

Bulletin  
of the  
EUROPEAN  
COMMUNITIES

*Supplement 3/73*

# **Programme of environmental action of the European Communities**

Commission  
of the European Communities



**Bulletin  
of the European Communities**

**Supplement 3/73**

**Programme of  
environmental action of the  
European Communities**

**Draft Council Resolution  
on a Community environmental programme**

**Proposal for a Decision  
on information of the Commission  
on environmental matters**

**(forwarded by the Commission to the Council  
on 17 April 1973)**

**EUROPEAN COMMUNITIES  
Commission**



---

# contents

---

Programme of the environmental action of the European Communities . . . . .	5
FIRST PART: <i>Objectives and principles of an environment policy in the Community and general definition of the projects to be undertaken at Community level during the next two years</i> . . . . .	6
Introduction . . . . .	6
I. Objectives of a Community environment policy . . . . .	6
II. Principles . . . . .	7
III. General definition of the action to be undertaken as part of the Communities' environment programme . . . . .	8
IV. Priorities and deadlines . . . . .	13
SECOND PART: <i>Detailed description of the actions to be undertaken at Community level over the next two years</i> . . . . .	14
I. ACTIONS RELATING TO THE REDUCTION OF POLLUTION AND NUISANCES . . . . .	14
Objective evaluation of the hazards to human health and to the environment as a result of pollution . . . . .	14
The laying-down of health standards . . . . .	15
Specific projects to combat pollution of the environment . . . . .	16
Exchange of information between the surveillance and monitoring networks . . . . .	16
Methods for defining quality objectives for the environment and for establishing rules to enable the objectives to be achieved . . . . .	17
Specific measures relating to certain products . . . . .	20
Action specific to certain sectors of industry and to energy production . . . . .	22
Action specific to certain sectors of industry . . . . .	22
Action relating to energy production . . . . .	24

Action specific to certain areas of the common interest . . . . .	25
Marine pollution . . . . .	25
Protection of the waters of the Rhine basin against pollution . . . . .	28
Projects concerning environmental protection in frontier areas . . . . .	30
Action concerning wastes and residues . . . . .	30
Measures aimed at ensuring effective compliance with the limits imposed for the protection of the environment . . . . .	33
Action to be taken with regard to the economic aspects of anti-pollution measures . . . . .	34
Research projects concerning protection of the environment . . . . .	35
Dissemination of knowledge relating to environmental protection . . . . .	36
II. PROJECTS AIMED AT IMPROVING THE ENVIRONMENT	40
Protection of the natural environment . . . . .	40
Problems raised by the depletion of certain natural resources . . . . .	42
Urban development and improvement of amenities	46
Improvement of the working environment . . . . .	50
Creation of a European foundation to improve living and working conditions . . . . .	51
Promotion of environmental awareness through education . . . . .	53
III. ACTION ON THE PART OF THE COMMUNITY OR JOINT ACTION BY THE MEMBER STATES WITHIN THE INTERNATIONAL ORGANIZATIONS . . . . .	55
ANNEX I. ENVIRONMENTAL PROTECTION TERMINOLOGY	56
ANNEX II. TABLE GIVING THE CORRELATION BETWEEN THE PROJECTS LISTED IN THE EUROPEAN COMMUNITIES' ENVIRONMENTAL PROGRAMME AND THE ONGOING OR PROPOSED RESEARCH	59
<b>Draft Council resolution on a Community environmental programme . . . . .</b>	<b>63</b>
<b>Proposal for a decision on information of the Commission on environmental matters . . . . .</b>	<b>65</b>

**Programme of  
environmental action of the  
European Communities**

## First part

# Objectives and principles of an environment policy in the Community and general definition of the projects to be undertaken at Community level during the next two years

## *Introduction*

The signatories to the Treaty of Rome assigned themselves among other objectives defined in the Preamble 'the constant improvement of the living and working conditions of their peoples' and 'the harmonious development of their economies'.

In Article 2 of the Treaty, the following are included in the statement of the task assigned to the Community: 'throughout the Community a harmonious development of economic activities, a continuous and balanced expansion, an accelerated raising of the standard of living and closer relations between its Member States'.

When they met in Paris on 19-20 October 1972, the Heads of State or Government declared that 'economic expansion, which is not an end in itself, must be a priority help to attenuate the disparities in living conditions. It must develop with the participation of both sides of industry. It must emerge in an improved quality as well as an improved standard of life. In the European spirit, special attention will be paid to non-material values and wealth and to protection of the environment so that progress shall serve mankind'.

This readiness to ensure that the Communities direct their activities towards the improvement not only of the standard of living conditions and the quality of life is expressed more precisely still in Point 8 of their Declaration.

There they stress 'the value of a Community environment policy'. To this end, they request the Community Institutions to draw up a pro-

gramme of action with a precise schedule before 31 July 1973.

The present programme has been drawn up in response to this request. It is the result of detailed preparatory work and wide-ranging comparisons of viewpoints between the Commission and the representatives of the Member States. It also takes into account the opinions expressed by the European Parliament, the Economic and Social Committee and the employers' and workers' organisations.

## *1. Objectives of a Community environment policy*

The aim of the Community environment policy is to improve the setting, surroundings and conditions of life of the Community population. It seeks to bring expansion into the service of mankind by procuring for mankind an environment providing the best conditions of life, and to reconcile this expansion with the increasingly imperative necessity of preserving the natural environment.

It should in particular include projects with a view to:

- preventing, reducing, and as far as possible abolishing the harmful effects of pollution and nuisances on the environment;
- ensuring the sound management of natural resources, the balance of ecological systems and protection of the biosphere;
- guiding development in accordance with the requirements of quality, by the improvement of working conditions and the settings of life;
- planning the geographical distribution of activities, housing and transport conditions so as to curb in particular the harmful consequences of the increasing concentration of people in the towns;



- organizing cooperation with States outside the Community in order to find common solutions to the environment problems engendered by economic and industrial development.

## II. Principles

The Community's environment policy should be based on the following principles:

1. The best protection of the environment consists in preventing at source the creation of pollution or nuisances, rather than subsequently trying to counteract their effects. To this end, technical progress must be devised and guided to meet needs of environmental protection, at the least cost to the community.

Therefore techniques should be exploited and developed which help to reduce pollution, to diminish the cost of anti-pollution measures and to make better use of natural resources and energy.

2. The effects on the environment should be taken into account as early as possible in all the technical processes of planning and decision-making. The environment can no longer be considered as external surroundings by which we are harassed and assailed, but is now an essential factor in the organisation and promotion of human progress. It is accordingly necessary to evaluate the effects on the quality of life and on the natural environment of any measure adopted or contemplated at national or Community level and to work out procedures and systems for the purpose.

3. All exploitation of resources and the natural environment causing significant damage to the ecological balance must be banned. The environment and its limited capacity to absorb waste and neutralize its harmful effects must be considered as a resource which may be used but not abused. The Community must therefore establish optimum management of this resource by defining medium- and long-term policies for making the best use of natural

resources and selecting options in accordance with the real interests of the community.

4. The standard of scientific and technological knowledge in the Community should be improved and the appropriate research encouraged with a view to taking efficient action against pollution and nuisances.

5. The cost of preventing and abolishing nuisances must be borne by the polluter. However, certain exceptions and special arrangements, in particular for transitional periods, can be allowed provided that they cause no significant distortion in international trade and investments. Such exceptions and arrangements must be defined at Community level.

6. In the spirit of the Declaration on the human environment adopted in Stockholm, care should be taken to see that activities carried out in one Member State do not cause any degradation of the environment in another State.

7. The Community and its Member States must take into account in their environment policy the interests of the developing countries, and must in particular examine any repercussions of the measures contemplated under that policy on the economic development of such countries and on trade with them, with a view to reducing adverse consequences as far as possible.

8. The efficacy of efforts to promote international and world environmental research and policy will be enhanced by a clearly conceived long-term European policy in this field. In the spirit of the Declaration of Heads of State or Government at Paris, the Community and the Member States must make their voices heard in the international organizations dealing with aspects of the environment and must make an original contribution in these organizations, with the authority which a common point of view confers on them.

9. Environmental protection is a matter for all Community citizens, who should be made aware of its importance. The success of an

environment policy presupposes that all categories of the population and all the social forces of the Community help to protect and improve the environment. This means that at all levels continuous detailed educational activity should go on in order that the entire Community may become aware of the problem and assume its responsibilities in full towards the generations to come.

10. For each different class of pollution, the level of action (local, regional, national, Community, international) best suited to the type of pollution and to the geographical zone to be protected should be sought.

Projects which are likely to be the most effective at Community level should be concentrated at that level; priorities should be determined with special care.

11. Environment policies should be harmonized in the Community and the national programmes on the environment should be coordinated among the Member States and with the Community programmes on the basis of a common long-term plan.

Such coordination and harmonization should permit greater efficiency of the action carried out in the Community to protect the environment, by ensuring an improved concentration of tasks and a better utilization of financial resources, and should prevent the achievement of Community objectives and the smooth running of the Common Market from being affected by any adoption by the various Member States of disparate or divergent national policies.

Such coordinated and harmonized progress of the national policies should not result in the hampering of progress already accomplished or which might be accomplished at the national level. However, such progress at the national level must be made in a form which does not jeopardize the smooth running of the Common Market.

Coordination and harmonization of this kind will be achieved in particular :

- by the application of the appropriate Articles of the Treaties;

- by the implementation of the projects described in this programme;
- by the implementation of the environment information procedure.

### *III. General definition of the action to be undertaken as part of the Communities' environment programme*

In order to protect the natural environment and improve living conditions, a variety of projects need to be carried out.

Measures to be taken to reduce pollution and nuisances, steps being taken to ensure that the improvement of living conditions and the ecological factors which will henceforth be regarded as data essential for the organization and promotion of human progress are integrated into the planning and application of common policies.

The Community and the Member States must also take certain measures within the framework of international bodies with the purpose of avoiding duplication, cooperating with non-Community countries and ensuring that the international bodies give due regard to the specific interests of the Community.

For this reason, the Communities' programme of action on the environment consists of three types of project:

1. Projects aimed at reducing and preventing pollution and nuisances. The main task is to set up a common framework for reference and methods, to limit the presence of pollutants in the environment and in products, to carry out research and to improve information and documentation;

2. Projects intended to improve the environment and the quality of life. These projects involve protection of the natural environment, the problems posed by the depletion of certain natural resources, the optimum distribution of

activities and people with a view to protecting or improving the environment, the improvement of the working environment, the establishment of an institution with the purpose of improving living and working conditions, and the information and education of the public.

Some of these projects will have to be worked out under an environmental policy and at the same time under more specific policies, e.g., social policy, agricultural policy and regional policy.

3. Community action or, where appropriate, joint action on the part of the Member States in the international organizations dealing with environmental questions.

#### **Action designed to reduce pollution and nuisances**

In order to protect man and his environment against pollution and nuisances, the public and private bodies responsible at various levels for taking definite action against sources of pollution must be in possession of objective analyses of the facts and results of studies illustrating the ecological, economic and social consequences of any given measure among other possible options.

A study of the problems raised in the fight against pollution reveals the existence of several gaps: gaps in scientific knowledge and methods of analysis and measurement, gaps in economic experience, especially as regards the cost of the damage caused by pollution and of the measures to counter this and, finally, gaps in statistical data.

Faced with this situation, the Member States are attempting, either individually or within international organizations, to extend their knowledge of pollution as a whole and to devise suitable methods of data acquisition and analysis.

Since they are often pressurized by circumstances and public opinion into taking certain steps quickly, the public authorities in each Member

State carry out their own assessment of the risks involved in pollution and the consequences of the decisions contemplated. Such a situation has serious drawbacks, namely, an obvious dispersal of effort, a waste of financial and human resources and the implementation of differing measures due to different interpretations of the facts. The existence of economic and social disparities between the Member States, the differences between their regions and the unequal amounts of importance which they attach to environmental protection also accentuate these differences.

There is now a danger that a new sort of protection justified by the protection of the environment will arise in the Community without its being possible to assess the value of the justifications advanced objectively, or that a wait-and-see policy might develop.

In order to fill these gaps and combat the drawbacks, this programme includes a number of actions aimed at laying a common base for evaluating the facts and providing a common framework of references and methods. These are listed below and a detailed description can be found in Part 2 of the programme.

1. The laying-down of scientific criteria<sup>1</sup> for the harmfulness of the principal forms of air and water pollution and for nuisances due to noise. This action must go hand in hand with the standardization or alignment of the methods and instruments used in measuring these pollutants and nuisances. In the laying-down of criteria priority will be given to the following pollutants: lead and lead compounds, organic halogen compounds, sulphur compounds and particles in suspension, nitrogen oxides, carbon monoxide, mercury, phenols and hydrocarbons.

2. The drawing-up of common methods enabling environmental quality standards<sup>1</sup> to be set at the appropriate levels for the various regions (geographical, economic and demographic) of the Community and also the mea-

---

<sup>1</sup> These terms are defined more closely in Annex I to Part 2 of the programme.

sures needing to be taken against sources of pollution in order to meet these standards. Priority will be given to devising methods for defining quality standards for water.

3. The organizing and promotion of exchanges of technical information between the regional and national pollution monitoring and control networks. In due course this action will facilitate the implementation of a Community information system dealing with the data acquired by these networks and the inclusion of these in the world monitoring system envisaged by the UNO.

4. The adoption of a common method of estimating the cost of the fight against pollution. During an initial stage an attempt will be made, in collaboration with the OECD, to establish methods of estimating the cost of the fight against air and water pollution, and against the pollution caused by certain industrial activities.

These activities will be rounded off by an analysis of the economic tools which can be used under an environmental policy in view of the twofold requirement of observing the rules of the Common Market and the principle of making the polluter pay.

A study will also be made of the methods of estimating the cost to society of the damage to the environment with a particular view towards including these costs in a suitable form in national accounting figures and the determination of the GNP.

Finally, a common method of categorizing and describing anti-pollution activities based on the Frascati research manual will be developed.

\*

These actions will be backed up by a joint research programme and by the setting-up of a European documentation bureau responsible for processing and disseminating information on environmental protection, starting with that relating to anti-pollution techniques and technologies and to the effects of pollution on human health and the natural environment.

As far as the research programme is concerned, work on the environment already features in the JRC's multiannual programme adopted by the Council in February 1973. In addition, the Commission has passed on proposals covering research into pollution and nuisances in the draft programme of indirect action addressed to the Council on 9 March 1973. Priority will be given to research in support of the actions contained in this programme.

A European pollution control policy cannot, however, be confined to this type of project. It should also be aimed at the adoption of common measures for the protection of the environment and the reconciling of that objective with the smooth running of the Common Market. It should therefore also include the establishment of Community limits to pollution whenever the protection of human health and the natural environment and whenever free trade and competition so require. Some of these limits should be established without delay as a matter of urgency.

Thus the following projects need to be carried out:

1. As stated above, standardization or harmonization of pollutant sampling, analysis and measuring methods and techniques. Priority will be given to the standardization of methods of measuring hydrocarbons with known or suspected carcinogenic effects, photochemical oxidants, asbestos and vanadium.

2. The establishment at Community level, even before the establishment of criteria, of minimum health standards for lead, mercury, cadmium and organic halogen compounds in the environment or in products and for chemicals and noxious germs in water for human consumption.

3. The harmonization of pollutant specifications. A start has already been made with a view to removing technical barriers to trade, but studies should also be carried out on the noxious effects of pollutants contained in such products, the possibilities of changing their composition and, if necessary, their replace-

ment by non-polluting or less polluting products. Moreover, common measures relating to the conditions of approval and inspection of the use of such products should be implemented. Priority will be given to motor vehicle exhaust gases, noisy products and equipment, motor and other fuels and maintenance and washing products.

4. Studies on individual industries should be undertaken concerning pollution caused by industrial activities and energy sources, relating to the principal polluting industrial activities, in cooperation with the government authorities and the industries concerned. These studies will permit the exact nature of the pollution problems to be established and the best technical and economic solutions to be found; if necessary, it will also be possible to consider with certain sectors 'agreements' aligning the action to be taken by industry and the public authorities in order to observe the limits set by the latter. In an initial phase, the Commission will continue its studies on the paper and pulp industry and on the steel industry.

5. With regard to the problems raised by the existence of toxic or persistent waste, it will be necessary to pool thought and experience in order to assess the technical and economic pros and cons of the various possible means of action for eliminating such waste and to determine on that basis the measures to be introduced at Community level (e.g., harmonization of regulations, promotion of the development of new techniques, possible establishment of an information 'grant', etc. Priority will be given to dangerous substances listed in Annex I to the Oslo Convention, residual oils, waste from titanium dioxide production (red mud).

6. To avoid distortion of trade and investment, the principles will need to be worked out for common rules on the conditions governing the application of the 'polluter pays' principle already adopted by the Member States generally and exceptions will need to be determined. In addition rules for the use of the various economic instruments in pollution control should be harmonized.

7. Finally the serious problems posed by the pollution of certain zones of common interest (pollution of the seas, the waters of the Rhine basin and certain frontier zones) will require the introduction of special measures and procedures in a suitable framework, taking into account the geographical characteristics of such zones. Thus, for marine pollution resulting from transport and shipping, the wilful disposal of waste or the exploitation of the seas, Community activity should be exercised in the framework of international organizations and should be supplemented by harmonization at Community level of the implementing rules of international conventions dealing with these matters.

In the cases of sea pollution from the shore, apart from certain measures similar to those for fresh water pollution (determination of criteria, standardization of measurement methods, establishment of common methods for defining quality objectives, establishment of health standards, etc.), complementary work should be done on the monitoring and surveillance of industrial or other waste disposal in estuaries.

With regard to the protection of the Rhine from pollution, the Council is supporting the Commission's request to take part in the work of the International Commission for the protection of the Rhine against pollution. Moreover, in recalling the suggestions it made in its second Communication to the Council on the environment<sup>1</sup> the Commission reserves the right to make suitable proposals by 31 March 1974, taking into account the studies already started and the results of work in hand in the International Commission for the protection of the Rhine against pollution following the Ministerial Conference in The Hague.

With regard to environmental protection in frontier zones, the Council recommends the Member States to establish consultation procedures for the conclusion of environmental protection agreements in such zones.

---

<sup>1</sup> Supplement 5/72 — Bull. EC.

8. Finally, common action concerning the environment will only realize its full potential if compliance with Community and national regulations is effectively controlled and if infringements against these regulations are dealt with with sufficient severity. To this end the Commission will continue with its work on comparing national laws and their practical application so as to create the prior conditions necessary for the approximations of laws which prove to be needed.

### Improvement of the environment

A Community environmental programme which aimed solely at the protection and improvement of the physical environment by combating pollution and nuisances and which did nothing to improve our surroundings, environment and living conditions would fall a long way short of the deep-seated aspirations of the people of Europe and the task of the Communities. The qualitative improvement of living and working conditions is now an essential aspect of the economic and social development of the Community.

The Communities environmental programme therefore includes a number of actions for improving the environment, in the widest sense of the term.

The aims of these actions are:

- to protect the natural environment by a series of aids in favour of hill-farming and farming in other poorer areas; by the promotion of measures in the forestry sector aimed at structural improvement in agriculture; by studying the ecological effects of modern production techniques; by studies concerning both production techniques (integrated and biological anti-pollution methods in agriculture) and the methods of marketing quality food-stuffs; by research into the effluents from factory farming; and finally by the protection of migratory birds and more generally of endangered species.
- to study the problems raised by the depletion of certain non-regenerating natural resources (certain metals, oil and natural gas) and water resources through the increase in consumption;
- to create a forum for discussing the environmental problems connected with urbanization and the optimum geographical distribution of human activities so that guidelines can gradually be evolved jointly for the measures which are to act as directives for the authorities responsible for these questions. Efforts will be concentrated on the problems relating to:
  - the development of urbanized areas and in particular the current formation of a megalopolis in Nord-West Europe;
  - town centres;
  - open spaces and landscape;
  - coastal areas.
- to improve the working environment. The creation of better conditions in places of work is high on the list of priorities. Efforts should be directed in particular towards research into improved accident prevention by taking a new look at the classical methods of medicine, industrial hygiene and job safety and towards a real improvement in working conditions, thus ensuring that these are safe and acceptable;
- to set up a European Foundation to improve living and working conditions, which would be responsible for producing a long-term study and forecast of the factors which could help in improving the conditions of human existence. One of the aims of the forthcoming studies will have to be to determine what kind of self-imposed adjustments industrial society must make in order to ensure acceptable condition of life for its individual members. Seen in this long-term context, any distinction between the environment and living and working conditions would be artificial. The Commission will there-

fore propose before 31 December 1973 the creation of a Foundation bringing together the proposal made previously by the Commission for a European Institute of the Environment and the proposal for a Foundation to improve living and working conditions made by France at the Paris Summit Conference;

— to implement an educational action at all levels in order to promote environmental awareness through education in all sections of the population and in all the social forces in the Community, and thus to make all the citizens of the Community assume their responsibilities in the protection of the environment.

A number of the categories of action mentioned above belong both to the 'environment' field and to fields (e.g., the social field) in which other Community programmes have been prepared. The programme proposals drawn up by the Commission in these other fields will leave room for the projects set out below, giving them the orientation required by the specific objectives to be attained; their effectiveness and coherence will be increased by the application of the principles set out above and by the implementation of the methods worked out in the context of this programme.

#### **Action on the part of the Community and joint action by the Member States within the international organizations**

A very large number of international organizations are currently dealing with environmental problems under various heads. The Community must take their work into account, since the measures that are being proposed are likely to have repercussions on the functioning of the Common Market. Furthermore, this work may provide useful contact with the work of third countries. It is therefore necessary that the Member States should pursue a joint action within these organizations, without prejudice to any action taken by the Community itself.

#### **IV. Priorities and deadlines**

The programme is limited in the first phase to the projects which are necessary as a matter of priority. These projects will have to be implemented, as far as is possible, within a period of two years from the adoption of the programme, the last six months of this period being devoted to an assessment of the results obtained in the previous period and to the preparation of the programme of work to be carried out in the following years.

This programme may be subject to revision and will have to be supplemented, in case of need, by new projects to take account of developments and of experience acquired.

Thus the priorities mentioned above in each of the programme projects may, as necessary, be amended by the Council, on the initiative of the Commission, in keeping with the state of advancement of the work and the studies undertaken.

\*

A detailed description of the various projects set out in the foregoing will be found in Part II of the Community Environmental Programme.

## Second part

### Detailed description of the actions to be undertaken at Community level over the next two years

#### 1. *Actions relation to the reduction of pollution and nuisances*

#### Objective evaluation of the hazards to human health and to the environment as a result of pollution

##### Reasons

Pollution can be combated all the more effectively if we possess an objective knowledge of its effects. Armed with this knowledge, we can, without having to resort to arbitrary values, set limits to the presence of pollutants in the environment and in products in the form of standards to protect human health and ecological standards to protect the environment.

The fixing of these limits necessitates a study and a critical and objective analysis of the adverse or undesirable effects of the exposure of a target to pollution or nuisance in given circumstances. This study leads to the determination of 'criteria' (cf. terminology in Annex I).

Such action implies standardization or harmonization of the methods and instruments used to monitor the various pollutants either individually or in combination, so as to render comparable the data obtained from measurements of these pollutants and of their effects.

For certain pollutants, when urgency so dictates, it will be necessary to lay down common health standards before the criteria have been determined or the methods of measurement standardized at Community level.

This action may also reveal gaps in knowledge of pollutants and their effects, as well as indicate certain research subjects to be undertaken in the Community (pages 35 and 36).

##### Aim and substance of the action

To undertake as quickly as possible the following tasks in respect of each of the undermentioned pollutants:

- compilation of as complete as possible a bibliography on the effects of the pollutants under consideration and performance of a critical analysis of this information;
- determination of the criteria, considering man as the main target; however, for certain pollutants (e.g., SO<sub>2</sub>), other targets may be taken into consideration;
- standardization or harmonisation of the measuring methods and instruments, so as to render the results of pollution measurements in the Community comparable;
- determination of cases when, for reasons of urgency, common health standards need to be laid down immediately (see below);
- ascertainment of gaps in knowledge of pollutants and their effects in order to select research subjects for inclusion, as appropriate, in the Community research and development programme.

The pollutants for priority investigation have been chosen on the grounds both of their toxicity and of the current state of knowledge of their significance in the health and ecological fields. These pollutants are as follows:

##### FIRST CATEGORY

Lead and compounds thereof<sup>1</sup>

Organic halogen<sup>1</sup> and organic phosphorus compounds

Hydrocarbons with known or probable carcinogenic effects<sup>1</sup>.

##### Air

Sulphur compounds and suspended particles<sup>1</sup>

Nitrogen oxides<sup>1</sup>

Carbon monoxide<sup>1</sup>

<sup>1</sup> These pollutants will receive priority investigation.

<sup>2</sup> In the case of these pollutants, the work necessary for standardizing measuring methods will have to be started as soon as possible.



Photochemicals oxidants<sup>2</sup>  
Asbestos<sup>2</sup>  
Vanadium<sup>2</sup>

#### *Noise pollution*

determination of nuisances indices at various levels of intensity.

#### *Water*

Inorganic micropollutants and their metabolites (mercury<sup>1</sup>, cadmium<sup>1</sup>, chromium, copper, nickel, tin, zinc, arsenic, beryllium, cyanide)

Chlorides

Phenols<sup>1</sup>

Hydrocarbons<sup>1</sup>

Special attention will be paid to the necessity of harmonizing the determination of the pollution burden and, in particular, the quantity of organic substances in effluents, by measuring the biochemical oxygen demand (BOD) and the chemical oxygen demand (COD) and, at a later stage, the total organic mass and the colour.

#### *SECOND CATEGORY*

#### *Air*

Fluorine

Nickel

Cadmium

Chlorine and hydrochloric acid

Hydrogen sulphide

Antimony

Beryllium

Organic dusts

Mercaptans

Nitrosamines

Ammonia

#### *Water*

Dyes

Vanadium, boron, antimony, cobalt, barium, thallium

Phosphates

Nitrogenous derivatives

Other pesticides

Organic solvents

Iron and free chlorine

Substances having an unpleasant odour or taste

Bleaching agents

The foregoing list of second-category pollutants is given as a guide. By 31 July 1974, the Commission will propose a definitive list of pollutants, hazards associated with which will need to be evaluated at a later stage. However, some exploratory work in the collection information can be started in the initial phase.

#### *Ways and means*

In carrying out this action, the Commission will take into account the work completed or being performed at national and international level, in particular in WHO.

It will collect the existing information, seeking the opinions of consultants or organizing meetings of experts.

#### *Timetable*

After studying and utilizing this information, the Commission will submit to the Council the results of its work together with suitable proposals as the work progresses and in any case by 31 December 1974.

#### *The laying down of health standards*

##### *Aim and content of the project*

The projects implemented in order to assess risks objectively presuppose understanding of the effects on health and the environment of exposure to pollutants and nuisances and must

---

<sup>1</sup> These pollutants will receive priority investigation.

enable the responsible authorities to draw up adequate regulations.

In this respect, the determination of criteria to establish the relation between a given exposure and an observable effect on human health or the environment appears to be an essential element of this evaluation. This is a difficult and complex task which at present can only be successfully carried out for a certain number of substances and which in the case of numerous pollutants will require prior studies and research.

Analysis of the criteria is useful, particularly in identifying the levels of pollution or nuisance linked with certain undesirable or harmful effects on man or on the quality of the environment and in defining the basic protection and zero-effect levels.

With regard to human health, this scientific project may lead in practice to the fixing of pollution or nuisance levels not to be exceeded in the target (man), so as to satisfy the requirements of public health. Account will be taken of these (health protection) levels for the purposes of laying down health standards which are the pollution or nuisance levels not to be exceeded in an environment (environmental quality standard) or a product in direct contact with man (product standard), bearing in mind the use to be made of them.

These health standards are established at Community level. In order to protect the environment, stricter standards can be laid down, notably to ensure the protection of flora and fauna and to maintain the ecological balance, or to improve the quality of life.

As a general rule, the standards will be laid down in the light of both health and ecological requirements after the criteria have been established. In certain cases, however, urgent health reasons require that common standards be laid down before the criteria have been established.

This will apply in particular to the following pollutants, for which common health standards will be laid down at the earliest possible stage:

- lead;
- mercury;
- cadmium;
- organic halogen compounds;
- chemical substances and germs which are harmful to health and are present in water intended for human consumption<sup>1</sup>.

#### **Procedure**

The health standards relating to the above-mentioned pollutants are to be laid down as soon as possible before 31 December 1974, on a proposal from the Commission.

In this project account will be taken of the results of the work already carried out at national and international level, and in particular by WHO.

These standards may be revised in the light of experience and, more particularly, scientific advances, in accordance with a procedure to be laid down.

#### **Specific projects to combat pollution of the environment**

##### *Exchange of information between the surveillance and monitoring networks*

#### **Reasons for action**

The transport of pollutants over long distances and the harmful effects of their accumulation and their combination necessitate surveillance of the state of environmental pollution at the regional, national and international levels.

This surveillance also makes it possible to check whether the measures adopted by the authorities are really being observed. Furthermore, it provides essential information for carrying out epidemiological surveys to provide a better understanding of the harmful effects of certain pollutants on human health.

---

<sup>1</sup> The work will be based on the WHO basic criteria.

The regional and national networks must be able to supply full and precise information which is comparable to that of the networks in other Community regions and States and it must also be possible to incorporate them, when necessary, in the surveillance networks planned at world level by the United Nations.

#### **Aim and substance of the action**

- To organize and develop technical exchanges between the regional and national pollution surveillance and monitoring networks and to adopt all appropriate measures to improve the efficiency, accuracy and comparative value of the devices already set up.
- To investigate, when appropriate, the desirability of setting up a system of reciprocal information on the data collected by the networks and to have the Commission analyse, for purposes of interpretation on Community bases, the data collected by the national networks.
- To facilitate the fitting of the existing networks in the Community into the framework of the world surveillance system contemplated by the United Nations.

#### **Ways and means**

The Commission will, for each type of surveillance and monitoring network (air, fresh water and sea-water), convene the experts of the competent national authorities to work out the detailed procedure for the organization of exchanges.

In the case of air surveillance and monitoring networks, priority should be given to the organization of an exchange of information on situations requiring rapid action, such as accumulations of smog layers. Account will also be taken of work undertaken under OECD auspices on transport of pollutants over long distances.

The Commission will by 31 December 1974 put forward all the necessary proposals

suggested to it by the results of the work carried out with the aid of the experts.

*Methods for defining quality objectives for the environment and for establishing rules to enable the objectives to be achieved*

#### **Introduction and reasons for action**

Quality objectives, which are expressed in the form of limits to the presence of pollutants in an environment, represent the requirements which must be met at any given time, now or in the future, by a particular environment or portion of an environment.

The requirements relate to health, ecology and social life.

The aim is:

- to protect human health against pollution and nuisances;
- to safeguard the natural environment, especially animal and plant life, against the numerous aggressions to which it is subject, and to preserve natural resources;
- to preserve and improve the quality of human life (maintaining a pleasurable and attractive environment, etc.).

To ensure that health requirements are met, it is necessary to set maximum limits to the presence and concentration of pollutants and nuisances in the environment and in products, in the light of human health criteria which will depend on the use to which the particular environment or product is put.

Once limits have been determined, health standards can be fixed somewhere between the basic protection level and zero-effect level, or at either of these two levels. The standards must be the same for the whole Community. Quality objectives must always include health standards.

To ensure that ecological requirements are met, it will be necessary to set a different series of limits.

Once these ecological limits have been determined, the necessary standards must be established to ensure the protection of animal and vegetable species and natural resources of the Community. These standards, which will apply to individual animal or vegetable species or to groups of them, can be valid for the whole Community although they must generally be approved and enforced by the respective authorities in the light of local circumstances and requirements. It will be appropriate to study the advisability of establishing minimum ecological standards to be applied throughout the Community, especially for international waters and for the atmosphere.

The ecological standards that are adopted in the different regions will be influenced by social and economic requirements because they must be determined in the light of the specific use assigned to each region and the limitations imposed by existing social and economic conditions.

Thus, in addition to establishing health standards, quality objectives must set limits on the presence and concentration of pollutants and nuisances to comply with ecological and socio-economic requirements which will vary in space and time. Variations in space will depend in particular on:

- the geographical and physical characteristics of the environment;
- the general use assigned to the region;
- the specific use that will be made of the medium in question.

Variations in time will depend on:

- the level of pollution already attained;
- the immediate and long-term social and economic consequences of the enforcement of the standards.

Quality objectives for the environment must therefore be established in relation to the specific characteristics of the regions in question, the use that is to be made of each medium (air, water, soil), and the restrictions imposed by neighbouring regions or other regions liable to be affected by efforts to achieve the objectives.

Because of the difficulty of defining quality objectives and because of the importance of their effects, especially their impact on the conditions of competition, it is necessary to work out common methods for defining them and for adopting the requisite measures to ensure that they are achieved and upheld in each region.

The Community's action will therefore be directed towards two ends. The first will be methodological and will consist in defining common parameters and common decision-making procedures for establishing environmental quality objectives. The second will be operational and will consist in establishing a framework for the laws and regulations to be adopted by the Community and the national and regional authorities in order that the quality objectives, thus defined, can be achieved and maintained in a rational manner. In view of the difficulties of immediately establishing a general methodology for defining quality objectives, the initial work will be based on case studies and the results already achieved by Member States in this sphere.

#### Aims and content of the action

In the first phase the work will concern fresh surface waters and sea water. The availability and quality of water resources must correspond to various needs and requirements relating to health, ecology and economic activity. A single watercourse, and this is particularly true for waterways running through two or more countries, must cope simultaneously with numerous different needs in neighbouring areas. Apart from technical measures to reduce consumption, to increase recycling, to combat pollution and to create new water resources, strict planning is necessary to ensure supplies of this unique asset, which cannot be replaced by any other natural or artificial substances.

Sea water is threatened by increasing pollution from the land and from the high seas. It is also a resource whose biological equilibrium must be maintained, whose fish population must

be protected, and whose aesthetic and recreational aspects must be preserved and improved.

Accordingly, the method to be used for defining quality objectives for water must try and reconcile the following requirements, and ensure the fair allocation of water, in the necessary quantities and appropriate qualities, between present and future users.

Community measures will thus consist in:

1. defining a scale of reference parameters for the specific uses of water: drinking, farming, bathing, fish-breeding, industry;
2. establishing a common method for determining the quality objectives, expressed as pollutant concentrations or nuisance intensities, in a particular environment (or portion of environment);
3. collecting data in order to work out a common method for deciding which measures must be employed to achieve and uphold quality objectives now and in the future;
4. collecting data in order to determine the best decision-making authority to define the quality objectives of an environment, or part of an environment, bearing in mind local requirements and the limits imposed by neighbouring regions or other regions liable to be concerned by the decision in question.

The following parameters will be taken into consideration during the course of this work:

- physical, chemical and biological parameters defining the qualities required for the above-mentioned uses of water;
- the nature and level of present and foreseeable pollution;
- the performance of the various processing methods and their cost;
- parameters defining the trend of pollution in the medium in question;
- the actual or potential quantitative and qualitative elements whereby the economic and social consequences of the quality objective may be evaluated.

The work referred to under (3) will require detailed study of all the possible methods, such as the fixing of charges, the establishing of emission standards according to various procedures for sharing pollution abatement between the branches of industry or between new and existing plants.

Priority will be given to the control of freshwater pollution by substances listed in Annex I of the Oslo Convention of 22 October 1971 and the London Convention of 12 November 1972.

#### *Fresh water*

In order to have some data for reference and evaluation purposes, and to provide a practical basis for the work, the methods will be developed in the light of work already carried out by Member States on their own rivers or portions of rivers.

For instance, France will supply figures relevant to the scales of parameters for raw water for processing into drinking water; the United Kingdom will provide information on water to be used for irrigation and stock breeding.

In connection with the definition and establishment of quality objectives for fresh water, the following Member States have agreed to supply the information they possess on certain rivers:

United Kingdom: River Trent

Belgium: River Sambre

Italy: River Tiber

France: River Vilaine.

West Germany will be supplying information on typical rivers which have been studied for the purpose of defining the quality objectives of the Federal Republic.

#### *Sea water*

As regards sea water, France, Italy and the United Kingdom will transmit the information at their disposal on sea water for bathing and on quality objectives for beaches. The British government will also be supplying information about beach pollution by hydrocarbons.

## Ways and means

The Commission will collect data from the Member States and make a preliminary analysis and digest of all the available information.

It will then transmit the information to a group of experts from the Member States whose task will be to study and supplement it.

In the course of its work, the group of experts will consider the various ways of approaching the definition of quality objectives, bearing in mind optimum long-term objectives and provisional quality objectives which may be revised and adjusted in line with changing requirements and the trend of pollution of the environment in question.

This work will be completed by 31 December 1974. The Commission will transmit the results to the Council in an appropriate form as the work progresses.

### *Pollution of the atmosphere, noise, protection of underground waters and lakes*

In a subsequent stage, but as soon as possible, work will begin on the establishment of methods defining quality objectives for the soil, the urban environment, the atmosphere, underground waters and lakes.

## Specific measures relating to certain products

### Reasons for aims and content of the action

The protection of the environment calls for special attention to be paid to products the use of which may be attended by consequences harmful to man or the environment. Moreover, differences as between Member States in the assessment of such risks might possibility lead to the creation or the reintroduction of barriers to trade, which would be detrimental to the proper functioning of the Common Market.

Following the adoption by the Council in April 1969 of a general programme for the elimina-

tion of technical barriers to trade in a number of industrial products and foodstuffs, it is advisable first and foremost to harmonize the specifications relating to the products listed in this programme which are liable to affect the environment<sup>1</sup>. Such harmonization should make it possible to lay down Community standards for these products in order to ensure effective protection of the environment.

Such harmonization measures must also, in the case of polluting products, be accompanied by:

- special investigations into the harmfulness of the polluting agents in these products;
- investigation and research into the possibilities of changing the composition, design or properties of these products with a view to reducing their harmfulness and, if necessary, to replacing them by less or non-pollutant substitutes;
- investigation into the economic consequences of the measures envisaged;
- possible measures dealing with the procedures for and supervision of the utilization of these products.

## Timetable

The operations involved will be carried out in the following order:

### *Harmonization activities under the general programme for the elimination of technical barriers*

The implementation of this programme, in so far as it concerns polluting products, can constitute an effective environmental policy instrument. Directives adopted in this connection must be regularly revised and adapted to scientific and technical progress.

The following work will be carried out in the *first stage*, before 31 December 1974:

---

<sup>1</sup> In addition, the Commission forwarded to the Council on 21 March 1972 a draft supplement to this general programme, the main purpose of this proposal being to take account of problems specific to the environment. This was favourably considered and should be adopted shortly.

(a) Amendments to be made in 1973 by the procedure adopted by the Committee on the Adaptation to Technical Progress of the Council Directive on:

- the permissible sound level and the exhaust system of motor vehicles (adopted on 6 February 1970—O J L 42 of 23 February 1970)
- measures to be taken against air pollution<sup>1</sup> by gases emitted by positive-ignition engines of motor vehicles (adopted 20 March 1970—O J L 76 of 6 April 1970).

(b) Forwarding to the Council of proposals for Directives on:

- the maximum amount of lead and additives in fuels
- the maximum amount of lead in crockery
- the maximum sulphur content of domestic heating-oils<sup>2</sup>
- the method of measuring the biodegradability of non-ionic surface active agents
- the toxicity of detergents
- the composition of electrical appliances containing PCB
- the composition of paints and varnishes (notably limitation of the use of certain substances, e.g., PCB)
- the permissible sound level for mopeds
- the permissible sound level for motor-cycles
- the permissible sound level for civil engineering plants

(c) Investigations into:

- the problems of type-approval of dangerous substances and preparations (solvents, corrosive products, explosives, household products, pesticides)
- the chemical properties of packaging materials
- the technological possibilities of reducing nuisances due to motor vehicles.

In phase two, between 31 December 1974 and 31 December 1976:

(a) Amendment, if appropriate by the procedure adopted by the Committee on the Adaptation to Technical Progress of Directives already adopted, so as to take into consideration the latest progress in science, especially with regard to:

- the permissible sound level for different vehicles and items of equipment.

(b) Forwarding to the Council of proposals for Directives on:

- the method of measuring the biodegradability of surface-active agents
- the type-approval of dangerous substances
- the chemical properties of packaging materials
- pollution due to motor-boats on inland waterways
- the permissible sound level for power saws and lawn-mowers.

#### Further measures

Before 31 december 1976, the Commission will bring the following measures into effect:

(a) investigations into the problems posed by the presence of particularly active polluting agents<sup>3</sup> in:

- cleaning and conditioning agents
- products for the treatment of plants and animals—
- products containing heavy metals
- chemical reagents used in industry.

Such investigations will be concerned with the harmfulness, design and the composition of

<sup>1</sup> With regard to CO and unburnt hydrocarbons, the only things affected by this Directive, a first proposal may be transmitted shortly. For the other pollutants, the Commission's proposals will be transmitted in the light of the results obtained in connection with the harmonization of measuring methods.

<sup>2</sup> These proposals should be validated in the light of the work referred to on page 24 (Action relating to energy production).

<sup>3</sup> Priority will be given to study of the substances referred to on pages 14 to 17.

these products, the technical possibilities of modifying their composition or of finding substitutes for them, the precautions to be taken in using them, etc., as well as the economic consequences of the various measures under consideration.

In addition, the Commission will investigate the measures still required<sup>1</sup> to harmonize and reinforce the checks which have to be made by the public authorities on certain substances or new synthetic products, and particularly:

- the improvement and harmonization of quantitative analysis techniques;
- investigations into the long-term toxicity of these substances and the standardization of toxicity tests;
- compulsory submission of samples, accompanied by a description of the quantitative analysis methods.

Such a study will have to consider the possible setting-up of a European office for the approval of new substances, notably in the field of pharmaceuticals and certain dangerous industrial products<sup>2</sup>.

(b) The organization of joint reflection on the long-term economic and social consequences of regulations and other measures aimed at improving the design of motor cars and traffic conditions in the environmental context to enable the Commission to present proposals where necessary.<sup>3</sup>

(c) Where the problems have not been solved by Council directives on product specifications, the presentation of proposals, in an appropriate form, for measures to control the use of certain products: motor vehicles, noisy equipment, etc.

#### *Ways and means*

1. The Commission will propose directives to the Council according to the timetable given.
2. The Commission will carry out the additional work referred to under 2. in the light of results obtained at national and international level.

## **Action specific to certain sectors of industry and to energy production**

### *Action specific to certain sectors of industry*

#### **Reasons and aims**

Protection of the environment requires that particular attention be paid to industrial activities in which the manufacturing processes entail the introduction of pollutants or nuisances into the environment.

It is appropriate therefore:

- to endeavour to work out technical or other measures which could reduce, eliminate or prevent the pollutant emissions or nuisances stemming from each of the polluting industries (the worst polluting branches number about fifteen);
- to study ways and means of implementing these measures, particularly as regards their phasing, account being taken of the existing situations, the state of the art and the economic, financial and social consequences of the measures planned;
- where necessary, to put in hand, at Community level, such measures as the execution or financing of research and/or development work which is of general interest, financial aid—especially by means of contributions from the European Investment Bank—awards of Community development contracts, the conclusion of agreements on knowhow, patents, licences, etc.

---

<sup>1</sup> The Community has already been implementing for a number of years Community rules on the approval of new substances and products in the field of food additives and additives to animal fodder.

<sup>2</sup> This study will be particularly based on the work done in this field in Benelux.

<sup>3</sup> Account will be taken of the results obtained by the OECD and the NATO Committee on the Challenges of Modern Society.



Community action could, where appropriate<sup>1</sup>, take the form of Community agreements for individual sectors, harmonizing certain aspects of national sectoral agreements and, where necessary, defining the procedures for the abovementioned Community measures. Thus the efforts of public authorities and private industry, at national and Community level, would be combined in a drive to reduce industrial pollution and nuisances by stages. In the agreements, the industries would undertake to reduce their discharge of polluting effluent into the environment according to a rate and time-scale to be defined branch by branch.

#### Content

The work will be carried out in two stages. In the *first stage*, the Commission will make the following studies for the paper and pulp industry and for the iron and steel industry:

- (a) studies on the exact nature of the pollution problems to be solved;
- (b) studies on the techniques employed, including recycling techniques, on the existing technologies which have been or are being developed, and on current research;
- (c) a comparative and critical study of the measures already taken in each Member State;
- (d) a comparative study of the additional measures that need to be taken in order to achieve, within several assumed time limits, a specified reduction of the various forms of pollution caused by the industry in question, bearing in mind the cost of the measures and their economic, financial, commercial and social consequences.

These initial studies will enable the Commission to draw up and, where appropriate, propose to the Council measures for these two industries along the lines indicated above. It will also enable the Commission to work out the methods to be used, in the *second stage*, for studying pollution problems arising in the following branches:

- the following branches of the chemical industry: production of nitrate and phosphate fertilizers, the petrochemical industry;
- the leather industry, hide processing and tanning;
- the following branches of the food industry: canning, sugar refining, the potato-starch and corn-starch industries;
- the wool combing, washing and carding industry.

In later stages, the other industries in the following main categories will be studied:

- chemical industry;
- food industry;
- metallurgical industry;
- textile industry.

#### Timetable

The first-stage studies will be started or pursued with the aim of producing results and, where appropriate, proposals by the Commission before 31 December 1974.

Work on the second stage will be started before this date. The list of industrial branches to be studied during later stages will be transmitted by the Commission to the Council before 31 December 1974 so that the Council may act on it before 1 July 1975.

#### Procedure

The Commission, in consultation with the Member States, will prepare a study outline for each of the branches under consideration.

On this basis, the Commission will carry out a preliminary study in consultation with qualified representatives of the relevant branches.

---

<sup>1</sup> This could be the case when the constraints imposed on polluting industries are such that they entail serious consequences for the development of these industries and for international trade. Studies and projects referred to in this Chapter are in no event intended to prejudice to others mentioned in this Programme in relation to quality objectives and standards.

The Commission will transmit the results of its studies to the Council, accompanied, where appropriate, by proposals.

### *Action relating to energy production*

#### **Reasons and aims**

The production of energy in all its forms (thermal, mechanical or electrical), is a source of various types of pollution in particular:

- atmospheric pollution caused by electricity generating stations, refineries, domestic heating systems and internal combustion engines;
- water pollution due to the discharge of cooling water, pollutants, etc.

In view of the rapid growth of energy needs, and particularly of the production of electrical energy, which is tending to double every ten years, particular attention must be paid to pollution and nuisances associated with electricity production. According to estimates, by the year 2000 the installed capacity of Community power plants should be approaching 1 300 000 MWe, compared to 260 000 MWe installed at the present time.

#### **Content of the action**

With regard to atmospheric pollution, action in the first stage will be essentially concerned with reducing pollution caused by fuel combustion, especially SO<sub>2</sub> emissions, and with standardizing fuels (cf. page 21). The work will consist in establishing a strategy of fuel use, in the light of:

- present knowledge of the effects of SO<sub>2</sub> in the air on health materials and plants;
- estimated future consumption of liquid fuels and the resulting emission if no preventive measures are taken;
- problems relating to supplies of crude petroleum;
- cost and implementation of preventive measures.

Study of the various means of prevention should bring to light the economic and technical consequences of each solution (conversion of old plants, new investments, etc.), and also the impact that the measures will have on the siting of plants (particular thought must be given to the problems of sites for new power plants, refineries and nuclear fuel reprocessing plants).

As to water pollution the action will be centred on the following problems:

- thermal pollution by cooling waters from power plants, and the means of combating this pollution;
- pollution by chemical products resulting from the processing of power-plant cooling waters and by water discharged from refineries.

This work will be carried out according to the methods and procedures described on pages 23 and 24 in connection with industrial sectors.

Problems resulting from the harmfulness and proliferation of wastes from energy production, especially radioactive wastes, and the processing of used oil will be dealt with in the studies mentioned below.

#### **Ways and means—timetable**

##### *Atmospheric pollution*

- A preliminary general report on the problems of SO<sub>2</sub> pollution will be drawn up before 30 September 1973 for subsequent discussion with national experts.
- In the light of these discussions, the Commission will make proposals to the Council as soon as possible, and at all events before 31 March 1974.

##### *Water pollution*

Work will be carried out according to the same schedule and same procedure as described for the industrial sectors covered in the second stage of work mentioned on pages 22 and 23.

## Action specific to certain areas of common interest

### *Marine Pollution*

#### Reasons for action

Of all the different kinds of pollution, marine pollution, is now, and shall be for a long time to come, probably one of the most dangerous, because of the effects it has on the fundamental biological and ecological balances governing life on our planet, the level of degradation which has already been reached, the diversity of pollution sources and the difficulty of ensuring that any measures taken are complied with.

The sea is an essential source of products—particularly of proteins, extremely valuable in a world which is becoming more and more overpopulated. Apart from this, it plays a vital part in maintaining the natural ecological balance by supplying a large proportion of the oxygen on which life depends.

Nevertheless, it is common knowledge that the sea has already been degraded to a particularly marked extent. For example, a disturbing accumulation of pollutants can be detected in plankton, living organisms and sediments, and even now a not inconsiderable danger of eutrophication is becoming evident in certain estuaries.

Marine pollution can be broken down into four main sources:

- Sea transport;
- Deliberate dumping of industrial waste at sea;
- Exploitation of marine and submarine resources, especially exploitation of the sea bed;
- Discharge of waste from land.

The prevention or reduction of the first three types of pollution make it necessary to adopt international agreements on a world or regional level—and present particularly difficult problems of supervision and control.

Measures for the abatement of marine pollution from the shore are to a large extent linked with those against fresh water pollution and often require a similar approach. They do, however, have some characteristics peculiar to them, resulting from the particular nature of the marine environment, the many different uses to which the coastline is put and the concentration arising from a large number of economic and social activities generally confined to small areas.

The nature of the action to be taken by the Community and the Member States, as well as the institutional set-up for planning, working out and applying measures, will therefore vary depending on whether they are to be applied in the first three or the last of the categories of marine pollution mentioned above. If the former is the case, there will have to be a concerted international effort and steps will have to be taken to ensure the harmonization at Community level of the regulations governing the application of international agreements. In the latter case, measure on a Community basis must be contemplated.

#### Content of the action

#### INTERNATIONAL MEASURES FOR THE ABATEMENT OF MARINE POLLUTION

Marine pollution affects the whole Community, both because of the essential part which the sea has to play in the preservation and development of species and on account of the importance of sea transport for the harmonious economic development of the Community. The Community should therefore see to it that the Member States and the Commission take joint initiatives in the international organizations dealing with maritime questions and at the same time should carry out, as part of its programme, a number of projects aimed at the preparation of common initiatives and at the harmonization on a Community scale of the regulations for the application of international agreements.

*Pollution resulting from sea transport*

(a) Pollution due to dumping of hydrocarbons is already the subject of various agreements usually adopted under the auspices of the Intergovernmental Maritime Consultative Organization (IMCO). Particular examples of these are:

- the 1954 agreement, administered by the IMCO from 1959 and revised in 1962, 1969 and 1971, for preventing the pollution of seawater by hydrocarbons;
- the legal agreements of 1969 covering action at sea in the event of an accident causing or capable of causing pollution by hydrocarbons, and the third-party liability for damage due to pollution by hydrocarbons;
- the 1971 agreement setting up an international fund for compensation for damage due to pollution by hydrocarbons;
- the Bonn agreement signed in June 1969 concerning pollution in the North Sea;
- the agreement signed in 1969 setting out the list of noxious and dangerous substances transported by sea.

(b) Marine pollution resulting from the transport by sea of noxious substances will be the subject of an agreement to be proposed in 1973 at the international conference on marine pollution organized by the IMCO. The aim of this conference will be to prepare international agreements aimed at the complete elimination, between 1975 and at the latest by 1980, of all deliberate and intentional pollution of seawater by hydrocarbons and other noxious substances and the reduction to a minimum of accidental discharges.

Many international organizations, in particular those responsible to the UN (FAO, UNESCO, WHO, WMO, IAEA), are carrying out work in this field in accordance with their various special fields.

Community action should obviously tend to fit in with the initiatives taken by these specialist international agencies. However, Western

Europe, because of the nature of its coastline and above all because it is the main crossroads of sea transport, has more interest than any other area in the world in effective action on a world scale against marine pollution and, more especially, against the dangers inherent in the transportation of oil.

Action by the Community or joint action by the Member States in international organizations is the subject of Part III of the programme. This action should be backed up by studies of improvements to be made in the context of international relations in order to protect the sea against pollution, and in particular by studying the structures and means to be provided for ensuring genuine compliance with international agreements concerning pollution resulting from sea transport. The setting up of an international body with powers of sanction and effective means of control will have to be studied.

*Marine pollution resulting from deliberate dumping of waste*

Two agreements relating to this problem have been adopted: the Oslo Convention (February 1972) concerning the control of the deliberate discharge of particularly dangerous waste in the areas of the North-East Atlantic and the North Sea and their secondary seas and part of the Baltic, and the London Convention (November 1972) concerning all the seas of the world. A third agreement affecting the Community, which covers the Western Mediterranean, is now in the course of preparation.

The application of these agreements will make it necessary to put into effect within the Community legislation and rules which will have to be harmonized to avoid creating distortions in trade and the distribution of investments. What will have to be aimed at in particular will be the application of a uniform system of licensing in the Community. To make harmonization easier the Commission should take part in the work of the Committees set up by the agreements with a view to ensuring their implementation. Finally, it will

be necessary to harmonize the legislation and rules concerning the dumping of substances not included in the agreements and, if necessary to put forward Community proposals amending the list of substances set out in the agreements.

#### *Pollution resulting from exploitation of the sea*

The prospects for the exploitation of the sea bed indicate a considerable increase, already begun to a large extent, in the extraction of hydrocarbons and a less easily foreseeable one for other mineral and fossil materials.

For example, the continental plateaux and islands contain more than half the world's resources of hydrocarbons. Modern technological developments entail such a demand for mineral resources (in particular titanium and manganese) that it is reasonable to suggest that it will soon pay to extract them from the sea bed.

Considering the rapid growth of these activities, one may well wonder whether the provisions now applying, particularly those relating to the exploitation of the sea bed, guarantee sufficient protection of the marine environment against the pollution likely to result from the various operations this exploitation involves. In addition, it is known that the International Conference on the Law of the Sea will study and attempt to make rules laying down the rights and above all the obligations of riparian states as regards waters and the sea bed outside their territorial waters.

The Commission has begun a comparative study of these provisions so as to examine the advisability of harmonizing and improving them and, if need be, of jointly working out preventive rules which could be proposed to the relevant international bodies.

#### MEASURES FOR THE ABATEMENT OF MARINE POLLUTION FROM THE SHORE (OF TERRESTRIAL ORIGIN)

This type of pollution results from direct discharge into the sea, from discharge via pipe-

lines and from waste and pollutants carried by rivers. The term 'shore' includes estuaries.

As has already been pointed out above, the measures to be undertaken in this field are to a large extent related to those aimed at preventing the pollution of fresh water.

Therefore, the following action needs to be taken:

- Assessment of the risks for the marine environment represented by the presence in various degrees of concentration of certain particularly dangerous pollutants (heavy metals and organic halides), considering as targets certain species of fish and plants selected as indicators, and standardization or harmonization of the methods for measuring these pollutants;
- Establishment of common methods for defining quality objectives for these pollutants with regard to certain uses specific to seawater, e.g., bathing and shellfish farming;
- Establishment of health standards and minimum ecological standards for marine pollutants and their use in order to decide on the measures to be taken with regard to the discharge of the pollutants into the sea;
- Execution of a research programme taking into account work already done elsewhere.

In addition to the work specified in the other sections of the programme, a study must be made of the measures to be taken with a view to controlling the discharge of industrial or other waste into estuaries, due account being taken of the similarity of the problems posed by protection of the marine environment, the specific methods which that protection requires (the use of models, the levying of taxes, etc.) and the economic distortion which could result from major disparities between these measures.

The following work will therefore be carried out in addition to that mentioned above:

- Collection of information on the control and monitoring of this type of pollution

and on the quantities of the most dangerous pollutants (organic wastes, heavy metals, organic halides) discharged into the sea from estuaries or directly from the shore, or resulting from accidents, this assessment being carried out according to a common methodology;

- Indexing and critical comparative study of regulatory and administrative legislation already in force or planned and concerned with the control and restriction of the direct discharge into the sea of industrial and domestic effluent, with a view to harmonizing these provisions and if necessary preparing Community action;
- Study of the special problems posed by the handling of toxic substances on coastlines and the measures which can be taken in the event of accidents.

In addition, due cognizance is taken of the French Government's intention to hold in Paris in 1973 an international conference on marine pollution of terrestrial origin, and to prepare for this conference through consultation to take place in the institutions of the Community.

#### **Ways and means**

The Commission will set up under its own authority a working party on the problems involved in the abatement of marine pollution.

This Committee will be made up of representatives from national governments who are competent in this field. Under the chairmanship of a representative of the Commission, it will assist the Commission in working out its programme and in preparing its proposals.

#### **Conclusions**

Action will have to be carried out as quickly as possible to enable the Commission to present to the Council any proposals arising from it before 31 December 1974.

#### *Protection of the waters of the Rhine basin against pollution*

The growing pollution of the waters of the Rhine and its tributaries is giving increasing

cause for concern to people making use of them or living in the area. This concern has been expressed with particular emphasis in the European Parliament. In November 1970 the Parliament published a report by Mr Boersma (Doc. 161) containing information on the state of pollution in the Rhine and the measures taken and projects worked out by the riparian States of the Rhine and by international organizations.

On 16 December 1971 the Parliament unanimously adopted a resolution on the matter, which was forwarded to the Council and the Commission (Doc. 223/71). In this resolution, the Parliament requests the Commission to take all the necessary measures to develop and coordinate the work of the riparian States for the protection of the Rhine.

In a document attached to its second memorandum on the environment, dated 22 March 1972, the Commission presented a draft Council recommendation to the Member States signatories of the Berne Convention requesting the formulation of an emergency programme for cleansing the waters of the Rhine. In the same document, the Commission recommended the establishment of a European Agency for the Rhine Basin which would have the task of putting such a programme into operation, and drew the attention of the Member States to the advantages which could be derived from granting this Agency Joint Undertaking status.

The Commission has also carried out a preliminary study of Rhine Basin anti-pollution measures in order to widen its knowledge of this problem and to arrive at a better assessment of the measures which could be taken to secure an improvement in the Rhine's present state of ecological degradation. This study has shown that there is a continuing marked increase in pollution and that the efforts which have so far been made to control this pollution have proved insufficient.

The organic matter content accumulated considerably from 1959 to 1970 in the greater part of the river and, on the whole, this pollution

shows a substantial increase the further downstream measurements are taken.

The oxygen content of the water, to a large extent dependent on the discharge of organic matter, is tending to decrease in certain parts of the river. It is at its lowest during the periods of low water and has serious effects on the aquatic life and on the natural purification capacity of the water.

The nitrate and phosphate contents have increased markedly since 1959; by their synergic action, these two substances encourage the growth of aquatic vegetation, with particularly harmful effects.

Study of the chloride content reveals increases in discharge, which lie at the root of serious problems as regards utilization of the water, particularly for drinking water and water for agricultural purposes.

The sulphate content has also increased substantially over the years.

Content of metals like lead, copper, nickel and zinc do not give cause for alarm. However, the possibility of their accumulating in living organisms and sediments calls for particular attention in view of the long-term consequences of these phenomena.

Finally, the phenolic compounds content is also on the increase and it is as well to call attention to the presence in the Rhine waters of various toxic substances and hydrocarbons.

From this study it emerges that there is a need for action on a large scale to improve the quality of the waters of the Rhine and that special measures should be taken in the near future to control and limit the discharge of pollutants and the most harmful or toxic substances.

Being aware of this situation, the signatory States of the Berne Convention, which set up an International Commission for the Protection of the Rhine against Pollution, took part in a ministerial conference held at The Hague on

25 and 26 October 1972 on the initiative of the Dutch Government. The Commission was represented at this conference as an observer.

This Conference took certain major decisions on pollution by salt, chemicals and heat, and on organization and working methods:

- Salt pollution: a dump is to be set up in Alsace to take 60 kg/sec of chlorine ions. The site for this is to be selected by the French Government. The total cost of the dump should be shared between the Member States of the International Commission. Monitoring of the discharges for chlorine ions will be carried out on all affluent above a certain quantity, to be defined by the International Commission. The Commission will decide on the methods for carrying out this monitoring.
- Chemicals pollution: the International Commission will have the task of drawing up lists of materials in respect of which discharge must be prohibited, limited or made subject to certain conditions, of carrying out a survey to ascertain their source, and of working out a programme of action in stages which will be submitted to the governments for approval after one year.
- Thermal pollution: all future power plants will be equipped with a closed-circuit cooling system or other systems of a similar nature. Power plants which are under construction (Fessenheim I and II, Philipsburg I and Biblis I) are not likely to cause, in July and August, an increase in the Rhine temperature of more than 2°C above the natural temperature.
- Organization and working methods: ministerial conferences ought to be held whenever necessary and at least once a year. So as to ensure greater effectiveness in the measures to be taken against the pollution of the Rhine, the International Commission will have to present proposals aimed in particular at improving organization, prepare a long-term programme of work and examine the French proposals

concerning the planned establishment of a federation of river basin agencies.

In addition, it is apposite to recall here the work which has been carried out for several years by the Council of Europe with the objective of setting up a 'European Convention on the protection of fresh water against pollution'. This Convention provides in particular for the fixing of minimum standards for maintaining the quality of water and also for the setting-up of international committees with specific powers as regards the protection of international watercourses and their estuaries.

\*

The Council and the Commission, concerned by the alarming state of pollution in the Rhine, intend to keep a close watch on the development of the situation. In order to do this the Council requests the Community Member States signatories of the Berne Convention to support the Commission's request, under Article 229 of the EEC Treaty, to take part as an observer in the work of the International Commission for the Protection of the Waters of the Rhine against Pollution and to be regularly notified of the results of the studies conducted by the specialist groups set up by this body.

The Council notes that the decisions taken by the The Hague Ministerial Conference include in particular formulation of a long-term programme of work and studying the question of reorganization of present structures and working methods, which the Commission proposed in the draft recommendation it presented in March 1972.

The Commission, referring again to the suggestions put forward in its Second Memorandum to the Council, proposes to make appropriate proposals in this important sector before 31 March 1974, taking account of studies already carried out and in the light of the results of those in progress within the International Commission for the Protection of the Rhine against Pollution.

### *Projects concerning environmental protection in frontier areas*

The problems posed by pollution in frontier areas are in some respects similar to the problems of the pollution of the seas and sea shores. In this case too the problem is one of preserving common resources which form part of a single geographical and economic area, but which are subject to regulations which are different and sometimes contradictory.

The joint determination of methods for defining quality objectives in these frontier areas will have to be complemented by harmonization of the objectives in view and implementation by the States concerned of common projects for the protection of the environment. This step is particularly necessary if the industries in these areas, where the natural and geographical conditions are generally speaking identical, are not to be subject to measures of constraint of varying degrees of severity and are not to be faced with different conditions of competition.

The Environment Ministers of the Member States of the Community who met in Bonn on 30 October 1972 listed among the measures to be taken under the European environment policy, that of 'consultation on environmental aspects in frontier areas'.

Such consultations must be started between the States concerned as soon as one of them considers it necessary and should aim at concluding agreements for the protection of the environment in frontier areas. The Council formally notes that the Commission intends to present appropriate proposals to the Council whenever it considers this necessary.

### **Action concerning wastes and residues**

#### *Industrial and consumer wastes*

#### **Reasons for and aim of the action**

The elimination of industrial and consumer wastes is proving increasingly difficult and



costly and is posing complex problems for all the municipal authorities concerned.

A large number of these problems are purely local in nature, and it is at this level that solutions must be found.

In several cases, however, particularly in that of wastes which are harmful to the environment because of their toxicity, their non-degradability or their bulk, the problems may affect the economy as a whole and require action at Community level whether they concern international trade or whether the solutions which need to be adopted influence the production or distribution costs of certain goods and therefore have repercussions on the conditions of competition.

In view of the specific nature of these problems it is essential to pool ideas and experience in order to draw up a technical and economic balance sheet of the various means of action considered and their effect on the proper functioning of the common market, and also to determine, on this basis, the action to be taken at Community or other levels.

#### Content of the action

Work shall be carried out in several stages:

(a) Drawing up of a qualitative and quantitative inventory of wastes or residues which are particularly harmful to the environment because of their toxicity, their non-degradability or their bulk, and the elimination of which might affect the production and distribution costs of products.

(b) Study from the technical, economic and legal angles of the problems posed by the collection, transport, storage, recycling or final treatment of the following wastes or residues, listed in order of priority<sup>1</sup> (priority being given to the study of technical processes for eliminating or recycling these wastes):

- the substances listed in Annex I of the Oslo Convention on the control of marine pollution (organic halogen compounds; organic silicon compounds; mercury,

cadmium and their compounds; plastics and other persistent synthetic substances);

- residual oil and residues containing petroleum and tar, in particular residues containing lubricants;
- waste from the manufacture of titanium dioxide;
- bulky ferrous scrap in the general context of the scrap market (cars, discarded household electrical appliances, etc.);
- non-biodegradable packagings for consumer products;
- where appropriate, animal waste from slaughter-houses and breeding establishments;

(c) Determination of the action to be taken at Community level with regard to the above wastes, e.g., (where appropriate):

- harmonization of regulations;
- exchange of technical information;
- promotion of the development of new technologies, especially by the awarding of development grants, and the setting up of pilot plants where several states or the whole Community are concerned;
- research work;
- the possible creation of an information agency on wastes, with the task of supplying information on elimination or recycling techniques, firms specializing in the transportation, storage or treatment of wastes, available storage space, etc.;
- encouragement of the setting up of European treatment plant enjoying, where appropriate, Joint Undertaking status.

#### Timetable and procedure

The Commission, with the assistance of experts and consultants, will carry out the studies referred to under (a) and (b) above before 31 July 1974 and will submit to the Council the conclusions from these studies, together

---

<sup>1</sup> This list of wastes may be amended or supplemented in the light of the results of the inventory mentioned in (a) above.

with the proposals arising out of them, before 31 December 1974.

### *Particular case of the handling and storage of radioactive wastes*

#### **Reasons for and aims of the action**

The development of nuclear energy to satisfy an increasing part of the electricity demand in the Community also has a negative aspect: the production of industrial radioactive waste in quantities that are proportional to the size of the electronuclear programmes; several hundred billion curies of radioactive waste produced in the Community will have to be taken care of by the end of this century.

The handling and storage of these wastes—in particular the wastes of high specific activity and long half-life produced in irradiated fuel reprocessing—present and will continue to present difficult problems for the countries of the Community with high population density. It is therefore essential to have effective solutions to these problems capable of guaranteeing the safety and protection of populations and the environment against the potential risks associated with the treatment, transport and the storage for centuries and millennia of these radioactive substances.

A number of partial solutions are already under study in certain member countries; the efforts undertaken, however, vary somewhat in intensity. Nevertheless, numerous problems are becoming evident at the level of major regional units such as the Community or even at world level, as regards the industrial, economic and social aspects. These problems require solutions that will influence the development of nuclear energy through their economic impact and which will have to ensure equal protection of the man and his environment independently of the technological solutions adopted according to the particular characteristics of the national territories.

In view of the specific nature of these problems it is essential to pool ideas and experience in

order to draw up a technical and economic balance sheet of action which can be envisaged initially on a short-term and then on a long-term basis, and of its effect on the harmonious development of nuclear energy, and also to determine, from this, the action to be taken at Community level.

#### **Content of the action**

1. Comparison of the processes existing and under development for solidifying highly radioactive waste in order to evaluate the properties of these substances connected with the quality of storage.

On the basis of this evaluation, selection of the measures to be carried out and the complementary research and development to be undertaken.

2. Study of:

- The methods of intermediate storage and ultimate disposal of the solidified products which can be envisaged in Europe.
- The characteristics of the sites which can be considered for the selected storage methods.
- The problems of transport of solidified highly radioactive waste.

3. Drawing up an inventory of

- The quantities of radioactive wastes of different categories which can be estimated from the nuclear energy programmes.
- The waste storage sites in operation or planned.

4. Comparison of the initiatives of the Member States concerning the study, the setting up and the running of some experimental storage sites using different approaches in order to promote the exchange of information and in the long run to select the storage methods best suited for a particular type of product.

5. Definition of responsibility for products stored, both for temporary storage on production sites as well as for intermediate storage and ultimate disposal.

6. Selection of the principles which could govern the handling and storage of radioactive waste and which could become the primary elements of a Community policy in this matter.

#### Timetable

Items 1, 2, 3 and 4 will be carried out before 31 December 1974. Items 5 and 6 are to be applied when sufficient progress has been made with items 1, 2, 3 and 4.

#### Ways and means

The action specified in 1, 5 and 6 will be carried out with the assistance of national experts.

The action specified in 2 and 3 will be put into effect either by means of study contracts or with the assistance of national experts.

As regards item 4, a suitable plan of action will have to be worked out at Community level. The legal form it will take is still to be determined. At the appropriate time the Commission will table proposals on this matter.

#### Measures aimed at ensuring effective compliance with the limits imposed for the protection of the environment

The effectiveness of the joint action on the environment, in particular the joint determination of standards, could be weakened if the application of the Community measures in all the Member States were not satisfactorily ensured. In addition, appreciable differences in the checks carried out and the measures taken by each Member State to ensure effective compliance with the limits imposed for the protection of the environment could give rise to distortions of competition which would be incompatible with the functioning of the common market.

Consequently, compliance with both Community and national regulations should be effec-

tively supervised and any violations should be penalized with appropriate severity. To this end, the Commission will continue its work on the comparison of national laws and their practical application so as to create the prerequisites for such approximations of laws as may prove necessary.

\*

The Commission is aware that these measures for the approximation of laws will require a great deal of time and effort in view of the differences between the constitutional, legislative and juridical systems of the various countries. It therefore considers it advisable to implement progressively, as national and Community provisions are drawn up, the following measures:

1. As regards *products*: organization at Community level of exchanges of information on the checks carried out and the measures taken by each Member State to ensure compliance with the rules concerning the specifications for and use of polluting or other products which are liable to harm the environment.

As regards *fixed installations*: organization at Community level of exchanges of information on the checks carried out and the measures taken by each Member State to ensure compliance with the rules concerning these installations, with particular regard to those situated in areas for which identical or very similar quality objectives have been adopted.

As regards *substances the release or dumping of which will be prohibited or restricted*: harmonization of inspection methods, and especially of certification procedures.

2. Publication by the Commission, in the annual report on the state of the environment in the Community, of details supplied by each Member State of the measures taken to ensure compliance with the pollution and nuisance control regulations, existing case law, and information on the improvements achieved and the practical experiments carried out in this connection within the Community.

These measures are without prejudice to the procedures provided for in the Treaties to ensure that Member States fulfil their obligations.

### **Action to be taken with regard to the economic aspects of anti-pollution measures**

#### **Reasons for action**

Protecting the environment against pollution and improving it by taking into consideration the quality of life when setting up decision-making machinery and production structures unavoidably entail various kinds of expenditure (investment and running costs, expenditure on research and development, etc.).

It is essential that public authorities make accurate assessments of the size of this expenditure in order to have a good idea of the economic, financial and social repercussions that decisions which are planned are likely to produce, and to adapt accordingly the methodology for putting these decisions into practice.

It is further advisable to apportion this expenditure in a way which is at the same time effective, fair and least likely to jeopardize free trade and competition.

Lastly, a careful analysis should be made of the economic instruments which can be used in the context of an environment policy, their various functions, the advantages and drawbacks of using them, their relative effectiveness with regard to the objectives in view and their compatibility with the rules of cost allocation.

\*

The necessity of concerted planning and action in this field seems obvious for reasons connected with both the smooth operation of the Common Market and the effectiveness of its policy.

If the Member States were to differ in their estimates as to the cost of anti-pollution measures, the inevitable repercussions on policies at

the national level would severely hamper the application of a common policy. It is therefore necessary to work out common methods of costing. This should be made easier by the fact that the work already undertaken by most of the Member States is at more or less the same state of advancement.

In addition, the differences between the principles or rules of cost allocation and in the interpretation each Member State gives to their application would have obvious repercussions on prices and hence on trade, conditions of competition and the location of investments.

The Member States and the Commission have advocated the adoption of the 'polluter pays' principle recommended by the OECD. This decision must be supplemented by specifying jointly the nature and the exact scope of the principle and by defining acceptable exceptions. Finally, the application of economic instruments will have to be considered jointly by the Member States, especially as regards the compatibility of these instruments with the principles and rules of the Common Market (particularly the application of Article 92 et seq. of the EEC Treaty) and with the polluter pays principle.

#### **Aim and substance of the action**

1. To adopt common rules for allocating the costs of anti-pollution measures.<sup>1</sup> To establish the principles of common regulations on the methods for applying the 'polluter pays' principle.

To undertake a common definition of the effectiveness of economic instruments which can be employed in the fight against pollution and, where necessary, harmonize the methods for applying them.

2. To study the methods for evaluating the costs of anti-pollution measures with a view to

---

<sup>1</sup> Without prejudice to the measures recommended by the Commission in its Memorandum of 24 March 1971 on the system of charging for the use of transport infrastructures.

harmonizing them. The first stage will be an attempt to define methods for evaluating the costs of combating water and air pollution as well as pollution from industry. This work will be carried out in collaboration with the OECD.

3. To study possible methods for evaluating the social costs arising from harm done to the environment, with a view in particular to including these costs in national accounting and the calculation of the GNP.

4. To develop a common method for the classification and description of anti-pollution measures taking due account of existing methodological work, e.g., Frascati Manual.

#### Ways and means

The Commission, basing its work on the opinion of a group of economics experts specializing in the field of the environment, will transmit proposals to the Council on certain of the above points.

#### Timetable

The work described above will be carried out according to the following timetable:

1. A proposal concerning the allocation of the costs of the fight against pollution and the principles of common regulations on the methods for applying the 'polluter pays' principle will be forwarded by the Commission to the Council before 31 December 1973.

2. A study of the effectiveness of the economic instrument which can be applied in the fight against pollution will be carried out before 1 July 1974.

3. The first results of the study on the evaluation of the costs of anti-pollution measures will be available during the second half of 1974.

4. The work mentioned in (3) and (4) above will begin in 1973.

## Research projects concerning protection of the environment

### Underlying reasons and content

The implementation of the Community's programme of action, whether it be a matter of pollution control, of safeguarding the natural environment and natural resources or of improving the quality of life, will call for a broad range of scientific and technical knowledge on the natural environment, ecology, toxicology, chemistry, technology, etc.

The available knowledge will in many cases prove inadequate and an effort will have to be made to extend and supplement it by means of research and development projects.<sup>1</sup> These projects should be carried out at Community level so as to ensure effective cooperation between the various laboratories and institutes concerned in the Member States and the Joint Research Centre. It will thereby be easier to direct and coordinate the requisite research work in keeping with the requirements of the programme of action, and the results obtained will be directly applicable to it. This cooperation is all the more desirable as in certain cases it will only be possible to solve problems by calling upon the services of a whole series of highly specialized laboratories which cannot as a general rule be found in a single Member State.

Certain subjects for research are mentioned above in the sections concerning the various objectives of the present Part I of the programme of action.

One can quote by way of example the research work which is intended to fill in the gaps in our knowledge of pollutants and their effects or to improve the methods of measuring pollution, these being of great importance for the

---

<sup>1</sup> This ought not, however, to have any delaying effect on the application of emergency measures in cases where there is a real or potential danger to man or his environment, since these measures can be reviewed and modified subsequently in the light of the results of the research carried out.

objective assessment of hazards (page 14), the definition of quality objectives (page 17) and for specific action on products (page 20).

The need for certain research work to be carried out may also become apparent when Part II of the environment programme is carried out.

### **Methods**

Research and development activities concerning the environment at Community level may cover anything from the simple coordination of national activities to the implementation of Community action financed in whole or in part from the Community budget with the participation of the laboratories and institutes of the Member States, and in certain cases, of the Joint Research Centre.

The awarding of industrial development contracts to promote the development of instruments for measuring pollution or of techniques for reducing pollution might also be considered.

To back up these actions it will be of use to establish and to keep up to date an inventory of environmental research activities throughout the Community.

### **Timetable**

Matters which during the implementation of the environment programme are found to require research will be the subject, as soon as possible, of proposals for research projects prepared with the assistance of national experts. Depending on the circumstances these projects will extend over one or more years.

As a first step, and without prejudging the final content of the environment programme, an initial set of Community research projects has been put before the Council under the Community's multiannual Research and Training Programme. These are principally concerned with the points mentioned on pages 14, 17, 20, 22 and 25 of the programme of action. Those which are due to begin in the

first year of the programme relate essentially to the objective assessment of hazards (definition of criteria) and to the toxicity of certain pollutants and substances which are given top priority in the lists on pages 14 and 15. In this first series can also be included the research projects to be carried out at the Joint Research Centre pursuant to a Council Decision of 5 February 1973. The tables annexed hereto show all these projects in relation to the environment programme (cf. Annex II).

### **Dissemination of knowledge relating to environmental protection**

#### **Reasons for and aims of the action**

Environmental quality (EQ) is very closely related to most scientific, industrial, economic and social activities of countries; it is also involved in their international relations.

This multidisciplinary character of EQ produces, in all concerned, information needs corresponding at the same time to the preoccupations of the specialists of one particular field and to the demands of those who, at either the political or the economic level, have to make numerous and important decisions; to mention only a few instances, the legislator may need accurate scientific and technical data; the industrialist, hydrological and geological data; the authorities responsible for public health, may wish to explore the field of toxicology; whereas those concerned with agriculture may need meteorological information.

A few years ago, the number of publications on EQ and pollution control had started growing in such a way that one is now witnessing a true literature explosion which does not show any sign of abatement; new journals and periodical reviews on EQ are being born and are intended for the information of the experts in certain specific fields (air, water, noise, etc); a few abstracting periodicals and some recently created mechanized documentation systems are attempting to channel the 100 000 or so new

documents on EQ published every year, which comprise some 20 000 patents. It is worth noting that, every year, the world fund of scientific and technical knowledge grows to the tune of nearly four million documents; it is therefore not surprising that, in spite of all the efforts, most of the information on EQ is still scattered in publications concerning numerous fields such as chemistry, biology, energy, instruments, meteorology, hydrology, medicine, sociology, economics, etc. It is thus easy to understand the difficulties daily encountered by 'non-specialists', mainly small and medium-sized firms and local authorities, in taking rational decisions backed by accurate and complete information.

The information needs which have been expressed cover a very vast field; it is therefore preferable, at this stage, to limit any action to the following needs, which have been granted priority:

#### *Technical and technological aspects*

### THE REDUCTION OF POLLUTION AND NUISANCES

There will be an appraisal of existing technologies and a study of the various steps which should be taken to develop better and cheaper processes and equipment to control pollution as well as to find less polluting products and processes.

It will be necessary to make available, to those who will have to take the decisions on the creation and siting of new industrial plants, the most complete and recent information which will enable them to cut to a minimum the risks of pollution or to keep below accepted standards, by appropriate technical means, unavoidable pollution.

Of particular importance are:

- purifying plants and processes and the recycling of pollutants;

- storage and destruction of waste products;
- re-use of industrial waste, etc.

The processes and devices used are often quite new developments; many of them are therefore protected by patents which must be detected and listed so as to prevent them from hampering the fight against pollution.

### METHODS FOR THE MEASUREMENT OF POLLUTION AND NUISANCES

The emission of polluting substances and effluents will have to be permanently monitored in order to make sure that the standards which will be agreed upon are complied with. The methods for the determination and quantitative analysis of pollutants may involve a number of disciplines and technologies e.g., analytical chemistry, instrumentation, the use of labelled compounds, etc.

The work described above will be concerned as a matter of priority with the techniques and technologies involved in the industrial sectors referred to on pages 22 and 23 of this programme and to the recycling and treatment of waste mentioned on pages 30 to 33.

#### *Health and ecological aspects*

The evaluation of the risks due to pollution is based on the knowledge of the effects of the polluting agents and nuisances on human health and EQ. This knowledge is a prerequisite for the definition of criteria, the establishment of health standards and the determination of EQ objectives.

It comes mostly from toxicological research, clinical observations, experiments on animals, epidemiological surveys and ecological studies. The collection of this information, often distributed at random in references not specific to EQ, must be undertaken and organized as systematically and completely as possible. Owing to the very large numbers involved, modern automated information techniques have to be employed for sorting and exploiting the available data.

Another aspect of the health approach in reducing pollution and nuisances is the knowledge of existing standards and regulations and also the analysis of the health implications of their application in differing types of environment. For the collection and comparison of these data, owing to their wide distribution and their variety, a special effort also has to be made to exploit them systematically using modern documentation techniques.

The collection, processing and dissemination of these data will have priority in respect of the pollutants mentioned on pages 15 to 16.

#### Content

Owing to the very broad distribution of EQ information, it is necessary, in order to make it accessible to the users, that all adequate information sources should be detected and listed; this is particularly important for these services which provide information in the form of abstracts (services using computers, abstracting journals).

The Commission has already undertaken this inventory and will make available, when it is completed, to the 'International Referral Service on EQ Information Sources', the creation of which is contemplated by the UN; it may be useful to point out that the 'directory' of the UN will necessarily be a long-term programme, whereas the inventory of the Community, owing to its selective character, which restricts its scope, can be completed in a relatively short time; because of this inventory, information bearing on priority aspects (technology, health, economics and society) will be easier to detect. It is obvious that, to keep its value, the inventory will have to be kept permanently up to date.

It is well known that a large number of important documents on EQ are covered by the main abstracting services of world renown, even when these services specialize in well-determined fields and disciplines (Chemical abstracts, Biological Abstracts, Nuclear Science Abstracts, the European Nuclear Documentation System—

ENDS—of the Commission, etc); obviously, each service covers only the informations which refer to its own speciality.

As most of these important services offer their customers magnetic tapes which contain mostly bibliographical data and indexing terms representing the essence of the scientific contents of the documents, these tapes generally enable their users to obtain with the help of a computer answers to their queries either through the titles of the relevant documents or through the references which lead to these documents.

The Commission will acquire the magnetic tapes produced by the services which cover best the problems related to EQ; it will then merge these data bases after having harmonized their formats, their vocabularies and their programs, in order to create an easily workable data base; this data base could be made available to interested parties in the Member States, either by telecommunication (terminals installed on the premises of individual national users could be connected to the Commission's computer) or by the supply of copies of the magnetic tape made up from the integrated data bases, or lastly—as is now the case for ENDS—by answering the queries which the users would put to the competent department of the Commission.

The services provided by the Commission will need to be more than a system for replying to individual queries; once a user or a group of users has correctly defined his 'interest profile', it must also be possible to send to him periodical notes informing him of the publications newly issued in his field, thus freeing him of the lengthy and complicated job of scanning a large number of journals and reports.

The exploitation of the magnetic tapes will show the gaps in and the defects of these information sources; shortcomings which the users are certain to point out.

One thing is clear already: the references supplied by the mechanized documentation services and the abstracting journals are seldom very recent; it takes these services an average



of three to six months to acquire the original literature (journals, reports, proceedings of conferences, patents, theses, etc.), scan it, prepare informative abstracts, index it and lastly record on magnetic tape the bibliographical data and the indexing terms; this is particularly inconvenient in the case of conference proceedings, which are usually published about a year after the meetings. It is, however, during these conferences that experts give an account of their work and their papers constitute practically a synthesis of the state of the art in their fields; it would therefore be of particular interest to make a special effort to collect the papers read when the conferences are being held and to add them promptly to the data base.

It is likely that, even then, all the needs of the users in the Community will not be entirely satisfied.

Experience has shown, in other fields, that the services of the large documentation firms or organizations—which are mostly American—do not always give adequate coverage to non-American information, either intentionally, because their customers, mostly Americans, are in favour of this geographical discrimination, or because non-American information presents difficulties for reasons of availability or language.

It will be the responsibility of the experts from the Member States and the Commission who make up the Committee for scientific and technical information and documentation (CSTID) to perform critical evaluations of the quality and coverage of the services which are in fact available, and if necessary, to put forward a project for a documentation system on EQ which could be integrated into the European documentation network, the creation of which is the objective of the Council Resolution of 24 June 1971. This system could probably be organized on a decentralized basis and would work in the following way: specialized documentation centres in Member Countries would scan and select their national literature, index it, abstract it, produce bibliographical referen-

ces following agreed standards and formats; this 'presdigested' information would then be sent to a central processing point which could be—as for the 'Metallurgical Documentation and Information System' (MDIS) created by the Council Resolution of 24 June 1971 the Commission's Centre for Information and Documentation (CID).

The task of the CID would be to process this information and merge it, after having eliminated duplicates, with the magnetic tapes supplied by the large documentation services. The completed information thus obtained would then be made available to users in member countries.

#### **Ways and means**

The Commission will call upon the assistance of national experts and will put forward appropriate proposals after consulting the Committee for Scientific and Technical Information and Documentation (CSTID).

#### **Timetable**

The inventory of the documentation sources, already started by the Commission, will have to be available towards the end of 1973.

The order and the delivery of the magnetic tapes, from the main services having EQ in their scope, can take place very rapidly; their merging and their exploitation following in about six month's time, this delay being necessary to harmonize the different formats and indexing systems and to write the corresponding computer programs. One might therefore expect this action to start producing results towards the middle of 1974.

During the same period of time, the collection of conference papers could be organized and this information could be made available on a permanent basis towards mid-1974.

It will take until that time to carry out a quantitative and qualitative assessment of the

services that such a documentation can supply and also to detect any imperfections and gaps in it. The possible recourse to a system of cooperation between Member States to improve the input to the documentation system will have to be studied and planned jointly with national experts; from the experience gained in the setting-up of the MDIS it seems likely that such a system of cooperation could become operational by the end of 1974.

The Commission will transmit a final proposal to the Council before 31 December 1974 based on the results obtained.

## **II. Projects aimed at improving the environment**

### **Protection of the natural environment**

As already indicated, the protection of open spaces calls for re-examination of certain aspects of the policies which affect the use of rural areas, particularly the agricultural policy.

As part of their activities, farmers already play a valuable role in tending the soil and the land. It is in the interests of the general public that they be encouraged in this role and given adequate remuneration. Consideration should be given to the idea of starting in certain agricultural areas new tourism-linked activities which could provide certain farmers with an additional income and others with new employment. These measures can also help to prevent the depopulation of some of these regions.

The Commission expresses its intention of increasing its campaign for the protection of the natural environment and intends to take the following immediate measures under the agricultural policy:

### *Proposal for a Directive on hill-farming in other poorer areas*

This proposal was forwarded to the Council on 21 February 1973. Its aims are:

- to assure the continuation of farming in areas in which farming is necessary to maintain a minimum level of population and the upkeep of open spaces;
- to acknowledge and encourage, by means of a special system of aids, the farmers' activity in these areas, not only in their capacity as producers of food but also for the part they play in the upkeep of open spaces.

### *Study of a Proposal for a Directive on the promotion of measures in the forestry sector aimed at structural improvement in agriculture*

#### **Underlying reasons**

The aim of these measures is to promote the afforestation of areas hitherto used only for farming and affording an insufficient yield, to make almost totally unproductive areas of forest productive, and to set up protective plantations, chiefly for the purpose of protecting the soil from erosion.

The essential task of promoting afforestation should form part of the general development programme for each region as regards the use of the soil and the upkeep of the landscape.

#### **Content**

The system of aids at present under examination relate to work such as soil preparation; the supply and the planting or sowing of plants and seeds; upkeep, including after-culture; the erection of fences; and the introduction of fire-breaks.

The work would also include the making and clearing of forest roads and paths for pedestrians, cyclists and horseback riders.

The aids represent a large sum, which could be more than two-thirds of the afforestation costs

borne by the farmer. The possibility of an annual aid per hectare reafforested, to be granted over a certain period, is also under consideration in order to increase the incentive to plant trees in areas released as a result of the cessation of farming and the use of the area for the purposes of structural improvement.

#### **Timetable**

The Commission will forward this proposal to the Council before 1 July 1973.

#### *Ecological effects of the use in agriculture of modern production techniques*

#### **Underlying reasons**

It cannot be denied that the development of farming has certain effects on the natural environment. These will be intensified by the increase in production resulting from the modernization of agricultural holdings. Following the decisions taken by the Council on agricultural reform, the Community has adopted a major role in guiding policies on the modernization of agricultural holdings (Council Directive of 17 April 1972 on the modernization of farms).

Scientific knowledge in this field is not, however, sufficiently detailed and it is therefore necessary to carry out a study in order to ascertain how far such knowledge has now progressed.

#### **Content**

The aim of this study is to make it easier to assess the effects on the natural environment of the use of production techniques such as:

- single-crop farming and certain practices connected with crop-growing which may impoverish the soil or change its properties;
- intensive use of certain fertilizers;
- excessive use of pesticides;

- intensive breeding involving the danger of organic pollution and microbic contamination;
- the effects on the natural environment of land improvement schemes (draining of marshes, disturbance of the water system, destruction of hedges, etc.).

The conclusions drawn from this study should show the areas in which the Community could take measures and the areas in which further research is essential.

#### **Timetable**

This study will be completed by the end of 1973.

#### *Quality foodstuffs*

#### **Underlying reasons**

Community consumers are paying more and more attention to the quality of foodstuffs. There is a great deal of evidence to suggest that the demand for quality products is going to expand even further in the future.

Farmers are also doing more and more towards developing so-called 'biological' products or products obtained by methods which are 'closer to natural processes'.

At present, consumers are not always sufficiently protected as regards the authenticity of so-called 'natural' products, which are sold under a very wide variety of names.

This problem should be studied as regards both production techniques and marketing methods.<sup>1</sup>

#### **Content**

Two studies have been undertaken in this sphere: one on the conditions and possibilities

---

<sup>1</sup> The Commission is continuing its work of harmonizing the legislation on agricultural produce and foodstuffs and on veterinary and zootechnical questions; the Council has received a large number of proposals for Directives and Regulations and others will be forwarded in the next few months.

for developing integrated and biological anti-pollution methods in agriculture and the other on the possibilities for developing the marketing of typical quality agricultural produce and 'biological' products.

These studies should enable the Commission to take measures, where appropriate, to encourage farmers who make a special effort to improve the quality of their produce and also to increase consumer safeguards.

#### **Timetable**

This study will be completed by the end of 1973.

#### *Problems relating to the effluents from intensive breeding*

##### **Underlying reasons**

There is growing concern about the various nuisances, and particularly the air and water pollution resulting from the increasingly industrial nature of pig and poultry production.

##### **Content**

Research has been undertaken in certain Member States on methods of preventing the pollution resulting from these types of production. The Commission intends to coordinate and intensify this research and direct it towards finding means of processing and using the effluents from intensive breeding and so prevent the pollution in question.

##### **Timetable**

It is not yet possible to determine when this study will be completed.

#### *Protection of bird life*

##### **Underlying reasons**

Hundreds of millions of migratory birds and songbirds are captured and killed in Europe every year. This large-scale bird destruction provokes worldwide protests against the coun-

tries which allow the trapping of birds. It presents a serious problem for the biological balance in Europe, which is being impaired by such destruction.

This decimation is causing plant parasites to proliferate. As a result, the campaign against such parasites requires use on a bigger scale of insecticides which are sometimes harmful to man and to the natural environment.

A policy for the protection of the environment should therefore include measures to prevent the large-scale destruction of birds, particularly songbirds and migratory birds, and more generally to protect the existence of certain animal species threatened with extinction.

##### **Content**

Promotion of joint action by the Member States in the Council of Europe and other international organizations.

Study with a view to possible harmonization of national regulations on the protection of animal species and especially migratory birds.

##### **Timetable**

This action should be carried out as quickly as possible, and by 31 December 1974 at the latest.

#### **Problems raised by the depletion of certain natural resources**

Non-regenerating natural resources such as certain metals, oil and natural gases could at some time in the future cause supply problems on a world scale,<sup>1</sup> even if account is taken of

---

<sup>1</sup> The Meadows Report, which can be greatly improved upon as to its fundamental data on non-regenerating resources, adopts a global approach to the problem of the exhaustion, in the near or distant future, of certain resources which are essential to economic growth. This report also underlines the importance of salvaging and recycling in the conservation of mineral resources and the fight against metal pollution (by Hg, Cd, Cr).

various factors such as price rises due to the scarcity of a commodity, the probability of new finds, technological progress and the salvaging of metals. Similarly, water, which can be recycled, is likely to come up eventually against major supply problems arising out of the sharp increase in demand and the high pollution levels.

Primary consumption i.e., mining or oil production is, in the case of most non-regenerating raw materials, increasing exponentially and, in spite of salvaging, the annual growth in consumption of certain metals (Fe, Al, Cu etc.), often exceeds the annual increase in the world's population, which is about 2%. The rate of increase in the world's population and the rise in living standards, together with industrial development, will clearly lead to greater demand for non-regenerating raw materials.

Likewise, the demand for water will double between now and the year 2000 in most of the industrialized nations, and this will cause increasing use to be made of surface water, which is the most highly polluted form.

The rise in annual ore consumption is about 7.5% for Al, 5.5% for Fe, 4.7% for Cu and Cr, 3% for Pb, 2% for Sb and 1.6% for Hg, despite the salvaging of several metals. However, starting from 1973 a slight drop in annual consumption must be expected with regard to certain polluting metals. Hitherto, supplies of metal to the industrialized nations have been maintained through intensive exploration in response to demand and through improvements in operating or extraction techniques. These have enabled (a) resources to be built up again or new reserves to be discovered and (b) veins with increasingly lower ore contents to be worked. Technological progress, which was not covered by the Meadows Report, constitutes an important factor in the assessment of long-term resources.

For example, the average metal content of workable copper ores over thirty years fell from 1.5% to about 0.3% as a result of technological progress, without which the price of copper would have risen steeply. However,

despite technological progress, salvaging and potential price increases, there is a limit to ore supplies which will emerge, sooner or later as the case may be, as a result of the frequently exponential rise in consumption. More detailed knowledge of the total reserves of workable or potentially workable ores would allow a much closer analysis of metal reserves and time-scales in the light of medium and long-term consumption forecasts. The fight against pollution will also affect current data on the consumption of several metals, either reducing (as in the case of mercury) or stepping up demand.

According to forecasts, the annual world consumption of *hydrocarbons* will increase by 7% during the present decade (EEC Report No XVII/134/72), which amounts to a doubling of total consumption over 10 years, whereas the increase in natural gas consumption will outstrip the figure for oil by a wide margin, at least in the EEC up to 1985 (doubling every five years). If oil and natural gas consumption continues at this rate it could cause a worldwide energy crisis before the year 2000, even allowing for the gradual replacement of hydrocarbons by other sources of energy (nuclear and hydrogen energy, fusion, solar and geothermal energy). Recent studies<sup>1</sup> have shown that in spite of probable technological progress (exploitation of extreme-depth undersea fields, improved methods of reclaiming oil) and new discoveries, hydrocarbon production will no longer be sufficient to satisfy demand. The availability of low sulphur content oils appears to constitute a problem already, in view of their appeal in the fight against pollution.

The supply of certain non-regenerating resources thus merits closer analysis at both world and Community levels in the light of their importance to economic growth. It seems essential to acquire basic data, in order to lay down guidelines for a common policy on the supply of non-regenerating raw materials, to

---

<sup>1</sup> Masson: Report on symposium on the Minerals Industry, University of Brussels, December 1971.

formulate certain anti-pollution measures and to decide upon the research programmes to be carried out with a view to conserving or finding substitutes for shrinking resources. Such data can also be included in a model representing European growth.

It must also be pointed out that the Community and other industrialized lands such as Japan, and to a lesser extent the United States, obtain a large proportion of their non-regenerating raw materials from New World countries with low population density (Australia, Canada etc.) or from the developing countries. For the Community, the problem of non-regenerating raw material supplies is all the more acute since its own reserves of hydrocarbons, ores (Zn, Pb, Hg, U) and certain minerals used for industrial purposes (fluorine, barytes) are limited and have already been heavily eaten into during the course of earlier industrial development.

As to water, a greater knowledge of hydrological resources, particularly at the regional level, could lead to improved management and planning of resources on the basis of predicted industrial, agricultural and domestic consumption.

#### Aim and content

Studies will be carried out with a view to:

- Examining future supplies and demand for *certain non-regenerating mineral resources*, the depletion and rate of consumption of which could have repercussions on industrial development and the environmental policy (hydrocarbons, metals in the platinum group, mercury, chromium, tin and fluorine). This study will be at both world and Community levels and will take account of various factors such as technological progress, reclamation etc;
- Analysing the potential medium and long-term effects of the increasing depletion and use of these resources on environmental policies and on the Community's industrial development;

- Examining the steps to be taken in order to conserve these resources (recycling, substitution etc.);
- Studying the medium and long-term availability of water supplies on a Community scale as a function of increases in consumption and use.

#### *Mineral resources*

#### FUTURE SUPPLY AND DEMAND

The Commission has already put the finishing touches to a mathematical model enabling a more accurate assessment (to within about 30 %) to be made of total potential and workable reserves of ores. This assessment, which is based on geological and geochemical parameters, has already been successfully applied to uranium. The data acquired can also be easily incorporated in a European or world growth model. As part of its blanket analysis of resources the Commission proposes to carry out:

- a detailed analysis of total non-regenerating resources (workable and potential) in relation to cost, starting with the resources mentioned below;
- a forward study of the medium and long-term levels of consumption of these resources throughout the world and the Community;
- an analysis of the rate of depletion of these resources in the light of various parameters (recycling, population growth, price trends, new technologies).

During an initial phase the Commission proposes to restrict the study to certain specific raw materials such as hydrocarbons, platinoids, tin, mercury, the reserves of which appear limited, or chromium and fluorine, the annual consumption level of which is quite high.

This analysis will not be restricted to workable reserves, but will also deal with potential lower-grade reserves, a part of which could be considered an economic proposition in the

future as a result of technological progress or a rise in prices. The data on available resources and the medium and long-term consumption forecasts will allow a more detailed analysis of the rate of depletion of these non-regenerating raw materials.

#### ANALYSIS OF THE POTENTIAL CONSEQUENCES OF THE DEPLETION AND USE OF THESE RAW MATERIALS FOR THE COMMUNITY

The study mentioned in the foregoing section will enable total reserves to be classified not only according to their workable and potential tonnage but also according to price brackets, which facilitate the analysis of the potential impact of certain resources nearing exhaustion and enable approximate time-scales to be drawn up. At a Community level these data are important to the launching of medium and long-term hydrocarbon and metal supply policies where domestic reserves are limited and sometimes even non-existent (as in the case of chromium). The exhaustion of certain resources will inevitably lead to increased prices for non-regenerating raw materials and consequently for manufactured products.

It should be possible to make medium and long-term forecasts of overall trends in non-regenerating raw material prices with reference to the various categories of raw material available and to primary consumption, and hence to take the necessary steps regarding the supply and conservation of certain resources (substitution, recycling, stockpiling). Another important factor affecting movements in the floor price of non-regenerating raw materials stems from the increased share of the LDCs in the profits accruing from the exploitation of their natural resources.

In addition the rise in the industrial consumption of certain ores (chromium, fluorine) and hydrocarbons, together with a possible increase in the price of certain metals used in the fight against pollution, could have repercussions on the investments needed in order to maintain the quality of the environment.

The activities described above will be backed up by studies of:

- possible medium and long-term trends in the floor prices of the non-regenerating raw materials mentioned above, in relation to the supply situation in the various price categories;
- the potential effect of an increase in the floor price on the environmental and energy policies and on industrial development;
- the supply policy concerning these materials (particularly with regard to the LDCs).

#### THE CONSERVATION OF RESOURCES

The heavy annual world consumption of non-regenerating raw materials often results in wastage of the materials available and can also lead to a deterioration in the quality of the quality of the environment (hydrocarbons, Hg, Cd, Pb). Steps towards Conservation measures should be taken in regard to raw materials likely to become exhausted. These, depending on the case, could consist in recycling (metals), substitution (metals and hydrocarbons) or improvements in extraction or recovery techniques. In any overall assessment of non-regenerating raw materials these processes can defer the exhaustion of the natural resources and occasionally also improve the quality of the environment (mercury reclamation).

Specifically, studies should be carried out on:

- the effects of the various processes mentioned on the total medium and long-term Community consumption of the raw materials mentioned above and of the prime cost of these processes;
- the technological and research measures to be taken in order to conserve these raw materials.

#### *The availability of hydrological resources*

In connection with the problem of the availability of surface and ground water in the Com-

munity the Commission intends to carry out:

- an analysis of its water resources, including quality;
- an analysis of future water requirements for industrial, domestic and agricultural purposes, including medium and long-term supply problems;
- a comparative analysis of management and planning techniques.

#### **Timetable**

The studies set out above would be commenced in 1973. Their results would be ready by the following dates:

- Studies on the availability of the mineral resources mentioned above: December 1974.

Availability of water resources in the Community: December 1974.

- Analysis of possible repercussions of the exhausting of resources: July 1975.
- Conservation of non-regenerating raw materials: December 1975.

#### **Procedure**

The Commission will undertake these studies, with the aid of experts if necessary. It will then forward suitable proposals to the Council based on these studies.

### **Urban development and improvement of amenities**

#### **Reasons for action**

The functioning of the common market has intensified the problem, which has already presented itself at national level, of the optimum geographical distribution of the population and activities.

Freedom of movement of persons and capital, the structural changes, particularly in agriculture, the rapid transformations of a technological, economic and sociological nature — all

these developments call for an active policy for protecting and improving the environment both in densely populated areas and in areas used for activities connected with agriculture or the tourist trade.

Efforts to improve living conditions in densely populated areas would be in vain unless the very process of concentration were brought under control and reversed. Environmental policy is therefore inseparable from a regional policy which must have adequate resources at Community level and accord as much attention to the disadvantages of excessive concentration as to those of underdevelopment.

Policies aimed solely at containing the effects of concentration would not be feasible in isolation, as the effects of growth are felt in places where the country concerned can only mitigate the consequences and not attach the causes.

In areas in which the natural or cultural environment has hitherto been fairly well preserved, it is essential that this state of affairs be maintained. Such an environment is a hitherto unrecognized attribute. It is the best means which these areas have of attracting people and new activities.

In this way they can fulfil aspirations and the need for balance, which are no longer merely regional or national preoccupations but the common concern of all the peoples of the Community.

It is therefore particularly important that in both cases the environmental problems inherent in urban development and the geographical distribution of the population and activities be examined at Community level: not only are there similar problems in the various countries but in many cases common problems which, in view of the unity of the economic area of the common market, cannot be solved without a concerted policy.

#### **Aims and substance of the actions proposed**

The actions proposed above have a dual aim:

- the gradual setting-up, within the Community, along with a Permanent



Committee on Regional Development, of a forum where the authorities concerned at the different levels of planning, decision-making and implementation can meet to discuss facts, knowledge, views, plans, solutions, experience, assessments, wishes, etc., regarding environmental problems specifically linked with urban development and the geographical distribution of the population and human activities;

- the gradual overall definition, on a joint basis, of guidelines for incorporating the requirements of environmental improvement in urban development and land-improvement policies, and the ways and means to be employed for achieving this end.

The Commission intends to concentrate its efforts upon four groups of problems, carefully selected on the basis of the two considerations stated in the reasons for action given above (general nature and Community scale of these problems).

*Environmental problems relating to the development of urbanized areas in the Community. Particular case of the current formation of a megalopolis in North-West Europe*

The improvement of towns and the countryside presents serious problems in the various areas in the Member States where conurbations (whether or not they extend over several countries) are growing up around nuclei of varying sizes. This is particularly true of North-West Europe, where the large and small conurbations and the natural spaces which separate them are gradually becoming a megalopolis with approximately 100 million inhabitants, spilling over into the territory of six Member States.

The measures required to prevent the consequences of allowing this process from going unchecked must at all costs be examined and adopted jointly by the Member States

concerned as soon as possible, i.e., before it is too late to reverse the process.

These urbanized areas (and in particular this megalopolis) pose problems which formerly were not experienced by even the very large urban areas; these problems concern administration, infrastructure, transport, social and cultural facilities, leisure, public health and ecological balances. They are sometimes of such dimensions that it is decided to set up new towns, with varying degrees of autonomy.

#### Ways and means

The Commission intends, as part of a first stage, to convene two groups of experts in order to achieve gradually the two aims stated above:

- one group will comprise those responsible for environmental problems in the administrative departments of the main urbanized areas in the Community;
- the other will comprise those responsible for environmental problems in a number of representative new towns, either newly built, under construction or scheduled to be built in the Community:

They will study the specific environmental problems of highly urbanized areas and new towns respectively, and will at the same time examine the best way of using the tools available (or which could be made available) to the Community under its various sectoral policies, for the purpose of improving the environment in these areas.

The Commission will in addition request the first group of experts to study the best way of channelling the 'urban explosion' on a European level, in the light of the demands of functional, sociological, ecological and geographical balances and of technical progress in transport, telecommunications, data processing, etc.

The Commission will pay particular attention to environmental trends in the vast ecosystem of the megalopolis growing up in North-West

Europe and the effects of this on other areas in the Community, so that it can in due course propose the measures required at Community level.

The Commission further intends, mainly for the purpose of achieving very gradually the second aim stated above, to initiate consultation procedures among the competent authorities to determine guidelines for optimizing the relationship between the geographical location of human activities and the environment.

#### Timetable

The Commission will convene the groups of experts and set in train the abovementioned consultation procedures before 31 July 1974.

The Commission will also initiate some studies designed to afford a better understanding of the environmental problems inherent in the formation of urbanized areas and a megalopolis in North-West Europe.

#### *Certain environmental problems relating specifically to town centres*

Most town centres are at present undergoing a period of crisis. Traditional activities have been discontinued, places of work are taking over from housing (particularly in the tertiary sector), small crafts have disappeared, etc.

The introduction of the tertiary sector into town centres involves the building of large functional complexes, of excessive proportions and which are a source of traffic jams in rush hours and 'deserts' at night. They also bring about the demolition of old houses and a division between the fairly well-off social classes in the newer districts and the less affluent classes who settle for a time in the older districts. The cultural identity of Europe, which is largely determined by its centres, is also gravely endangered by these tendencies. The use of private cars has reached a limit which cannot be exceeded without very costly reconstruction work which would wholly impair the character of town centres.

#### Ways and means

The Commission intends to examine, with a group of experts comprising those responsible for such matters in a number of typical towns in the Community, the contribution which this group could make to solving the problems outlined above.

It also intends to examine the usefulness of consultation procedures among the competent authorities concerning methods of solving the problem of stratification and class segregation in urban areas (old or disabled citizens, immigrants).

The Commission will make particular use of the work already carried out on these matters or under way in the Council of Europe,<sup>1</sup> the OECD, Europa Nostra,<sup>1</sup> ICOMOS, etc., and may award study contracts on problems which have been raised by the abovementioned group of experts and which have not been solved by the organizations which have also been working on them. With regard to transport, it will pay particular attention to the results of the studies undertaken by Member States, in implementation of Council Decision No 70/108/EEC of 27 January 1970,<sup>2</sup> on the system of charging for the use of road infrastructure in urban areas.

#### Timetable

The Commission will arrange for the group of experts to meet before the middle of 1974.

#### *Certain environmental problems specifically linked with open spaces and landscape*

Problems similar to those of town centres arise in respect of the open spaces and landscapes of

<sup>1</sup> The Commission will from now on take an active part in the campaign launched under the auspices of the Council of Europe, and promoted by Europa Nostra, for the conservation of our architectural heritage. This campaign, which is aimed at all those concerned at national, regional and local levels and in both public and private capacities and also at the general public, is to culminate in 1975 with 'Architectural Heritage Year'.

<sup>2</sup> OJ No 23, 30 January 1970, p. 24.

Europe. The overflow of the towns into the countryside, intensification of traffic, open-air pastimes and tourism, modernization of agricultural production structures, etc. are rapidly and radically changing the countryside, the rural landscape and the biotopes which are characteristic of Europe and which, as much as the town centres, represent an important cultural heritage and are just as vulnerable.

These problems are particularly marked in areas of rapid urban development but are also found in declining areas threatened with depopulation as a result of natural handicaps to agriculture or a falling-off in traditional industrial activities. They are very marked, too, in tourist areas such as coastal and mountainous areas.

#### Ways and means

The Commission proposes to examine, in close cooperation with a group of experts and with the 'Permanent Committee on Regional Development',<sup>1</sup> provided for in the common regional policy, the ways in which the Community might be able to help solve the problems outlined above. It will also put the matter to the groups of experts proposed.<sup>2</sup>

In this context, it is thinking in particular of coordinating the numerous steps taken by the Community countries concerning the different ways of protecting beauty spots and landscapes, while taking into account the activities of certain other international and professional organizations (Council of Europe, International Federation of Landscape Gardners, etc.).

It will in addition examine the possibilities of giving Community support to the action taken by Member States (e.g., by setting up special systems for agriculture in areas where the maintenance of rural landscapes and biotopes would be a handicap for agricultural holdings.<sup>3</sup> Lastly, the Commission will take into account the extent to which the protection of beauty spots and landscapes will be considered in industrial and infrastructural investments to which the Regional Development Fund contributes.

#### Timetable

The Commission will convene the abovementioned group of experts and Committee as soon as the latter has been formed.

#### *Certain specific environmental problems found in coastal areas*

The coastal areas of the Community suffer the effects of urban development, industrial expansion, tourism, etc., in a special way. The landscapes and biotopes of these areas are profoundly changed as a result.

These developments are liable to lead to the disappearance of certain characteristic types of coasts and biotopes in Europe and seriously impede the functions fulfilled by the coastal areas in the ecological balance (e.g., spawning grounds for fish, resting places for migratory birds). Moreover, the effect of these distortions could, from an economic point of view, be harmful to fishing and certain agricultural sectors not only within the Community but also in Scandinavia, the USSR and some African countries.

Again, new economic activities which are being set up on the coast sometimes hinder each other because of their contradictory demands and they conflict with the need for rest and recreation in the open air which is felt more and more by the urban population.

To supplement the proposed measures for combating coastal water pollution, therefore, it is very important that the policy which is followed for the development of coastal areas should take into account, not only local or national needs but also the future needs of all

---

<sup>1</sup> See 'First Commission Memorandum on Community policy for the environment' page 22.

<sup>2</sup> See pages 47 and 48.

<sup>3</sup> A Proposal for a Directive providing for a special system for hill farming and certain other poorer areas has just been sent to the Council. Article 4(2) of this proposed Directive deals particularly with this need.

Another Proposal for a Directive providing for Community aid for afforestation is in process of being drawn up by the Commission.

the nationals of the Community countries. Otherwise, some siting plans which have not considered these needs could prevent the coast from coming further into its own.

#### **Ways and means**

To supplement the previous proposals concerning the fight against pollution and nuisances in coastal areas, and also the proposals made on pages 47 and 49, the Commission proposes to examine the repercussions on the environment of implementation of the various development plans for the various coasts in the Community. When the times comes, it will propose procedures for consultation between the competent authorities in order to arrive at a definition of common guiding principles relating to the development of the coastal areas from an environmental point of view and the optimum distribution of the various functions of the coastal areas.

#### **Timetable**

The Commission intend to undertake the initial study of these questions before 31 December 1973.

### **Improvement of the working environment**

#### **Reasons**

When consulted about the Commission's first proposals for an environment policy, the employers' and workers' organizations stressed that the implementation of the policy should produce an improvement in the working environment to meet the basic aspirations of the working population.

This will require:

- seeking more effective protection, by modernizing the conventional methods of industrial medicine, health and safety;
- going beyond protection in an effort to make work more acceptable and to introduce the same criteria for the working environment as are gradually being applied in the living environment.

Action of this kind will normally come under the Community's social policy, which is the subject of a separate programme.

#### **Aims and content of the action**

A real improvement in the working environment and the establishment of safe and acceptable working conditions must be made technically feasible for the greatest possible number of firms (including small and medium-sized firms).

Exploratory studies were launched in 1972 and will be completed in 1973. In the light of the findings, a work programme will be drawn up, implemented and keyed into the social programme according to the timetable proposed below.

In the early stages, attention must be paid to considerations arising from specific analyses of the various risks (close links will be maintained with the activities concerning the external environment). Next, an attempt must be made to arrive at an overall concept for each sector or type of production, making particular use of pure and applied ergonomics.

The work under way at the beginning of 1973 is based on the following plan:

#### *Information to be collected, processed and disseminated*

- assessment of environmental factors and noxious emissions:
  - statistical principles of sampling,
  - methods of sampling and measuring,
  - models for evaluating risks, including cumulative risks, in space/time zones corresponding to the workers' activities;
- methods for assessing actual complex situations:
  - effects of environmental factors and noxious emissions on people (individually, but more especially in groups: knowledge of the population, its categories, and individual chances of developing disease),

effects on firms (indicators for all the workers of a particular firm, their combined behaviour and the reasons for it),

effects on society (economic and social cost of deterioration of manpower, responsibility for this cost).

#### *Proposals and development*

- Practical strategy to combat industrial hazards and exposure to hazards, based on criteria similar to those applied in combating pollution;
- specifications to be met by machinery, products and all other equipment, to ensure safety of use;
- development of industrial hygiene equipment, application of ergonomic principles for remedy and improvement; plants;
- promotion of ergonomic designs for new plants;
- human and sociological aspects of the organization of work, methods for reducing disgruntlement and encouraging effective participation.

#### **Ways and means**

The Commission must use all the means at its disposal, in cooperation with the national authorities and industrial circles, to ensure satisfactory protection and optimum working conditions. In particular it must:

- carry out and promote methodological research;
- promote practical measures to obtain the necessary information for improving working conditions;
- organize training of the necessary personnel (technical experts, e.g., in industrial health, people who have to deal with such problems from time to time);
- set up information networks;
- propose general outline measures and refer-

ence values for checking specific risks, so that all firms have the same obligations and all workers the same guarantees of protection;

- organize a far-reaching information campaign.

#### **Timetable**

Completion of the exploratory studies launched in 1972.

Meeting of experts before the end of October 1973:

- to examine the findings of the studies and take stock of the situation in each field;
- to draw up a series of specific projects (concerning the various categories of risk and using the above-mentioned means) to be launched as from 1 January 1974.
- to help map out a policy, under the social programme, for the protection of workers and the improvement of working conditions.

#### **Creation of a European foundation to improve living and working conditions**

##### **Reasons**

In its two memoranda on the environment, dated July 1971 and March 1972, the Commission advocated the setting-up of a European Institute of the Environment, the chief task of which would be to carry out an extensive and detailed study of some of the basic thinking on ways to improve living conditions in the society of the future.

The idea of a European foundation to improve living and working conditions (with a brief to carry out research and training and provide information) was proposed by France at the Conference of the Heads of State or Government held in October 1972 and during meetings of the Council of Ministers (of Social Affairs).

The two ideas can be given practical form in a single project which should simultaneously meet the requirements of a social policy and an environmental policy.

#### Aims and content of the action

The intention is to provide the Commission with an organization able to scan the combined factors affecting the working and living environments and carry out a long-term forward study of those factors which are likely to threaten the conditions governing existence and those which are capable of improving these conditions.

The following list can be drawn up, by way of example of a number of questions which could profitably form the basis of the Foundation's research. This list does not claim to be exhaustive, nor is there any suggestion that research on the questions listed must necessarily begin at once.

#### *Improvement of working conditions*

Changes in industrial practices with a view to eliminating tasks of a physically or psychologically laborious nature (assembly line work, industrial or tertiary services, work of a repetitive nature).

#### Creation of incentives in industry:

- relations at all levels within the hierarchical system, pay scales, promotion and career prospects;
- further education, retraining, problems arising out of the discrepancy between educational standards and the nature of available posts.

#### Working hours:

- flexible timetables, part-time working;
- retirement age, period of transition between full-time working activity and retirement;
- duration and allocation of holidays.

#### *Improvement of living conditions*

##### Living space in the towns:

- different types of dwelling (collective, individual, concentrated, dispersed over a wide area),
- optimum utilization of available territory (distribution of activities and housing, effectiveness of incentives and disincentives),
- preservation and renovation of the old quarters of towns and cities and of town centres, new centres, new towns, optimum size of towns;

Development of transport (the motor car and group transport, new means of transport);

Development of communications and the data-processing revolution, the 'push-button' society, political and cultural implications;

Social integration of immigrants, notably those from non-Member States.

Any attempt to deal with a list of subjects as wide-ranging as these could easily become impractical by virtue of their very diversity, unless explicit provision were made laying down strict terms of reference for the Foundation, based not on what must inevitably remain a very wide and diverse range of subjects but on priorities still to be decided and considerations regarding potential effectiveness.

#### *Intervention and financing procedures*

The aim of the intervention procedures in question will have to be to create a body capable of providing the stimulus needed to promote research and experimentation in furtherance of Community and Member State objectives, while at the same time ensuring that such a body does not become a mere centralized research agency competing with centres or institutes already in existence.

The intervention procedures in question could be as follows:

- to draw up a list of all Community research which falls within the terms of reference of the Foundation;

- to facilitate contacts and cooperation between institutes, research centres and research workers;
- to contribute, in whole or in part, to the financing of research or experiments in connection with the objectives assigned to the Foundation on the basis of directives to be laid down by the institutions of the Community;
- to ensure that the findings of this research and experimentation are disseminated;
- to compare notes with similar institutes and bodies in the non-Member States.

\*

#### Timetable

The Commission intends to submit to the Council, before 31 December 1973, proposals for the setting-up of a European Foundation for the Improvement of Living and Working Conditions. In particular, the tasks of this Foundation will have to be defined in accordance with the provisions of the Treaty and in such a way as to take account of the respective areas of responsibility of the institutions.

#### Promotion of environmental awareness through education

##### Reasons for the action

'Environmental protection is a matter for all Community citizens, who should be made aware of its importance.

The success of an environment policy presupposes that all categories of the population and all the social forces of the Community help to protect and improve the environment.

This means that at all levels permanent and detailed educational activity should go on in order that the entire Community may become aware of the problem and assume its responsibilities in full towards the generations to come'.

This principle, evolved by the Ministers of the Environment of the Member States meeting in

Bonn in October 1972, is included in the general definition of a Community environment policy.

Conservation and improvement of the environment call for a general awareness of the existence and importance of the dangers which threaten and also of the responsibilities borne by the individual. In varying degrees all of us have the capacity to make a positive contribution to the environment, both through our behaviour and through our actions. For, after all, we are the ones who use and mould this environment and ours is at once an individual and a collective responsibility.

In order to induce the individual to face up to his full responsibilities vis-à-vis these problems, appropriate measures should be introduced to educate and inform him in these matters:

- school and university education based on the introduction of concrete examples in the various disciplines;
- information on the state of affairs in certain areas and the consequences of selecting eventual courses of action;
- training of teachers and other responsible persons.

Through a combined effort of this kind it should be possible to provide the public with a better understanding of decisions taken by Governments, especially since these decisions are bound to have a direct effect on the living standards and conditions of the people concerned.

To sum up, the first priority must be the adoption of a systematic and orderly approach which will bring home to people in general, and the young in particular, that a problem of the environment does in fact exist. Secondly, a training programme must be drawn up for administrators and others holding active positions of responsibility in the field of economics and social welfare as well as for management and planning departments. Thirdly, aid must be made available to the universities, and to higher education in general, so as to enable

this sector to carry out its triple environmental vocation of amassing knowledge through research, providing training through education and disseminating knowledge through the spoken and written word.

As far as the Community is concerned, these information and training needs are characterized by the fact that a certain proportion of the basic data dictated by fundamental requirements for the proper functioning and development of highly industrialized countries are substantially the same throughout the Member States. Consequently, the guiding principles for any action in this field will, in general, be found to have equal validity in all of the Member States.

It will also be seen that the didactic approach to environmental problems in a Community context is in the preliminary stages and that the initiatives which it has inspired are still relatively modest, few and far between and rather limited in their educational scope.

Similarly, environmental studies in the universities represent a new departure in education and efforts to promote the subject frequently lack coordination, particularly with regard to those aspects which must of necessity be regarded as interdisciplinary.

The above facts explain the grounds on which the Community projects are based. In general, however, such projects will have to be subordinated to regional or national projects.

#### *Measures designed to promote awareness of the problem*

These measures will consist in publicising past accomplishments achieved at Community and national level in the field of environmental protection and improvement.

The Community's publicity machine will be made available for this purpose and the Commission will publish regular reports on the state of the Community environment.

#### *Training measures*

Children and adolescents must be made aware of the problems of the environment during the primary and secondary school stages. The Council of Europe, the OECD and UNESCO have all devised studies and programmes of instruction and have also issued educational directives. In the majority of countries teachers have been given instructions on how to integrate environmental themes into their geography, technology and economics courses at all levels of general, technical and professional education.

The Commission intends to cooperate with these bodies and will contribute to the general effort by placing educational dossiers at the disposal of lecturers and teachers. These dossiers will consist of a popular breakdown by experts of the environmental problems facing us on a European scale.

Quite a number of universities and colleges (especially colleges of agronomy) have set up groups where chemists, physicists, toxicologists, engineers and economists can compare notes on their research and experiments. Two types of training are beginning to evolve: one leading to a university degree in 'environmental engineering', the other aimed at providing an interdisciplinary training for graduates from various disciplines. Interdisciplinary research groups consisting of several departments and preparing students for the doctoral thesis on environmental questions will of necessity have to adopt a multidisciplinary approach.

The universities and institutes which have taken the initiative in embarking on this new educational venture are at present at the preparatory and experimental stage. The Commission proposes to assist them in the following ways:

- by awarding research contracts for projects of European interest;
- by awarding fellowships to students and young research workers wishing to pursue further courses of study outside their



countries of origin in the environmental disciplines;

- by giving pilot institutes in the Member States the opportunity to compare their research and education programmes;
- by encouraging the exchange of teachers and research workers;
- by assisting institutes to organize summer courses for engineers, chemists, etc., who in the course of their professional life are called upon to deal with problems of the environment.

It would also be advisable to make a study of the most effective means of providing the public authorities, at the earliest opportunity, with the specialists they need most urgently.

Lastly, the Member States, currently engaged on an examination of educational objectives and instruments (one objective being to compare the systems of education and harmonize education policy), will need to coordinate, within the Council, the measures they have adopted, so as to enable these ideas on environmental protection to be introduced at the various levels of formal education.

### ***III. Action on the part of the Community or joint action by the Member States within the international organizations***

A very large number of international organizations are currently dealing with environmental problems under various headings. Their activities cover the various political, economic, legal, health, ecological and scientific aspects of the fight against pollution and the conservation and restoration of the natural heritage.

In the majority of cases the results of these activities find expression in (a) resolutions or recommendations addressed to the national governments and although they have no mandatory force they nonetheless exert a not inconsiderable influence on the decisions of

these governments or (b) draft agreements drawn up within the organizations themselves.

The Community must be aware of this work, especially since the measures proposed and the procedures implemented are most often likely to affect international trade in general, the functioning of the common market, the economic interests of the Community and its Member States, and even in some cases fall within the competence of the Community.

It must, however, take steps to avoid duplication in its own and the international organizations' work, and the Commission will not fail, particularly as regards studies, to carry out complementary work and use the results obtained by other international organizations, while at the same time adapting them to the specific requirements and characteristics of the Community, thus retaining the latter's original character, which lies mainly in the implementation of standardizing measures.

Nevertheless, a certain amount of duplication can be useful. This is particularly so in the case of the work already being performed by the OECD or to be undertaken by the Economic Commission for Europe at Geneva and the Permanent Secretariat of the United Nations. Comparison with the activities of the countries participating in the work of these organizations can only be of benefit to the Community, purely because of the structure of these, by shedding a refreshingly new light on its activities.

Hypothetically speaking, it is in the Community's interest to continue the very active cooperation it has entered into with most international organizations and in particular with the OECD, UNESCO and the Council of Europe, so that the Member States can conduct joint action within these organizations without any adverse effects on action being carried out by the Community itself.

## Annexes

### Annex I

#### Environmental protection terminology

*Preliminary note:* Some of the terms defined below may have applications outside the field of environmental protection. The definitions in this paper are not concerned with these.

#### Criteria

The term *criterion* signifies the relationship between the exposure of a target to pollution or nuisance, and the risk and/or the magnitude of the adverse or undesirable effect resulting from the exposure in given circumstances.

*Target* means man or any component of the environment actually or potentially exposed to pollution or nuisance.

The *exposure* of a target, envisaged in this relationship, should be expressed as numerical values of concentration, intensity, duration or frequency.

*Risk* is the probability of occurrence of adverse or undesirable effects arising from a given exposure to one or more pollutants or nuisances considered alone or in combination with others.

The *adverse or undesirable effect* envisaged in this relationship may be a direct or indirect, immediate or delayed, simple or combined action on the target. The risk and the magnitude of this effect should be expressed, whenever possible, in quantitative terms.

The methods of evaluating the parameters describing exposure and adverse or undesirable effects should be harmonized to ensure comparability of the results from studies and research on criteria.

#### Quality objectives

The *quality objective* of a medium refers to the set of requirements which must be fulfilled at

a given time, now or in the future, by a given medium or particular part thereof.

In setting this objective, the following are taken into account:

- a *basic protection level* such that man or another target is not exposed to any unacceptable risk.
- a *no-effect level* such that no identifiable effect will be caused to the target.

These two levels are determined on the basis of the criteria described above. Due allowance is also made for the specific regional conditions, the possible effects on neighbouring regions, and the intended use.

#### Environmental protection standards

*Standards* are established in order to limit or prevent the exposure of targets and can thus be a means of achieving or approaching quality objectives. The standards are directly or indirectly addressed to the responsible individuals or bodies and set levels of pollution or nuisance that must not be exceeded in a medium, a target, a product, etc.

They may be established by means of laws, regulations or administrative procedures or by mutual agreement or voluntary acceptance.

Standards include:

*Environmental quality standards* which prescribe, with legal force, the levels of pollution or nuisance not to be exceeded in a given environment, medium, or part thereof.

*Product standards* (the term product is used here in its broadest meaning) which

- set levels of pollutants or nuisance which are not to be exceeded in the *composition* or the emissions of a product,
- or specify *properties* or characteristics of *design* of a product,
- or are concerned with the way in which products are *used*.<sup>1</sup>

---

<sup>1</sup> Such methods of use and specifications may be issued in the form of 'codes of practice'.

*Terminology on environmental protection*

Glossary

English	Dutch	French	German	Italian
Criterion	Criterium	Critère	Kriterium	Criterio
Target	Object	Cible	Objekt	Bersaglio
Exposure	Blootstelling	Exposition	Exposition	Esposizione
Risk	Risico	Risque	Risiko	Rischio
Adverse or undesirable effect	Ongunstig of ongewenst effect	Effet défavorable ou indésirable	Nachteilige oder unerwünschte Wirkung	Effetto sfavorevole o indesiderabile
Quality objective	Doelstelling	Objectif de qualité	Qualitätsziel	Obiettivo di qualità
Basic protection level	Basisniveau voor gezondheidsbescherming	Niveau de protection de base	Basis-Schutz-Niveau	Livello di protezione di base
Zero-effect level	Effectloos niveau	Niveau à effet nul	Null-Effekt-Niveau	Livello a effetto nullo
Standards	Normen	Normes	Normen	Norme
Environmental quality standards	Kwaliteitsnormen inzake het milieu	Normes de qualité de l'environnement	Umweltqualitätsnormen	Norme di qualità dell'ambiente
Product standards	Productnormen	Normes de produits	Produktnormen	Norme di prodotto
Process standards	Procedénormen	Normes de procédés	Verfahrensnormen	Norme di procedimento
Emission standards	Emissienormen	Normes d'émission	Emissionsnormen	Norme di emissione
Installation design	Conceptnormen en constructienormen voor installaties	Normes de conception ou de construction des installations	Bauartnormen für Anlagen	Norme di progettazione o di costruzione degli impianti
Operating standards	Bedrijfsnormen	Normes d'exploitation	Betriebsnormen	Norme di utilizzazione

Standards for fixed installations, sometimes called *process standards* such as:

- *emission standards*, which set levels of pollutants or nuisances not to be exceeded in emissions from fixed installations;
- *installation design standards*, which determine the requirements to be met in the design and construction of fixed installations in order to protect the environment;
- *operating standards*, which determine the requirements<sup>1</sup> to be met in the operation of fixed installations in order to protect the environment.

On occasion it may be appropriate to set standards even though related criteria and objectives have not yet been formulated.

#### *General*

In all instances, as knowledge develops, criteria, objectives, standards and codes of practice will need to be periodically reviewed and, where appropriate, modified.

---

<sup>1</sup> Such methods of use and specifications may be issued in the form of 'codes of practice'.

Table giving the correlation between the projects listed in the European Communities' environmental programme and the ongoing or proposed joint research

subject of programme	Research Field										
	Data bank	Lead	Thermal pollution	Epidemiology	Micropollutants	Ecological effects	Noise pollution	Sea pollution	Remote sensing	Physical model	Desulphurization and anti-pollution technology
<i>Objective and principles</i>											
<i>Reduction of pollution and nuisances</i>											
Assessment of risks, criteria, measures	×	×	×	×	×	×	×	×	×		
Restrictive standards	×	×	×	×	×	×	×	×	×		
Specific projects, fresh water and air											
— Exchanges of information, networks, measurements		×							×		
— Quality objectives and emission standards		×		×	×	×				×	
Action specific to certain products											
— Technical barriers	×	×			×	×					
— Others											
Action specific to certain sectors of industry			×								×
Action specific to areas of common interest											
— Sea pollution								×			
— Rhine Basin	×										
— Frontier areas									×		
Waste											
Observation of limits											
Economic and statistical aspects	×										
Research	×	×	×	×	×	×	×	×	×	×	×
Processing and dissemination of information	×										

**Relationship between the research proposals (indirect and direct actions)  
and the European Community's environmental programme**

Subject of programme	Research	
	Indirect	Direct (JRC)
<p><i>Objectives and principles of a Community environmental policy</i></p> <p><i>Reduction of pollution and nuisances</i></p> <p>Objective assessment of risks: definition of criteria and standardization of methods of measurement</p>	<p>(a) Data bank on environmental chemicals</p> <p>(b) Noxiousness of lead</p> <p>(c) Effects on the natural environment of the discharge of cooling water (thermal pollution)</p> <p>(d) Epidemiological surveys</p> <p>(e) Effects of micropollutants on humans</p>	<p>Data bank</p> <p>Analysis and measurements. Pathway and ecological effects of lead</p> <p>Mathematical models and experimental study on thermal pollution</p>
<p>Health standards</p>	<p>(f) Ecological effects of pollutants</p> <p>(g) Noise pollution</p> <p>(h) Marine pollution</p> <p>(i) Remote sensing of atmospheric pollution</p>	<p>Biochemical toxicology</p> <p>Biotelemetry of toxic effects</p> <p>Bioindicators of water pollution</p> <p>Lake Ceresio project</p> <p>Remote sensing and measurement of atmospheric pollution</p> <p>Multidetector unit (COST 64b)</p> <p>Uptake of SO<sub>2</sub> by soil and vegetation (COST 61a)</p>
<p>Specific projects to combat pollution of fresh water and air</p> <p>— Exchange of information between supervisory and control networks</p> <p>— Methods enabling environmental quality objectives to be defined and standards governing emissions and discharges laid down on the basis of these objectives</p>	<p>(b) Noxiousness of lead (pts 1 and 2)</p> <p>(i) Remote sensing of atmospheric pollution</p> <p>(a) Data bank</p> <p>(b) Noxiousness of lead</p> <p>(c) Thermal pollution</p> <p>(d) Epidemiological surveys</p> <p>(e) Effects of micropollutants on humans</p> <p>(f) Ecological effects of pollutants</p> <p>(j) Physical model of the diffusion of air pollutants</p>	<p>Analysis and measurements</p> <p>Remote sensing and measurement of atmospheric pollution</p> <p>Multidetector unit (COST 64b)</p> <p>Data bank</p> <p>Pathway and effects of lead</p> <p>Mathematical models and experimental study</p> <p>Biochemical toxicology</p> <p>Biotelemetry of toxic effluents</p> <p>Bioindicators of water pollution</p> <p>Lake Ceresio project</p>
<p>Action specific to certain products</p>	<p>(a) Data bank</p> <p>(b) Noxiousness of lead</p> <p>(e) Effects of micropollutants on humans</p> <p>(f) Ecological effects of pollutants</p>	<p>Data bank</p> <p>Analysis and measurements</p> <p>Biochemical toxicology</p> <p>Biotelemetry of toxic effects</p> <p>Bioindicators of water pollution</p> <p>Lake Ceresio project</p>

Subject of programme	Research	
	Indirect	Direct (JRC)
Action specific to certain sectors of industry and energy production	(c) Thermal pollution (j) Physical model of the diffusion of air pollutants (k) Desulphurization (l) R & D on anti-pollution technology	Mathematical models and experimental study  Catalytic oxidation Uptake of SO <sub>2</sub> by soil and vegetation (COST 61a)
Specific action in areas of common interest		
— Marine pollution Coastal pollution Other marine pollution	(b) Marine pollution	
— Pollution of the Rhine Basin	(a) Data bank on environmental chemicals	Data bank
— Pollution in frontier zones	(i) Remote sensing of atmospheric pollution	Remote sensing and measurement of atmospheric pollution Multidetector unit (COST 64b)
Action concerning waste		
Action to ensure effectiveness and observance of the limits imposed		
Economic and statistical aspects	(a) Data bank	Data bank
Research	(a) to (l)	
Processing and dissemination of information	(a) Data bank on environmental chemicals	Data bank
<i>Safeguarding the natural environment and natural resources</i>	Research to be possibly proposed at a later date	
<i>Improving the quality of the environment</i>		
<i>Adoption of a Community position or joint action by the Member States in international bodies</i>		





**Draft Council Resolution  
on a Community  
environmental programme**

## Draft Resolution

*The Council of the European Communities,*

Having regard to the tasks of the European Communities defined in the Treaties establishing the Communities;

Whereas, in particular, the task of the European Economic Community is 'to promote throughout the Community a harmonious development of economic activities and a continuous and balanced expansion';

Whereas the qualitative improvement of living conditions and the safeguarding of the natural environment, especially by effective pollution and nuisance control, are today a vital aspect of that task;

Whereas the fulfilment of that task requires the implementation at Community level of an environment policy;

Whereas the Heads of State or Government who met in Paris on 19 October 1972 confirmed this necessity by requesting the Community Institutions to draw up a programme of action with a precise schedule before 31 July 1973;

Whereas the projects included in this programme must be implemented in accordance with the appropriate provisions of the Treaties;

Having regard to the European Communities' environmental programme;

Having regard to the Opinion of the European Parliament;

Having regard to the Opinion of the Economic and Social Committee;

*Adopts* the aims and principles of a Community environmental policy, defined in the first part of this programme;

*Approves* the material content of the projects making up this programme for reducing pollution and nuisances and the corresponding priorities;

*Approves* the guidelines of the projects making up the programme for improving the environment;

*Notes* that the Commission will implement these projects using the ways and means and in accordance with the timescale mentioned in the programme, and that it will subsequently put forward, if necessary, suitable proposals for their execution;

*Undertakes* to give a ruling on the foregoing proposals within a period of nine months from the date of their forwarding by the Commission.

For the Council

The President

**Proposal for a Council Decision  
on an environmental  
information procedure**

## **Proposal for a Decision**

*The Council of the European communities,*

Having regard to the Treaty establishing the EEC, and in particular Article 235 thereof;

Having regard to the proposal from the Commission;

Having regard to the Opinion of the European Parliament;

Having regard to the Opinion of the Social and Economic Committee;

Whereas the European Economic Community has one of its main tasks to promote throughout the Community a harmonious development of economic activities and a continuous and balanced expansion;

Whereas this task requires the implementation of an environmental policy at Community level;

Whereas the Heads of State or Government confirmed this need at their meeting in Paris on 19 October 1972 by calling upon the institutions to draw up before 31 July 1973 a programme of action with a precise timetable;

Whereas the Commission has proposed such a programme of action to the Council and this programme is aimed at maintaining and, whenever possible, improving the quality of the environment in the territory of the Member States of the Community;

Whereas provisions in this field are being drawn up in the majority of the Member States;

Whereas some of these measures on which the quality of life of the peoples depends, as regards both their working conditions and their daily surrounding, could, if not harmonized, affect the functioning of the Common Market and the implementation of the programme of action of the Community;

Whereas efforts at harmonization should nevertheless not delay the adoption of measures

which are indispensable for better protection of the environment;

Whereas the projects of the Member States in this field must be made known to the Commission and the other Member States in order to enable the Commission to propose Community measures, where appropriate;

Whereas, in those fields where such a procedure is not already laid down by the Treaties, a procedure must be set up to provide information on the intentions and projects of the Member States, in particular when these projects are likely to affect the functioning of the common market and the implementation of the Community programme for the reduction of pollution and nuisances and the preservation of the natural environment;

Whereas the information should be given as soon as possible before the measures envisaged enter into force;

Whereas the Member States should nevertheless retain the possibility of taking, in exceptional cases, immediate action at national level when this is urgently necessary for safety or health reasons;

Whereas such a procedure is therefore necessary for the attainment, as part of the functioning of the common market, of certain of the Community objectives;

Whereas the necessary powers for implementing this procedure have not been provided by the Treaty establishing the European Economic Community;

*Has adopted this decision:*

With a view, on the one hand, to ensuring information of the Commission and the Member States and, on the other hand, to enable the Commission to forward proposals as may be appropriate to the Council,

*Article 1*

The Commission shall be informed as soon as possible of any proposed legislative, regulatory

or administrative provisions and also of any international measures relating to the protection or improvement of the environment

- which may directly affect the functioning of the Common Market, or
- concern the Community programme for the reduction of pollution and nuisances and the preservation of the natural environment, or
- are of special interest to the Communities and the Member States from the point of view of protection of public health or the natural environment, especially when these projects may have repercussions on other Member States.

The Commission shall forward to the Member States as soon as possible the information obtained pursuant to this Decision.

#### *Article 2*

When it is a question of legislative, regulatory or administrative provisions referred to in item 1 which are likely to affect directly the functioning of the common market, these shall be adopted only if, within two months of receiving the abovementioned information, the Commission does not notify the Member States concerned of its intention to put proposals to the Council for the adoption of Community measures on this subject. Such proposals shall take into consideration the aims, from the point of view of environmental protection, of the national measures envisaged.

If, however, the Commission has not, within five months of receiving the abovementioned information, put any proposal to the Council, the Member State concerned may forthwith take the measures envisaged. The same shall apply if the Council, having before it a proposal from the Commission, has not taken action on this proposal within five months of receiving it.

#### *Article 3*

The procedure described in item 2 shall extend to draft proposals which are likely to affect the

implementation of Chapter II of the Community programme of action as adopted by the Council.

#### *Article 4*

By way of derogation from the foregoing legislative, regulatory and administrative provisions may, in exceptional cases, be taken if they prove urgently necessary for serious safety or health reasons. The Member States shall immediately communicate the texts concerning these provisions to the Commission, which shall forward them to the other Member States as soon as possible.

#### *Article 5*

Without prejudice to the positions which the Community has to adopt concerning matters for which it is responsible and those arising from the joint action carried out by the Member States within international economic organizations on all questions which are of special interest to the Common Market, the Member States agree to confer together on all international measures in the environment field which relate to matters referred to in item 1 above.

For the Council

The President



## Sales Offices

### Belgique - België

*Moniteur belge - Belgisch Staatsblad*  
Rue de Louvain 40-42 -  
Leuvenseweg 40-42  
1000 Bruxelles - 1000 Brussel -  
Tél. 12 00 26  
CCP 50-80 - Postrekening 50-80

#### *Sous-dépôt - Agentschap :*

Librairie européenne -  
Europese Boekhandel  
Rue de la Loi 244 - Wetstraat 244  
1040 Bruxelles - 1040 Brussel

### Danmark

*J.H. Schultz - Boghandel*  
Møntergade 19  
DK 1116 København K  
Tel. 14 11 95

### Deutschland (BR)

*Verlag Bundesanzeiger*  
5 Köln 1 - Postfach 108 006  
Tel. (0221) 21 03 48  
(Fernschreiber: Anzeiger Bonn 08 882 595)  
Postscheckkonto 834 00 Köln

### France

*Service de vente en France des publications  
des Communautés européennes*  
*Journal officiel*  
26, rue Desaix  
75 732 Paris - Cédex 15\*  
Tél. (1) 306 51 00 - CCP Paris 23-96

### Ireland

*Stationery Office - The Controller*  
Beggars Bush  
Dublin 4  
Tel. 6 54 01

### Italia

*Libreria dello Stato*  
Piazza G. Verdi 10  
00198 Roma - Tel. (6) 85 08  
CCP 1/2640

#### *Agenzie :*

00187 Roma - Via del Tritone  
61/A e 61/B  
00187 Roma - Via XX Settembre  
(Palazzo Ministero  
delle finanze)  
20121 Milano - Galleria  
Vittorio Emanuele 3  
80121 Napoli - Via Chiaia 5  
50129 Firenze - Via Cavour 46/R  
16121 Genova - Via XII Ottobre 172  
40125 Bologna - Strada Maggiore 23/A

### Grand-Duché de Luxembourg

*Office des publications officielles  
des Communautés européennes*  
Case postale 1003 - Luxembourg  
Tél. 4 79 41 - CCP 191-90  
Compte courant bancaire  
BIL 8-109/6003/200

### Nederland

*Staatsdrukkerij- en uitgeverijbedrijf*  
Christoffel Plantijnstraat, 's-Gravenhage  
Tel. (070) 81 45 11  
Postgiro 42 53 00

### United Kingdom

*H.M. Stationery Office*  
P.O. Box 569  
London S.E. 1  
Tel. 01-928 6977, ext. 365

### United States of America

*European Community Information Service*  
2100 M Street, N.W.  
Suite 707  
Washington, D.C. 20 037  
Tel 296 51 31

### Suisse

*Librairie Payot*  
6, rue Grenus  
1211 Genève  
CCP 12-236 Genève

### Sverige

*Librairie C.E. Fritze*  
2, Fredsgatan  
Stockholm 16  
Post Giro 193, Bank Giro 73/4015

### España

*Libreria Mundi-Prensa*  
Castello 37  
Madrid 1  
Tel 275 51 31

### Other countries

*Office for Official Publications  
of the European Communities*  
Case postale 1003 - Luxembourg  
Tél 4 79 41 - CCP 191-90  
Compte courant bancaire  
BIL 8-109/6003/200

## Subscription and single copy prices in 1973

(price in FB or equivalent)

Annual subscription	FB	Price per single copy	FB
Bulletin of the European Communities (11 numbers + Index)	300.-	Bulletin of the European Communities	30.-
Supplement to the Bulletin of the European Communities (7/8 issues per annum)	120.-	Supplement of the Bulletin of the European Communities	
		① 1-32 pages	10.-
		② 33-64 pages	20.-
Bulletin + Supplement + Index	420.-	③ 65 or more pages	30.-

*NB:* Subscriptions are annual and run from 1 January to 31 December of each year;

— Payment to be made only to the agents in the countries listed above (see below for reduced-rate subscriptions).

— These are surface mail rates; for air subscriptions rates, please apply to the agents;

— A 50% reduction is obtainable for subscriptions by students, teachers, workers' and employers' organizations, study and research centres. Applications should be made to the Office for Official Publications of the European Communities, Case postale 1003, Luxembourg.

4001

OFFICE FOR OFFICIAL PUBLICATIONS OF THE EUROPEAN COMMUNITIES  
Case postale 1003 — Luxembourg

6054