Opinion of the Economic and Social Committee on:

— the 'Proposal for a European Parliament and Council Directive on national emission ceilings for certain atmospheric pollutants', and

— the 'Proposal for a European Parliament and Council Directive relating to ozone in ambient air'

(2000/C 51/03)

On 13 October 1999, the Council decided to consult the Economic and Social Committee, under Article 175(1) of the Treaty establishing the European Community, on the above-mentioned proposals.

The Section for Agriculture, Rural Development and the Environment, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 15 November 1999. The rapporteur was Mr Chiriaco.

At its 368th plenary session (meeting of 8 December 1999), the Economic and Social Committee adopted the following opinion by 96 votes to two, with three abstentions.

1. **Introduction**

1.1. *Acidification, tropospheric ozone and soil eutrophication*

1.1.1. Acidification, tropospheric ('ground-level') ozone and soil eutrophication are inter-related, transboundary environmental problems caused by emissions of sulphur dioxide (SO_2), nitrogen oxides (NO_x), volatile organic compounds (VOC) and ammonia (NH_3), and their by-products. Acidification — the deposition of acidifying pollutants (SO_2, NO_x, NH_3) onto vegetation, surface waters, soils and buildings — affects biological populations and forests, leads to acid groundwater damaging water supply systems and is harmful to buildings and monuments. Tropospheric ozone — a secondary pollutant formed by the reaction of precursors such as nitrogen oxides (NO_x) and VOC under the influence of sunlight — is harmful to human health as it can damage all parts of the respiratory tract. In addition, it also affects individual crop and tree species, degrades materials and contributes to climate change. Eutrophication, which is caused by the deposition of nitrogen compounds (NO_x and NH_3), leads to changes in terrestrial ecosystems, such as changes in plant community composition and biodiversity, and is a factor alongside acidification and tropospheric ozone in forest decline.

1.2. *The two Commission proposals*

1.2.1. The two proposed Directives on national emission ceilings for certain atmospheric pollutants (the 'NEC' Directive) and on ozone in ambient air (the 'ozone' Directive) aim at addressing these environmental problems jointly in order to exploit synergies and to ensure a coherent and cost-effective approach. When preparing its proposals the Commission consulted extensively with Member States, industry, NGOs and other parties [1]. Regrettably the agricultural organisations were not consulted, although they will have a role to play in implementing the proposed measures.

1.2.2. Taking account of previously established long and medium-term environmental objectives, the NEC proposal sets national emission ceilings for SO_2, NH_3, NO_x and VOC, to be achieved by 2010. The ceilings per Member State have been allocated on the basis of cost-effectiveness considerations: due to different environmental conditions (e.g. source-receptor relations) and abatement potential, as well as varying implementation costs, the required emission reductions differ per country ('differentiation versus a flat rate approach'). In implementing the Directive, Member States will need to assess what action is appropriate in their particular circumstances, and introduce measures accordingly (subsidiarity). The NEC proposal, which is closely related to existing EU environmental policy and legislation (such as the Acidification strategy adopted by the Commission in March 1997 and the Auto Oil I package), should be seen against the background of the planned multi-pollutant protocol to the United Nations Economic Commission for Europe (UNECE) Convention on Long Range Transboundary Air Pollution (CLRTAP) which will also set national emission ceilings for most UNECE countries including the EU Member States.

[1] See for more background information, including a comprehensive report containing the positions of the experts involved in the preliminary consultations by the Commission, the following website address: http://europe.eu.int/comm/dg11/docum/99125sm.htm.

1.2.3. Whereas the NEC Directive deals with emissions, the proposal for an ozone Directive, which is to become the third daughter Directive under the Air Quality Framework Directive adopted in September 1996 ([1]), concerns environmental quality standards. Underpinned by the ozone related emission reductions (NO_x and VOC) envisaged under the NEC Directive, the proposal aims at introducing (locally relevant) target values for tropospheric ozone in order to protect human health and vegetation, along with requirements to monitor ozone concentrations in ambient air and to report to the public on the findings of that monitoring.

1.2.4. By no later than 31 December 2004, the Commission will report to the Council and the European Parliament on the implementation of the proposed Directives. This report will then allow for a review of provisions in the Directives, taking account of new factors arising from research, the development of new technology, newly available data and new initiatives, and with the benefit of more comprehensive statistical references for areas such as natural and farm-generated emissions.

2. **General comments**

2.1. *Overall appreciation*

The Committee welcomes the Commission's initiative of presenting proposals which offer the Member States a framework for reference, monitoring and exchange of information with a view to further measures to protect human health and the environment, in accordance with the objective of sustainable development. It notes that the proposal for a NEC Directive is in line with the level of ambition indicated by the Member States at the outset of the negotiations on a multi-pollutant protocol at UN-ECE level (the so-called 'guiding scenario') as well as with the European Parliament's resolution on the Community's acidification strategy ([2]). The Committee regrets that, although they constitute a step in the right direction, the emission reductions to be agreed for the EU Member States under this protocol are likely to fall far short of the level of ambition associated with the national emission ceilings proposed by the Commission.

2.2. *The proposed objectives*

Before examining the more specific elements of the two proposals, it would appear necessary to look into the objectives upon which they are founded. Whilst the proposed qualitative long-term objectives are virtually undisputed, their translation into quantitative objectives for the long term and, in particular, for the interim period is a more controversial question. This involves a number of political decisions which are partly guided by the expected costs and benefits of different policy options. In turn, the results of the underlying cost-effectiveness and cost-benefit analyses, though they are calculated in figures, are also partly determined by assumptions of a political nature. It should also be stressed that the methodology for quantifying benefits in human health and environment terms and for internalising the costs of damage to health and the environment is constantly being refined and calls for more attention and resources. On the other hand, it is clear that a calculation based solely on economic considerations would be inadequate for assessing the effects of the proposed measures.

2.2.1. The proposed long-term objectives

2.2.1.1. The proposals' long-term objectives — for which no deadline is proposed at this stage — are to avoid exceeding critical loads (for acidification and eutrophication) and critical levels (for ozone) ([3]) as well as the effective protection of all people against recognised health risks from air pollution. This qualitative 'no adverse effects' objective — which is a measure of sustainable development — is in accordance with the commitments laid down in the 5th Environmental Action Programme of 1993 ([4]), which were recently confirmed by the Council and the European Parliament ([5]). The ESC agrees with this objective and has repeatedly supported it in its opinions.

2.2.1.2. The translation of this qualitative long-term objective into quantitative terms is undoubtedly one of the proposals' most crucial elements. As to the operational definition of critical acidification and eutrophication loads, it should be noted that these have been established per eco-system/Member State in accordance with an internationally agreed methodology ([6]). Thus, quantitative long-term objectives for acidification and eutrophication are founded on a sound and internationally recognised scientific basis.

([1]) OJ L 296, 21.11.1996.
([2]) OJ C 167, 1.6.1998, p. 133.
([3]) A critical load means a quantitative estimate of an exposure to one or more pollutants below which significant adverse effects on specified sensitive elements of the environment do not occur, according to present knowledge. A critical level means the concentration of pollutants in the atmosphere above which direct adverse effects on receptors, such as human beings, plants, ecosystems or materials, may occur, according to present knowledge.
([4]) See Chapter 5.2. This chapter, whilst establishing the objective of not exceeding critical loads for acidification, does not explicitly refer to eutrophication.
([5]) See Article 11(2) of their Decision of 24 September 1998 on the review of the 5th EAP — OJ L 275, 10.10.1998.
([6]) The critical loads are taken to be those compiled by the CLRTAP Co-ordination Centre for Effects.

2.2.1.3. Defining critical ozone levels for human health and vegetation is more complicated owing to the lack of a clear 'no adverse effects' level as far as human health protection is concerned. However, the Commission is of the opinion that the relevant WHO 'human health' guideline of 1999 (120 µg/m³ mean over an 8-hour period) can be treated as the critical level, despite the fact that this guideline is based upon acceptance of a certain amount of risk to the general population. The Committee would mention that this decision is in line with the fifth environment programme's provision that the European Union should apply the WHO guidelines. In contrast to the area of human health, the WHO has set critical levels relating to vegetation, which the Commission thus proposes as long-term objectives. The Committee endorses these proposed long-term objectives for human health and vegetation, taking into account, among other things, that they have been endorsed by the Scientific Committee on Toxicity, Ecotoxicity and the Environment (CSTEE) as well as by all Member States and environmental NGOs [1].

2.2.2. The proposed interim objectives

2.2.2.1. As it is generally acknowledged that it will be technically and economically very difficult to reach the 'no adverse effects' objectives in the near future, the Commission proposes a number of interim objectives for the year 2010. It is obvious that the choice of these interim objectives will crucially determine the extent of the required emission reductions, the associated costs and the environmental benefits.

2.2.2.2. The Committee notes that the exercise of setting interim objectives involves both a 'economic-technical' dimension based on cost considerations and a number of 'political' decisions. Without going into detail, it can be stated that — taking a 'Maximum Feasible Reduction' scenario as the upper limit — the interim objectives have been established at such levels as to avoid unreasonable marginal and total emission control costs. [2] These costs are calculated using the so-called RAINS model, developed in the context of the CLRTAP and generally approved by the Member States, as is also shown by the fact that it has been recently used in the context of the negotiations on the multi-pollutant protocol. This model has already been in use for eight years, is constantly being improved and will continue to be refined, especially with a view to the possible review of the directive in 2004 and 2008.

2.2.2.3. As regards this model, the ESC notes, however, that RAINS is very likely to overestimate the necessary abatement costs, among other things because it is based on 'pre-Kyoto' energy consumption scenarios and because it only considers technical (end-of-pipe) abatement measures without taking account of the potential of structural changes such as increased energy efficiency or use of alternative energy sources. In this connection, the ESC takes note of the announced 'Action plan' to implement the Kyoto agreements [3] and takes the view that a series of measures adopted in this context will contribute to better implementation of these proposals.

2.2.2.4. Also against this background, the ESC supports the interim objectives proposed by the Commission. As far as the 120µ/m³ ozone target value is concerned , it should be noted that a number of countries have adopted or are planning similar and even more ambitious standards. For instance, the UK national ozone objective is 100µ/m³ (8 hours), that of Switzerland is 120µ/m³ (8 hours) and the (planned) Canadian one is 130µ/m³. The recently adopted US standard is 160µ/m³. *Prima facie* this more lenient US standard may raise competitiveness problems (no 'level playing field'). It is noted, however, that as current (average) ozone concentrations in the US are substantially higher than those in the EU, the required (proportional) emission reduction efforts are of the same order of magnitude.

2.2.2.5. Regarding the use of economic models such as RAINS, the Committee would add that although such models can play a useful role in guiding policy-makers in making informed environmental policy decisions, they cannot act as a substitute for such decisions. In the past, the ESC has repeatedly expressed the view that it is impossible to expect 100 % certainty in the technical justification for decisions on environment policy and that in cases of doubt, the environment policy principles enshrined in article 174 (2) of the EC Treaty, especially the 'high level of protection', the 'polluter pays' and the 'precautionary' principles should be applied [4].

(1) See points 5.3a and 5.9 of the explanatory memorandum.

(2) Thus, in principle, the estimated (marginal and total) benefits have not been taken into account when setting the interim objectives. In other words, these objectives have not been fixed on the basis of a 'maximisation of total benefits' approach, which would imply that emissions would be reduced until the point where marginal costs equal marginal benefits. A more detailed description of the general modelling approach and the objective setting principles can be found in the Interim Reports Cost-effective Control of Acidification and Ground-level Ozone prepared by the International Institute for Applied Systems Analysis (IIASA). All these reports are available on the Internet under: http://www.iiasa.ac.at/ rains.

(3) Commissioner Wallström's speech to the EP, Strasbourg session of October 1999.

(4) See the ESC opinions on the 4th and the 5th Environmental Action Programme (C 180, 8.7.1987 and C 287, 4.11.1992) as well as its opinion on the first air quality daughter Directive (C 214, 10.7.1998).

2.2.2.6. At this stage no separate interim objective is proposed for soil eutrophication, although the Commission does suggest considering such an objective as part of the planned review in 2004. The proposal is rather vague about the reasons for this delay. The Commission claims that as a result of the proposed national emission ceilings, the Community area affected by soil eutrophication will be reduced by ca. 30 % compared to 1990. The Committee regrets that such a separate objective has not been proposed by the Commission. In this connection, it should be recalled that the planned multi-pollutant/multi-effect protocol does pursue such an objective.

2.3. *The means to achieve the objectives*

2.3.1. The analysis carried out by the Commission shows that in order to achieve the identified interim objectives, it is necessary to achieve emission reductions beyond the so-called 'reference' or 'business as usual' scenario, which incorporates most of the relevant existing and already proposed EC legislation as well as relevant national legislation and policy plans.

2.3.2. The necessary additional emission reductions will be pursued in the framework of the proposed national emission ceilings. These national ceilings, which also encompass the emission reductions resulting from the legislation and policy plans included in the reference scenario, have been allocated on the basis of a comprehensive analysis of a cost-effective distribution of emission reductions between the Member States, again using the results of the RAINS model. The ESC welcomes this differentiated approach to achieving the interim objectives, which involves significantly lower costs than an approach based on flat rate percentage reductions. It should be kept in mind that the national ceilings approach gives the Member States the required degree of flexibility to determine — taking account of their specific national situation — which measures are best suited to comply with the emission ceilings allocated to them. However, the Committee takes the view that the Commission should play an active coordinating role in connection to the preparation and updating by the Member States of the planned national programmes (Art. 6) and emission inventories and projections (Art. 7) in order to ensure the optimal mix of emission reduction measures, to ascertain the stage reached in their implementation and to take the necessary corrective action.

2.3.3. The NEC Directive will be the main tool for ensuring that the interim objectives for acidification and ground-level ozone are met. For ozone, however, it will be complemented by a Directive on concentrations of ozone in ambient air. In submitting a proposal for this (third) air quality daughter Directive, the Commission fulfils the obligation laid down in the 1996 Air Quality Framework Directive. In line with the provisions of this framework Directive, the proposed ozone daughter Directive sets 'target values' for (local) human health and vegetation related ozone concentrations to be achieved in 2010. These target values have been derived from the interim objectives established for ozone (see 2.2.2 above). This implies that the proposed national emission ceilings will ensure compliance with the target values at regional level; to ensure attainment of these values at local level — i.e. to reduce locally generated excess levels — Member States may have to take further action.

2.3.4. The Committee notes that the Commission considered two options for expressing the target value for human health [1] and that it concluded that it was preferable to base it on the long-term objective for ozone, i.e. the WHO guideline. Taking into account the reasons outlined in point 5.3 of the explanatory memorandum and the fact that the great majority of experts including the CSTEE endorsed the Commission's decision, the ESC regards the proposed objective as a valid one, especially in terms of benefits for human health.

3. **Specific remarks**

3.1. As far as the identification and implementation of specific emission reduction measures by the Member States is concerned (cf. Article 6 of the NEC proposal on the national programmes to be drawn up), it is necessary to draw the logical conclusion from the options suggested by the modelling (see point 2.5 of the explanatory memorandum). This ensures the most appropriate combination of measures at national level and forms of synergy which can be achieved among sectors. The necessary measures involve redirecting investments and technological innovations towards 'sustainable growth'. They should increasingly be of a preventive kind, rather than corrective ('end-of-pipe') measures, and should be combined with existing efforts to achieve energy saving, use of alternative energy sources, a sustainable transport and mobility policy, and encouragement for 'clean' production methods and products.

3.2. As to the tools to be used to implement such measures, the Committee underlines the potential of financial instruments. If well designed, levies and charges, which comply with existing legislation and with the competition requirements of a globalised market, can be very effective tools to achieve environmental objectives. [2] Such levies and charges, established at national level,, should perhaps be coordinated at European or international level. By the same token, the use of incentives related to levies and charges to redirect investments

[1] See point 5.3 of the explanatory memorandum.

[2] See, for instance, the recent report The use of Economic Instruments in Nordic Environmental Policy 1997-1998 published by the Nordic Council of Ministers (Copenhagen, 1999).

and the promotion of technological innovations (see 3.1 above) should also be considered. In addition, incentives should be identified and gradually developed for companies who take steps to find substitutes for unsustainable activities (e.g. those causing acidification, ozone formation and eutrophication). Finally, the Committee also calls on the Member States to examine the scope for (voluntary) environmental agreements.

3.3. The planned multi-pollutant protocol, that involves the accession countries, can be considered a starting point for further emission reductions by these countries in the future as they join the European Union. This could eventually take the form of their own NECs, setting out transitional stages. As action in these countries beyond the protocol requirements is likely to be very cost-effective, the question could therefore be asked whether, between now and the time of their accession, measures in addition to those provided for by the protocol could not be encouraged.

3.4. Regarding the proposed 'ozone' Directive, the Committee welcomes the dissemination of up-to-date information on ozone concentrations to the public (see Art. 6). However, it considers that the 'information threshold', which is aimed primarily at informing sensitive parts of the population, should be divided proportionately among the Member States, depending on their climate and geography and the frequency with which maximum levels are exceeded, where appropriate even descending below the 180μg/m³ (1 hour average) proposed by the Commission. [1]

3.5. The Committee also suggests public education and training campaigns to inculcate awareness and good practice in the area of health protection - an aspect to be included in all policies, especially in relation to urban pollution problems. Initiatives such as the 'network of sustainable cities' or the 'car-free days' organised in a number of European cities help to raise awareness and improve understanding of the measures to limit pollution, in terms of their benefits for health.

3.6. The Committee would finally underline the importance of effective enforcement of the proposed Directives. In this respect it notes that the Commission proposals (Art. 12 of the NEC Directive and Art. 13 of the ozone Directive) require Member States to lay down the rules on penalties applicable to infringements of the national provisions adopted pursuant to the Directive in question. It goes without saying that should Member States themselves not live up to the Directives, such national penalties have to be complemented by action by the Commission in accordance with its role as the guardian of EC legislation.

3.7. The Committee welcomes the review mechanism provided for under Article 9 of the NEC Directive, to be based on periodical reports. These will enable the Commission to propose changes in the national emissions ceilings listed in Annex 1, taking into account the factors listed under Article 9(1) (including international commitments made in relation to climate change). In this respect, special attention should be given to the future improvement of the RAINS model.

4. **Suggested measures and programmes for individual Member States to reduce emissions of the pollutants in question**

4.1. Bearing in mind the comments made in 2.3.2 regarding the need for national programmes to be actively coordinated, the Committee recommends a number of measures to be implemented and monitored in the various national, regional and local situations. The potential for synergy is obvious and some of the measures dovetail with those relating to climate change. The Committee proposes to look into this matter in further detail as part of its future activities.

1. *Reducing energy consumption in the transport sector*

Working on the assumption that national and local transport sector programmes, financed under State and regional laws, must generally be aimed at increasing energy efficiency, the Committee recommends the following measures:

— maximum joint financing of measures to promote sustainable mobility in urban areas and areas designated by the regions (areas at risk from atmospheric pollution). Such measures could include:

  a) preparing and updating urban traffic plans, paying special attention to their efficiency in terms of the reduction of ozone;

[1] See the 1998 and summer 1999 annual reports on tropospheric ozone pollution in the EU. Last summer, the population information threshold was passed in nearly all EU countries. The most critical situations were found in Italy, Greece, France and Spain where the public was informed of high ozone pollution for between 68 and 40 days running.

b) in urban areas and areas with over 500 000 inhabitants, implementing intelligent transport systems (ITS), building and improving park-and-ride schemes, increasing public transport capacity using hybrid electric or gas-powered vehicles, reorganising goods distribution using incentives to encourage companies to use hybrid electric or gas-powered vehicles;

— joint financing of the additional cost of using high-efficiency fuels in public transport and vehicle fleets;

— joint financing of the purchase of electric/hybrid/low-emission vehicles for public and public service fleets on small islands;

— joint financing of production and purchase of two-wheeled electric vehicles for government bodies and public services.

2. *Generating energy from renewable sources*

Working on the assumption that the generation of energy from renewable sources is also promoted by other legislation, the Committee recommends the following measures:

— joint financing of the construction of biomass power plants, preferably integrated with district heating networks;

— joint financing of the construction of solar thermal power plants;

— joint financing of the construction of photovoltaic power plants;

— joint financing of the construction of plants on small islands to generate power from the wind, urban solid waste fuel, and biogas.

3. *Reducing energy consumption in the industrial, household and services sectors*

Working on the assumption that reducing energy consumption is an objective of many programmes for public, residential and industrial buildings, the Committee recommends:

— joint financing of programmes for the efficient use of electricity and the reduction of consumption in private homes, offices, public buildings and industry and of the reduction of the overall cost of programmes, joint financing of measures on the additional cost of products, and on extra costs generally;

such programmes could include:

a. energy audits,

b. measures targeting housing and related buildings,

c. urban regeneration and sustainable development,

d. promotion and dissemination of high-efficiency electrical components and, heating and air-conditioning systems in the housing sector, in offices and in public buildings,

e. use of high-efficiency electrical parts in industry;

— joint financing of the additional cost of programmes for the use of innovative fuels with a low environmental impact and for the efficient use of fuels in industry.

4. *Reducing emissions in non-energy sectors*

The following measures are recommended:

— joint financing of programmes to reduce ammonia emissions from livestock farms.

5. *National information campaign on climate change*

— joint financing of public information campaigns and promotion of better techniques and practice which increase energy efficiency and reduce emissions;

— joint financing of public information campaigns, drawn up by public and goods transport service providers, to promote high-efficiency, low-emission transport systems;

— joint financing of public information campaigns, drawn up by managers of biomass power plants, to promote district heating.

6. *National research programme on climate change*

— a 'basic project' to assess and certify progress made in the emission reduction programme, as required by the Convention on Climate Change, the Kyoto Protocol and European Union decisions. This would involve updating emissions data, national data banks, numerical climate simulations and generation of the related climate scenarios;

— joint financing of applied research projects to develop technologies that are highly energy-efficient and low in

pollutant emissions for combined cycle plants, industrial and public cogeneration plants and in emulsion and residue gasification plants;

— joint financing of applied research projects for the development of low-emission transport technologies and systems.

Brussels, 8 December 1999.

The President

of the Economic and Social Committee

Beatrice RANGONI MACHIAVELLI

Opinion of the Economic and Social Committee on 'The development of outlets for food and non-food packaging waste'

(2000/C 51/04)

On 29 April 1999 the Economic and Social Committee, acting under the third paragraph of Rule 23 of its Rules of Procedure, decided to draw up an own-initiative Opinion on 'The development of outlets for food and non-food packaging waste'.

The Section for Agriculture, Rural Development and the Environment, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 16 November 1999. The rapporteur was Mr Verhaeghe.

At its 368th plenary session (meeting of 8 December 1999), the Economic and Social Committee adopted the following opinion by 112 votes with 1 abstention.

1. **Introduction**

1.1. In presenting this own-initiative opinion, the Economic and Social Committee is seeking to contribute to the discussion currently under way on a number of fronts within the EU on the recycling of waste, and packaging waste in particular. The key element of this discussion is the forthcoming revision of Directive 94/62/EC on packaging and packaging waste. This directive is essentially concerned with targets for the recycling of packaging waste, which are currently fixed at 25% as a minimum and 45% as a maximum by weight of the packaging placed on the market. Five years after its introduction, this directive has improved levels of non-recovered packaging waste and the management of household waste. This achievement shows that, in its present form [1], the directive is undoubtedly a first step in the right direction. The present opinion must also be viewed in the light of the debate within the Recycling Forum set up at the start of the year (this forum intends to submit a number of recommendations to the Commission by the end of 1999 on ways of tackling the difficulties faced by the EU recycling industry), as well as the Commission's future follow-up to these recommendations (in the form of a communication to the Council and the European Parliament).

1.2. The intention is not, of course, to repeat the substantial work carried out by the Recycling Forum, which deals mainly with the economic, technological and legal aspects of waste recycling, or to issue an opinion on the proposed revision of Directive 94/62/EC, which the ESC will look at another time. The present own-initiative opinion asserts the ESC's determination to deal with the basic issues underlying the results — the achievements as well as the shortcomings — of the recycling sector. The depletion of natural resources and the importance of conserving our environment make it essential to retain an approach to recycling which is proactive, forward-looking and geared to the need to develop outlets. However, the Committee also feels it is essential to address the economic considerations connected with packaging waste recycling. Indeed, the idea of sustainable development meshes both environmental and economic factors.

[1] We also refer to the ESC Opinion of 24 March 1993 on the Proposal for a Council Directive on packaging and packaging waste which gave the broadest endorsement to the directive in its present form.