



Union of Industrial and Employers' Confederations of Europe
Union des Confédérations de l'Industrie et des Employeurs d'Europe

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Mr James Currie
Director General
Environment, Nuclear Safety and
Civil Protection
European Commission
DGXI - MDB 04/18A
rue de la Loi, 200
1049 Bruxelles

Dear Mr Currie,

Re : The development of Air Quality Limit Values in the Context of the Air Quality Framework Directive (AQFD).

UNICE appreciates the opportunity for industry experts to be involved in DGXI's AQFD Steering Group and in the Working Groups developing position papers on air quality limits for selected pollutants as a basis for subsequent Commission decisions. Industry has made every effort to provide the Working Groups with their most experienced company experts and to support the process by verbal/written comments and a comprehensive documentation. Industry's objective has been (and still is) to ensure the establishment of realistic and prudent air quality limit values which protect the population of the EU without unduly prejudicing their prosperity.

Following the establishment of the first four position papers and after reviewing the progress made so far in the new Working Groups on benzene, ozone and carbon monoxide, UNICE has major concerns on the process of developing air quality limit values. These concerns were already mentioned and confirmed in writing on previous occasions (see Appendix) and we summarise them below again for your consideration.

1. Air Quality Guidelines versus Air Quality Limit Values.

In the introduction of their 1987 Air Quality Guidelines for Europe, WHO-European Region (WHO-EUR) have clearly stated that their Guidelines are intended to provide background information and guidance to governments in making risk management decisions, particularly in setting standards (air

quality limit values). To move from guidelines to standards, the guidelines must be considered in the context of prevailing exposure levels and environmental, social, economic and cultural conditions. In certain circumstances there may be valid reasons to pursue policies which result in pollutant concentrations above or below Guidelines values or to provide tailor-made protection for the most sensitive sub-populations through risk management practices.

It appears that in contrast to the WHO-EUR's advice, the Commission's intention is to simply convert the WHO-EUR Guidelines into air quality limit values, thereby ignoring the required risk management step. It is UNICE's view that the WHO-EUR Guidelines provide a very useful starting point for discussions concerning the risk evaluation but greater attention should be paid to risk management.

In this context, it is rather remarkable that the Explanatory Memorandum to the draft daughter directive on SO₂, NO₂, PM₁₀ and lead, ignores the risk evaluation chapter of the Position Paper on PM₁₀.

UNICE is aware of the Commission's argument that the consultant's cost/benefit study demonstrated a net financial benefit from air quality limit values closely based on the WHO-EUR Guidelines for SO₂, NO_x and PM. The same consultant's study concluded that for lead costs would outweigh benefits by a considerable margin. However, this finding was notable for the fact that the Commission chose to ignore it and has proposed the WHO-EUR Guidelines anyway.

UNICE has no faith whatsoever in the methodology used to derive the monetary benefit valuations presented in the consultant report (see section 3). Indeed, the vast majority of the DGXI Steering Group members gave the report a very poor reception. It is UNICE's view that this cost/benefit analysis is not reliable and should not be used to justify the limit values proposed.

2. Elements of the Risk Management Process.

We are all aware that the WHO-EUR Air Quality Guidelines are the result of health/environmental risk characterisation studies. These attempt to assemble all the available scientific facts to arrive at a pollutant level which precludes any adverse impact on man and the environment, even under the most unfavourable conditions. In view of large knowledge gaps and significant uncertainties incurred in interpreting and quantifying cause-effect relationships¹, Guidelines tend to be overly conservative. For instance, they include safety factors to protect the, so far unidentified, most sensitive individuals (thereby excluding the possibility of any risk whatsoever). These individuals can more effectively be protected by other means.

Ecological (time-series) studies recently carried out in the USA and Europe (including the APHEA studies), have investigated possible associations between episodes of increased air pollution (SO₂, NO₂, PM, Ozone) and certain health endpoints such as mortality, hospital admissions and use of medication. The large majority of these studies were related to short term exposures and immediate

¹ In particular, for the Air Quality Limit Values for PM₁₀ (and PM_{2,5}) and long term Air Quality Limit Values for SO₂ and NO₂.

adverse health effects; only two studies so far have addressed the possible effects of long term exposure.

Although in the Explanatory Memorandum to the draft daughter directive (p.14 - Ongoing research) it is recognised that WHO-EUR "... Concluded that the data [of the APHEA and similar studies] are not yet sufficient to determine whether there is a causal connection, or whether, for example SO₂, is a surrogate for another pollutant or for some other factor", elsewhere in the Explanatory Memorandum these associations are implicitly presented as causal relationships.

The various health endpoints have been quantified in numbers of people dying, or falling ill, or admitted to hospitals or using medication, per year.

Avoidance of these adverse health effects by adherence to the proposed limit values will, according to the Explanatory Memorandum, result in health benefits. These health benefits are additional to those that will occur as a result of the implementation of currently agreed measures and regulations (the reference case).

As an example, adherence to the newly proposed limit values for NO₂, SO₂ and PM₁₀ will result in an annually occurring reduction in short term mortality and long term mortality (taken together) which is estimated to be in the range of 6 207-51 440.

UNICE takes the view that the associations observed in the ecological studies can be used to generate hypotheses on causal relationships but that these associations can not be used in isolation for quantitative risk assessment.

Critical and systematic uncertainty analyses of these ecological studies are painfully lacking in the Position Papers.

UNICE feels that all the decisions taken at WHO-EUR to develop Guidelines which are not supported by conclusive scientific evidence but instead by best scientific (though still subjective) judgement, need to be made fully transparent. This would entail liaison between the risk managers and risk assessors to review the critical elements of the process that led to the establishment of a Guideline, e.g. :

- the degree of uncertainty involved and the use of safety factors; and
- the possibly varying adverse effect on sub-population (or different ecosystems) and whether generic or tailor-made measures (or a mix of both) are best suited to avoid adverse impacts from a pollutant.

The risk manager should finally combine the risk characterisation studies based on sound science with the results of a properly conducted cost/benefit study (see next section). It is puzzling that Europe is proposing more stringent standards than the US given that they use the same database.

3. Cost-Benefit Aspects.

UNICE is concerned about the way in which recent contracted Commission studies try to monetize the benefits of avoiding extremely uncertain health effects and to compare these with the costs of emission reduction measures. Major concerns are listed below :

- The rigour with which techniques are applied to provide monetary evaluations should be, at least, as studious for "benefits" as they are for costs.
- Studies refer to the value of statistical life (VOSL) given by the ExternE Project² . It is apparent that the authors of the study themselves have identified serious questions about the validity of their methodology, yet these have been ignored in the process of setting air quality limit values.
- The VOSL of 2.6 MECU is derived in a highly subjective manner and applied without comparing it with widely varying figures used in individual EU countries. Indeed, the Commission itself uses a figure of 1 MECU for road safety purposes.
- The cost of 2.6 MECU is applied to all individuals, with no account for their residual life expectancy or their quality of life.
- Figures derived from opinion polls are highly sensitive to how the questions are asked and the results from such polls are extremely variable.
- The subjectively derived "benefit" figure taken from public polls applies to money that will never actually be paid or received by those whose opinion is used to generate the VOSL. The emission abatement cost figures, on the other hand, represent real expenditure which society needs to spend. Any comparison between the two sets of monetary values is misleading.

UNICE would firmly support, and where possible assist, the development of a credible and consistent methodology for cost-benefit analyses that can provide decision-makers with a transparent and useful means to weigh real benefits against real costs.

4. The "Gap Closure" Approach.

UNICE is concerned about the proposed "gap closure" approach suggested by DG XI to achieve extremely ambitious long-range ozone targets by intermediate air quality limit values. This approach, which might be extended to other pollutants, appears to be in essence a strategy to apply "Best Available Techniques" (BAT) since evidence, so far, suggests that cost-benefit considerations are likely to be of only minor importance when setting any intermediate step. The reason is that the driving of legislation towards the achievement of an unachievable ultimate target will automatically enforce BAT measures irrespective of economic considerations.

As outlined in the previous section, UNICE strongly recommends that DG XI refrains from zero-risk targets as set by WHO-EUR Guidelines. Protection of susceptible sub-populations against the adverse effects of ozone can be achieved with specific and focused risk management measures rather than a generic limit value. Any "rational" air quality limit value should reflect, according to the stage of knowledge, the best compromise between acceptable health/environmental risks, compliance costs and other societal needs. It would appear foolhardy to commit to long-term targets when, in the course of time, the basic underlying assumptions used for setting the ozone standard will almost certainly change.

² ExternE is a DG XII research programme on the Externalities of Energy.

I hope you find these deliberations constructive both in terms of the debate in the Environment Council on the new Daughter Directive proposal and in developing proposals for the remaining pollutants.

Yours sincerely,

(signed)

Zygmunt Tyszkiewicz,
Secretary General

1 attachment.

Air Quality

Correspondence list

- 09.08.96 UNICE letter and comments to Mr. M. Enthoven on the economic evaluation of air quality standards for SO₂, NO₂, PM₁₀ and Pb
- 19.08.96 UNICE comments on the "E.U. draft SO₂ Position Paper (version 4.1)"
- 23.09.96 UNICE comments on the "E.U. draft Position Paper on Particulate Matter"
- 16.12.96 UNICE comments to date on IES Cost-Benefit Study - 1st Report
- 16/01/97 UNICE comments on the Commission Draft Position Paper for Air Quality on SO₂
- 16/01/97 UNICE comments on Particulates Working Group Position Paper (version 10.0)
- 20/01/97 UNICE Shadow Group comments on lead under the Air Quality Daughter Directive
- 11/03/97 UNICE Air Quality Working Group. Opinion on the 2nd Interim Report on economic evaluation of Air Quality targets on SO₂, NO₂, PM & Lead
- 11/03/97 UNICE Air Quality Working Group. comments on the development of an AQFD
- 01/04/97 UNICE "SO₂" Shadow Group comments on SO₂ Position Paper sent to P. Hecq (DGXI)
- 20/05/97 UNICE "NO₂" Shadow Group comments on NO₂ Position Paper
- 13/06/97 Ozone risk assessment - comments on Draft Health Effects Text (dated 3 June 1997)
- 26/06/97 UNICE "Implementation of IPPC" and "Air Quality" Working Groups' comments on the revision of the Directive 88/609/EEC "Limitation of emissions of certain pollutants into the air from large combustion plants" (LCP Directive/Third Draft/14 April 1997
- 22/08/97 UNICE letter to P. Heck DGXI/D/3 : "Carbon Monoxide" Shadow Group comments on EC 1st draft CO Paper
- 25/09/97 UNICE "Air Quality" Working Group Position Paper on Air Quality Standards for Tropospheric Ozone

- 13/11/97 UNICE letter to Mr James Currie DGXI on "Air Quality Standards and Tropospheric Ozone"
- 08/12/97 UNICE letter to Mrs Lynne Edwards DG XI/D/3 : "Air Quality" comments on the economic evaluation of Air Quality targets for Carbon and Benzene Interim Report
- 16/12/97 UNICE letter to Mr Martin Lutz DG XI/D/3 on "Ozone"