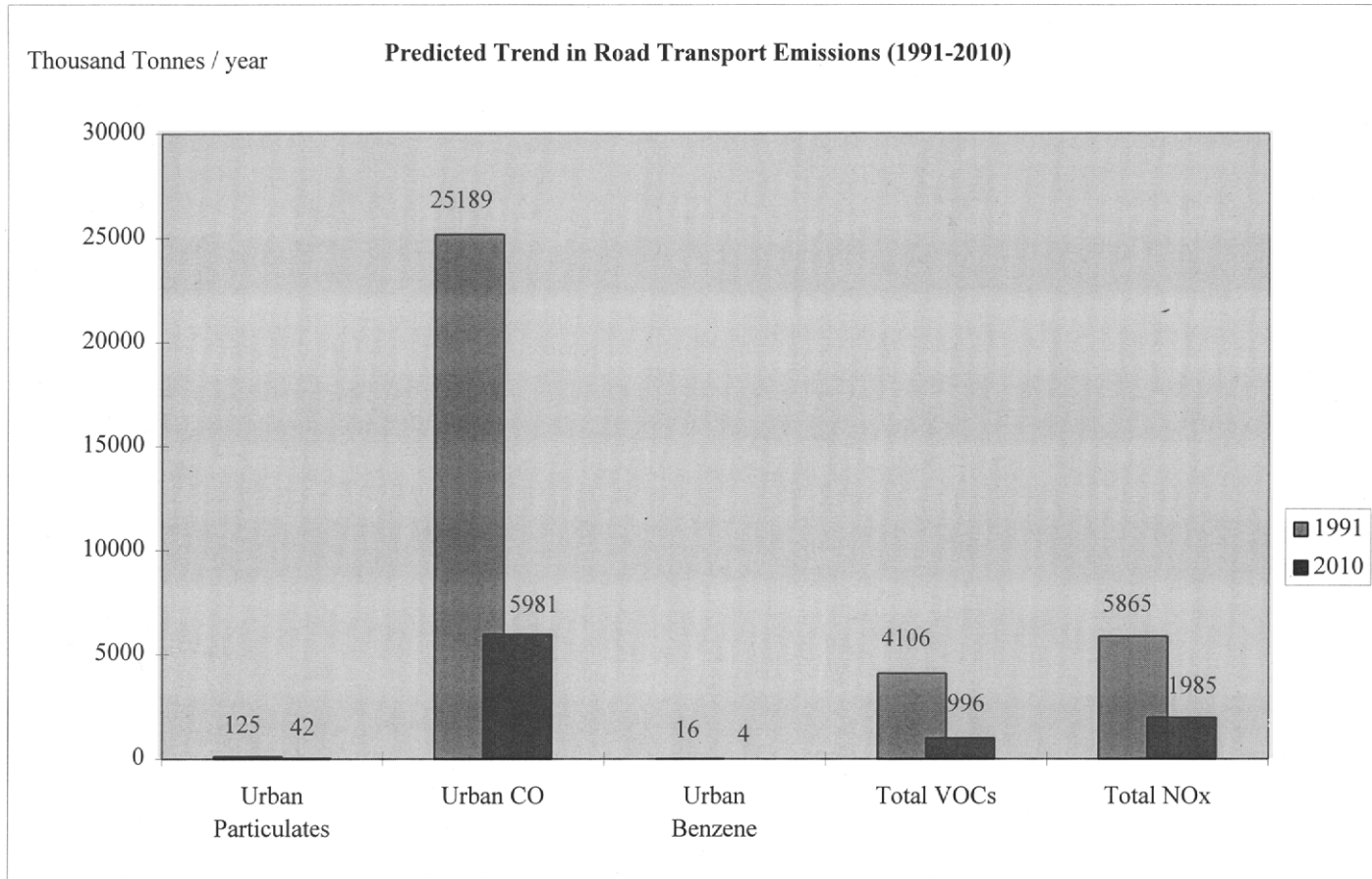
I understand from reading the international press that our colleagues from the USA are currently involved in a major battle with regard to the revision of the air quality standards for tropospheric ozone and particulate matter. I would like to take this opportunity to wish our colleagues from the EPA the strength and fortitude to see this fight through to a successful conclusion despite the very negative campaign which is being fought against them.

Turning now to recent and forthcoming action on reducing atmospheric emissions.

2. ROAD TRANSPORT EMISSIONS

One of the most important source of emissions is road transport. In June 1996, the Commission agreed a strategy for the control of road transport emissions into the next century. The strategy foresees that by 2010 emissions of the major pollutants from the road transport sector will be reduced by between 65 and 70% as compared to 1990 (Figure 6).

Figure 6.



The Commission's policy on road transport emissions is based on a technical assessment carried out together with the European Oil and Automobile manufacturers and known as the Auto Oil program. The Commission has already brought forward three of the legislative proposals necessary to implement its strategy on road transport emissions (Figure 7).

Figure 7.

Drawing on the results of the Auto-Oil Program the Commission has Decided upon a Package of Legislative Proposals:

- a proposal on a moderate reformulation of petrol and diesel fuels;
 - proposals to strengthen the existing emission limits for passenger cars, light duty vehicles and heavy duty vehicles;
 - a proposal to strengthen legislation on inspection and maintenance.
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With regard to passenger car emission standards the Commission's proposals for indicative standards for 2005 are of a comparable severity to the ULEV standards in California (Figure 8).

Figure 8.

Comparison of Proposed EU Emission Standards with
USA and Japan (figures are in g/km)

	CO		HCs		NOx		NOx plus HCs		PM
	P	D	P	D	P	D	P	D	D
EU-2000	2.3	0.64	0.2	-	0.15	0.5	-	0.56	0.05
EU 'stage 2' 2005	1.0	0.5	0.1	-	0.08	0.25	-	0.3	0.025
US Tier 2- 2003	1.54	1.54	0.1	0.1	0.15	0.15	-	0.25	-
CARB: ULEV	1.53	1.53	0.03	0.03	0.14	0.14	-	0.17	0.03

Vehicle emissions standards are becoming of increasing importance internationally. It is clearly in everyone's interest that developing economies such as China and India take advantage of the clean technologies as they develop their vehicle fleets. With this objective in mind the Community and the USA in the context of the Transatlantic Business Dialogue have identified the need to move towards commonly agreed test procedures and emission standards at an international level.

4. NON-ROAD MOBILE MACHINERY

On both sides of the Atlantic there has been an increasing recognition that non-road mobile machinery such as bulldozers, tractors, backhoes and graders represent a significant source of atmospheric emissions. The Commission has worked very closely with colleagues from the EPA in Ann Arbor, Michigan to develop compatible approaches to the control of emissions from non-road mobile machinery. In the Community, it is expected that the Council and the Parliament will adopt a directive within the next few months.

5. STATIONARY SOURCES

With regard to emissions from stationary sources, I would highlight a number of recent or ongoing initiatives (Figure 9).

Figure 9.

Recent en planned initiatives on stationary emission sources

- Directive 96/61/EC concerning integrated pollution prevention and control.
 - Proposal for a Directive on limitation of emissions of volatile organic compounds due to the use of organic solvents in certain industrial activities.
 - Revision of the 1988 large combustion plants Directive.
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In 1996, the Community adopted the directive on Integrated Pollution Prevention and Control (IPPC). This directive provides for all major industrial installations to be permitted and to control their emissions according to Best Available Technology.

In 1996, the Commission also put forward a proposal for a directive to control the losses of Volatile Organic Compounds associated with the use of solvents in industrial processes. Finally, during the course of 1997, the Commission will put forward a proposal to revise and strengthen the controls applied to emissions of NO_x and SO₂ generated by combustion plants.

6. TRANSBOUNDARY POLLUTION-ACIDIFICATION AND TROPOSPHERIC OZONE

Atmospheric pollution which has a significant transboundary component such as acidification and tropospheric ozone represent a particular challenge requiring a concerted and coherent response. In March 1997, the Commission adopted a strategy for a Community strategy to combat acidification. This strategy includes a number of specific actions in order to reduce emissions of SO₂, NO_x and NH₃ (Figure 10).

Figure 10.

The main elements of the proposed Acidification Strategy:

- the establishment of national emission ceilings;
 - ratification of the 1994 Protocol to further reduce sulphur emissions;
 - a Directive limiting the sulphur content of heavy fuel oils;
 - revision of the 1988 large combustion plants Directive;
 - the designation of the Baltic Sea and the North Sea as 'SO₂ Emission control Areas'.
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One element in the proposed strategy to which I would like to draw your particular attention is the emission of SO₂ and NO_x by shipping in the Baltic Sea, the North Sea and the English Channel. In order to reduce the burden of acidifying pollutants in the Community it is important that the Baltic Sea and the North Sea/Channel are recognized as special areas where ships would be required to burn bunker fuel with a sulphur content of 1.5% or less. The Commission will be pushing for these provisions to be introduced into the revision of the IMO Marpol Convention due to be completed in fall of this year. We hope we can count on the support of our US colleagues in this initiative.

With regard to tropospheric ozone, the Commission should before March 1998, come forward with a proposal for a Community strategy to combat this type of pollution. This strategy will clearly be linked to the air quality standards for tropospheric ozone which will be put forward at the same time.

One of the central elements in the Commission's future policy with regard to atmospheric pollution will be an agreement on national emission ceilings for NO_x, SO₂, NH₃ and VOC's compatible with the attainment of the environmental targets for acidification and tropospheric ozone. So far we have only completed a provisional analysis of the emission ceilings which will be necessary in order to achieve the interim targets for acidification (Figure 11).

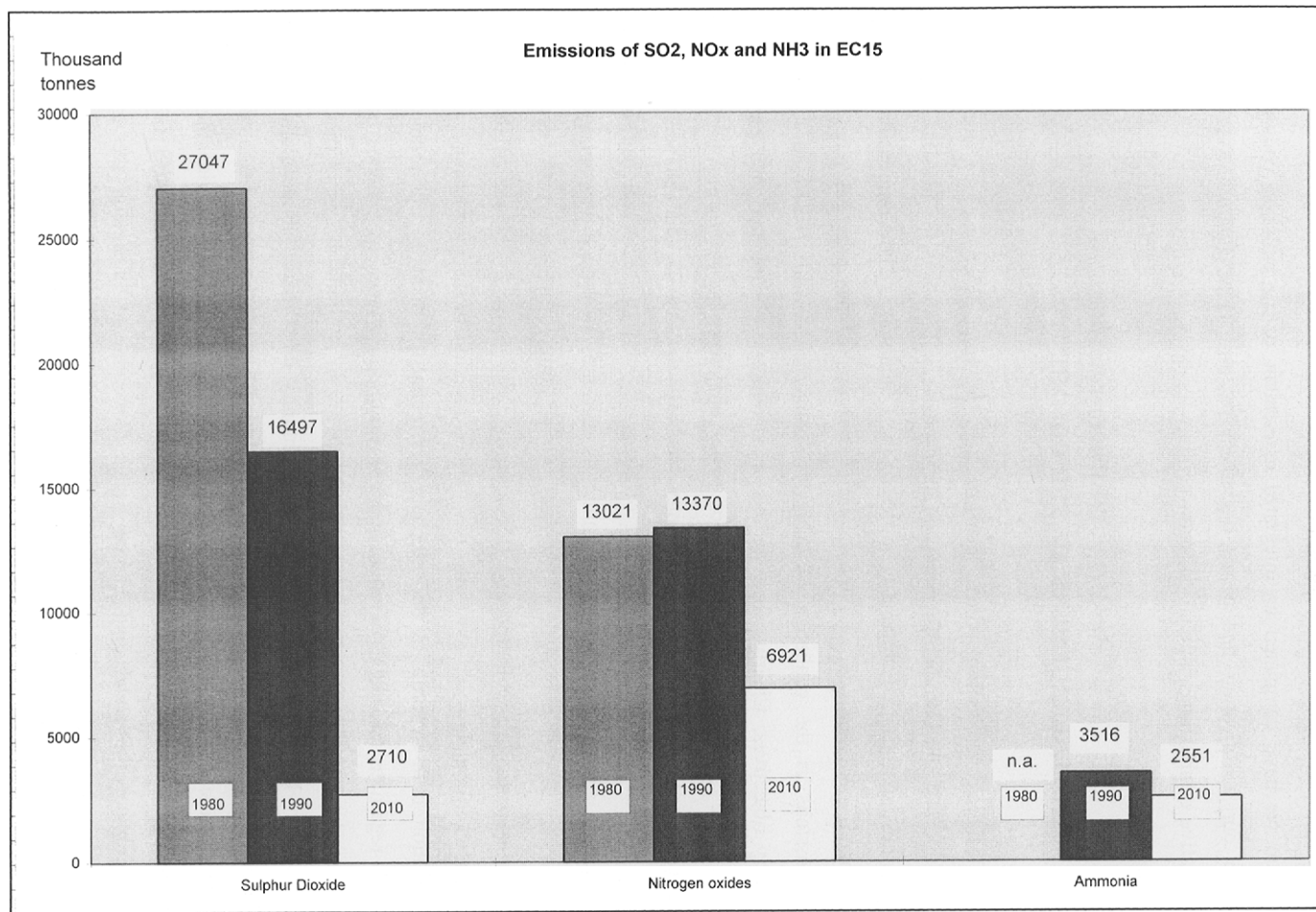


Figure 11.

You can see on the basis of these provisional figures that the Community's emission reduction policy is extremely ambitious.

When we have completed an integrated assessment of the emission ceilings associated with our acidification and ozone objectives we will bring forward a proposal for a directive establishing national emission ceilings for NO_x, SO₂, NH₃ and VOC's.

7. THE ENLARGEMENT OF THE COMMUNITY

A further consideration which must be kept in mind when we are considering the evolution of the Community policy on atmospheric pollution is the possible accession of a number of Eastern European countries to the Community. The Commission is currently engaged in discussions with ten countries and one of the principal elements in these discussions is the challenge of achieving convergence with regard to environmental policy objectives. Clearly when we talk transboundary phenomena such as acidification and ozone the need to develop common policy objectives becomes even more important. In conclusion, the European Community has, over the last 25 years played a significant role with regard to the improvement of air quality with the establishment of air quality standards and the introduction of numerous measures to reduce atmospheric emissions. However, as problems such as lead and sulphur dioxide are dealt with, new challenges such as particulate pollution and tropospheric ozone move to the top of the agenda. In the next millennium we must also pay greater attention to the international aspects of air pollution both in terms of the transboundary nature of many of our problems but also with regard to the globalization of markets for products such as vehicles and fuels and the need to develop common standards. If we are to continue to ensure that our citizens are able to breathe clean air, we in the Community must share our ideas and experiences in particular with our colleagues from the United States who are confronted with many of the same problems. Meetings such as the present symposium provide the fora within which we can learn from each other and identify opportunities for further collaboration I congratulate the Dutch and United States Governments in having the foresight and commitment to initiate and sustain these meetings over the last twenty years...