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GREEN PAPER

on

The Impact of Transport on the Environment

A Community strategy for "*sustainable mobility*"

(Communication from the Commission)

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I. GENERAL INTRODUCTION

a. Preliminary comments

1. The impact of transport on the environment is coming under close scrutiny in the industrialised world and more particularly in the Community. The global nature of environmental issues - such as the "greenhouse effect" - has led to a growing awareness of the need for a world-wide approach to environmental problems.

This global approach in turn has highlighted the need to focus on the causes of environmental problems in a different manner. It is no longer considered sufficient to assess the primary or immediate causes, but to go to the very root of the problem - human behaviour. Thus, the Bergen Declaration⁽¹⁾ stresses that "unsustainable patterns of production and consumption, particularly in industrialised countries, are at the root of numerous environmental problems, notably foreclosing options for future generations by depletion of the resource base".⁽¹⁾ It warns that "the attainment of sustainable development... requires fundamental changes in human values towards the environment and in patterns of behaviour and consumption..."⁽¹⁾ and in this respect highlights the need "to reduce the harmful effects of the transport sector on the environment by promoting fast, safe, and convenient urban and regional transport services and reducing urban car traffic" ⁽¹⁾. Also noted, is the need to encourage low transport demand.

2. Hence, a number of human activities, of which transport, has come under close scrutiny. Indeed, transport is increasingly being qualified as a human activity with a negative impact on the environment. A clear illustration of this is the concern about the environmental nuisance and damage caused by the high level of traffic in sensitive geographical areas such as

(1) Bergen Ministerial Declaration on sustainable Development in the ECE Region, 16 May 1990, p. 2, 4 and 11.

the Alps, as well as in densely populated areas, particularly large conurbations.

This view is also endorsed by the Group Transport 2000 Plus in its report "Transport in a Fast Changing Europe", which identifies transport as a major contributor to energy and environmental problems since it is one of the main consumers of fossil fuels and is responsible for considerable nuisance and damage to the environment⁽¹⁾.

b. Historical background

3. Following the declarations at the Paris Summit in October 1972 a decisive political impetus was given to consideration of the environment in planning the socio-economic development of the Community. As a result, the Commission adopted a first Action Programme on the Environment for the period 1973 to 1977. The main concern was to ensure the proper functioning of the Common Market by amongst others introducing harmonised standards for consumer products.

Hence, for the transport sector this programme provided for technical improvements of noise and gaseous emissions of motor vehicles as well as for the maximum content of lead in fuel. It also provided for specific action in the area of marine pollution resulting from sea transport. The programme already drew attention to transport problems in the urban environment.

4. The second Action Programme for the period 1977 to 1981 continued the same line of action. It concentrated as far as transport was concerned on marine pollution, measures to reduce noise from motor vehicles, motor cycles and aircraft.

(1) Group Transport 2000 Plus, Transport in a Fast Changing Europe, December, 1990.

The third Action Programme for the period 1982-1986, however, introduced a new dimension into the general philosophy. Environmental policy was to be motivated by the fact that the environment itself contains the limits to further economic and social development. This Action Programme stressed the need for a greater awareness of the environmental dimension in the area of transport. Vehicle emissions, aircraft noise and the environmental impact assessment of infrastructure projects were earmarked as priorities.

5. It is only in the fourth Action Programme for 1987-1992 that the interaction between transport and the environment is duly recognised as being of a wide-ranging nature.

This new approach was the result of the Single Act which in Article 130 R provides that environmental protection requirements shall be a component of the Community's other policies. This approach was endorsed in the Declaration by the European Council of June 1990, which stresses the need for sustainable and environmentally sound development as advocated in the 1987 Report "Our Common Future" by the World Commission on Environment and Development (the Brundtland Report).

6. A more specific response in this direction was given by the Commission in April 1989, when it was deemed necessary to reflect on the relationship between environmental policy and other Community policies, in particular in the field of transport. The outcome of this exercise provided the guidelines for further work in this area with a view to examine the impact of transport on the environment in a global and coherent framework.
7. This Green Paper is the logical follow-up to that initial response as well as to the world-wide concern about a number of global environmental issues. The Community position on 'global warming' as reflected in the Conclusions of the Joint Energy and Environment Council of 29 October 1990 on Climate Change Policy and its commitment to the stabilisation of CO₂

emissions by the year 2000 and the possibility of reductions thereafter confirms this concern as well as the need for action.

This Green Paper is also in line with the guidelines on urban transport policy set out in the Commission Green Paper on the Urban environment⁽¹⁾ and takes account of the need to create new opportunities for the peripheral regions so that they may share fully in the prosperity of the Single Market as set out in the Commission Communication 'Europe 2000'.⁽²⁾

It is also a response to the Resolution adopted by the European Parliament in September 1991, which calls upon "the Commission to submit to the Council a framework programme for optimum environmental protection in the European transport market."⁽³⁾

8. This Paper is also in line with the forthcoming Fifth Action Programme on the Environment "Towards Sustainability", which outlines a new policy and strategy for the protection of the environment and natural resources and the achievement of sustainable development.

The approach adopted differs fundamentally from that of previous Environmental Action Programmes, since it focuses on the agents and activities which deplete natural resources and damage the environment. Its objective is to initiate changes in current trends and practices which are detrimental to the environment, so as to ensure socio-economic well-being and growth for present and future generations. Such changes are to be achieved through shared responsibility, involving public administrations, public as well as private enterprise and the general public, in accordance with the principle of subsidiarity.

(1) [COM(90)218 final of 27 June 1990]

(2) [COM (91) 452 final of 7 November 1991]

(3) PE 145.075/end of September 1991

The Fifth Action Programme focuses on five main economic "target" sectors, including the transport sector, and includes actions designed for the protection of the environment as well as for the benefit and sustainable development of the sectors themselves.

This Paper converts and adapts the objectives and targets included in the Fifth Action Programme into a global and coherent strategy for the transport sector.

9. This Green Paper provides an assessment of the overall impact of transport on the environment and presents a Common strategy for "*sustainable mobility*" which should enable transport to fulfil its economic and social role while containing its harmful effects on the environment.

The purpose of the Paper is to initiate a public debate on how to achieve the objectives of such a strategy which is to be subsequently fully integrated into the forthcoming White Paper on the future development of transport policy in the Community.

The principle of subsidiarity will play an important part in ensuring that the strategy is given its full effect by appropriate national, regional and local initiatives.

Clearly, many of the areas discussed in this Paper are areas in which the Community's contribution will not be legislative - but may be in the research field, in standard setting, or in the definition of objectives. The legislative role may in such cases fall to Member States, or to local or regional authorities. The purpose of this Paper is to initiate discussion, rather than to programme a series of Community legislative acts.

11. PROBLEMS AND ISSUES

a. Current issues

10. The 1989 and 1990 Scientific Assessments of the Intergovernmental Panel on Climate Change (IPCC) has drawn world-wide attention to the causes and consequences of the "greenhouse effect". Although scientific evidence is not yet conclusive as to the scale of the problem, there is general agreement that the high atmospheric concentrations of "greenhouse gases" will have an effect on the earth's climate, causing the "warming" of the globe and the ensuing rise in the average sea levels.

Energy-generation, industry and transport have been identified as the major sources of carbon dioxide, which is the main man-made "greenhouse gas".

11. The depletion of the ozone layer, which reduces the protection of the earth against ultra-violet radiation from the sun, is caused by emissions of chlorofluorocarbons (CFCs) and halons. The direct contribution of transport to this phenomenon is due mainly to the refrigerated transport of goods and air-conditioned vehicles.

No less important but more restricted in its geographical range is the phenomenon of "acid rain", which affects animal and plant life and corrodes building materials. Transport contributes to "acid rain" through sulphur and nitrogen oxide emissions.

12. Other current issues include the build-up of ozone in the troposphere, caused by the emission of volatile organic compounds and nitrogen oxides, with harmful effects on human health and animal life. Transport contributes to this phenomenon.

13. All these current issues concern different forms of atmospheric pollution.

Another current issue is that of the damage to which the urban environment is exposed. Transport is considered to be one of the root causes of present urban degradation.

b. The role of transport

14. For the purpose of this Green Paper transport includes the carriage of goods and persons by any mode of transport - road, rail, inland waterways, sea and air -, private or public, for payment or not, irrespective of the purpose - private or commercial. Traffic represents the physical result of transport.

Transport is vital to both our economic and social well being. It is vital to the production and distribution of goods and services as well as to trade and regional development.

15. Since the beginning of the 1950's transport has made a major contribution to economic growth and has enabled the achievement of economies of scale in production and, by increasing competition in hitherto protected markets, has led to a wider range of choice for both the producer and the consumer with direct and indirect effects on the quality of life.

Transport has also contributed to the significant growth of tourism, which accounts for over 5 % of GDP and provides over 8 million jobs.

16. In the Community the transport sector contributes approximately 7% to the Gross Domestic Product and represents 7% of employment⁽¹⁾. These figures go up to 10% and 9% respectively, if transport for own account of both goods and persons as well as the production of transport means and infrastructure are included⁽²⁾.

(1) Group Transport 2000 Plus, op.cit, p. 5.

(2) E. Jacobs, Le marché européen unique : un défi pour la politique des transports, 1990, p. 4-5.

According to OECD estimates the socio-economic cost - including pollution, congestion and accidents - in the case of road transport could, however, be as high as 5% of GDP⁽¹⁾. This estimate does not represent the full external cost of transport since it does not cover all forms of environmental impact - namely the cost of the "greenhouse effect" - and is limited to only one transport sector.

17. Technological developments since the beginning of the 1950's have enabled people to travel more quickly, more often and over longer distances, breaking down economic, social, national, ethnic and geographical barriers.

These developments have led to the mass movement of people and have greatly affected behaviour patterns and the general way of life, particularly in industrialised countries. The advent of the motor car and its widespread availability have encouraged a way of life where people feel entitled to mobility and the absence of a private means of transport is often felt as a handicap since it reduces access to available amenities.

c. Impact of transport on the environment

18. For the purpose of this paper environment includes the quality of life, living conditions of human beings and the natural environment with suitable habitats for animals and plants. The quality of life is determined by the long-term availability in sufficient quantity and of adequate quality of resources such as water, air, land and space in general as well as raw materials. It also includes the natural and cultural heritage.
19. Apart from initiatives in the shipping sector to prevent damage to the marine environment, the impact of transport on the environment was, until recently, viewed mainly in terms of atmospheric pollution and noise emissions.

(1) OECD (1988) : Transports et Environnement, Paris, 1988, p. 11.

Efforts to control atmospheric pollution caused by transport concentrated only on emissions of certain pollutants emitted by motor vehicles. Emission standards were introduced in industrialised countries for carbon monoxide (CO), hydrocarbons (HC), nitrogen oxides (NO_x) and diesel particulates. The Community adopted legislation to reduce vehicle emissions as well as to encourage the use of unleaded petrol. Community standards have been regularly adapted to technological progress.

20. In the case of noise emissions, industrialised countries introduced limits for cars, buses, goods vehicles, motor-cycles and aircraft. The Community adopted limits on noise emissions for goods and passenger vehicles, as well as for motorcycles, and introduced legislation for the phasing out of the noisiest aircraft. No limits were introduced for noise emissions from railways.

21. This approach was one-sided, since these measures were limited largely to vehicle emissions and, thus, were confined to only one aspect of the impact of a single transport sector on the environment.

However, all power-driven transport affects the environment and generates pollution. The impact is not limited to atmospheric pollution and varies in scale and range according to the mode of transport.

22. Thus, in order to ensure the widest possible assessment of the impact of transport on the environment the analysis in this Green Paper is based on a number of criteria related to the quality of the environment as defined above. These criteria include the operational impact of transport on air, water and soil as well as the quality of life, the impact of transport infrastructure on space, the consequences of congestion as

well as the risks inherent to the transport of dangerous goods. The analysis also provides an assessment of the specific problems caused by transport and traffic in the urban environment.

