II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DECISION

of 1 March 1984

revising the sectoral research and development programme in the field of environment (environmental protection and climatology) (indirect and concerted actions, 1981 to 1985) adopted by Decision 81/213/EEC

(84/139/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof,

Having regard to the proposal of the Commission (1),

Having regard to the opinion of the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas in its Decision 81/213/EEC (4) the Council adopted a multi-annual research and development programme in the environmental field (indirect and concerted actions, 1981 to 1985);

Whereas Article 3 of the abovementioned Decision provides for a re-examination of the said programme, and, if necessary, for a revision;

Whereas it seems appropriate to revise the programme in the light of new research requirements and of the Council resolution of 25 July 1983 adopting the scientific and technical objectives of the European scientific and technical strategy framework programme 1984 to 1987 (5);

Whereas the Committee of Scientific and Technical Research (Crest) has given its opinion on the Commission proposal,

HAS DECIDED AS FOLLOWS:

Article 1

With effect from 1 January 1984 the Annex to Decision 81/213/EEC shall be amended as indicated in the Annex to this Decision.

Article 2

The funds estimated as necessary for the execution of the revised programme should be 49 300 000 ECU, including the Community contribution to the concerted actions listed in Part C of the Annex and including expenditure on a staff of 16.

Done at Brussels, 1 March 1984.

For the Council

The President

H. BOUCHARDEAU

(1) OJ No C 274, 13. 10. 1983, p. 4.
(2) Opinion delivered on 17 February 1984 (not yet published in the Official Journal).
(3) Opinion delivered on 24 February 1984 (not yet published in the Official Journal).
(4) OJ No L 101, 11. 4. 1981, p. 1.
(5) OJ No C 208, 4. 8. 1983, p. 1.

ANNEX

A. SCIENTIFIC AND TECHNICAL CONTENT

Unchanged.

B. DISTRIBUTION OF FUNDS

Sub-programme I : Environment protection :

39 000 000 ECU — indirect action

2 300 000 ECU — concerted action

Sub-programme II : Climatology :

8 000 000 ECU

C. SCIENTIFIC PROGRAMME OF THE CONCERTED ACTIONS

1. **Physico-chemical behaviour of atmospheric pollutants**

(a) Improvement of standardization of analytical methods, especially for NO_x, hydrocarbons and photochemical oxidants.

(b) Elucidation of mechanisms and rate constants of the reactions between atmospheric pollutants and of their reactions with natural constituents of the atmosphere, in particular in the aqueous state, including : oxidation and degradation chemistry of selected atmospheric pollutants in fresh and sea water, reactions with soil constituents, and the investigation of catalytic processes in cloud and rainwater chemistry.

(c) Investigation of the physico-chemical processes leading to the formation of particles, characterization of the chemical and physical nature of very fine aerosols, and determination of the chemical composition of aerosols.

(d) Identification and quantification of sources and sinks of various pollutants, especially for nitrogen oxides.

(e) Investigation of phenomena leading to 'acid deposition' with particular emphasis on :

— conversion, transport and deposition (dry and wet) of SO_2, NO_x and aerosol particles,

— analysis of precipitation chemistry data for acidity trends,

— NO_x, chemistry in cloud droplets and chemical composition of cloud and rain water,

— dry deposition of NO_x and HNO_3,

— the role of oxidizing agents like OH, HO_2, H_2O_2,

— physico-chemical conversion of air pollutants after deposition, considering water bodies and soil,

— analytical techniques for the measurement of ammonia, nitric acid and hydrogen peroxide in both gas and liquid phase at low concentrations,

— analytical methods for the determination of acidity of aerosols.

(f) Modelling of the diffusion of heavy gases (chlorine, phosgene, hydrocarbons, solvents) after accidental release, including development of three-dimensional models and testing in wind tunnels and under field conditions.

(g) Elaboration of test protocols which enable abiotic degradability of chemicals to be predicted, in particular for persistent compounds.

2. **Organic micropollutants in the aquatic environment**

(a) Analytical methodologies and data treatment :

— basic analytical techniques, including sampling and sample treatment, gas chromatography, high-pressure liquid chromatography, mass spectrometry,

— specific analytical problems, in particular analysis of selected classes of compounds, such as those likely to be regulated by Directive 76/464/EEC, chlorinated paraffins, tensides, optical brightners and metal-organic compounds,

— collection and treatment of analytical data.

(b) Physical/chemical behaviour of organic micropollutants in the aquatic environment :

— distribution and transport mechanisms,

— structure/activity relationships,

— bioavailability and bioaccumulation.

(c) Transformation reactions in the aquatic environment :

— chemical and photochemical reactions,

— biological transformations.

(d) Behaviour and transformation of organic micropollutants in water treatment processes :

— infiltration,

— waste water treatment,

— drinking water treatment (including haloform formation).

3. **Treatment and use of organic sludges and liquid agricultural wastes**

(a) Treatment of sludges and agricultural wastes :

— further improvement of conventional treatment methods, mainly with regard to their economic aspects, and of processes for biogas production from sludges and manures,

— study of technologies specifically applicable to small plants and of processes to eliminate heavy metals at their source.

(b) Analysis of sludges and residues :

— development and standardization of economic multi-element methods for the analysis of trace elements in sludges, soils and plants, and for the analysis of organic pollutants.

(c) Hygienic aspects of treatment and use of sludges :

— elaboration and improvement of methods for the detection and identification of bacteria, viruses and other pathogens, and study of their survival and contamination potential,

— investigations of the efficiency of hygienization processes, definition of 'indicator organisms'.

(d) Nuisances :

— odour characterization and emission control.

(e) Environmental effects of spreading of sludges and manure :

— long-term field experiments on the accumulation of heavy metals, their availability to crops and on transfer of pollutants via soil to plants, and assessment of various application methods with regard to ground and surface water pollution.

(f) Improvement of land-use of sludge and manure :

— long-term field experiments on fertilizing value and soil improvement properties of sludges and manures,

— improvement of treatment processes and spreading equipment with regard to optimum land use,

— study of the agricultural value of residues from treatment processes,

— use of sludges and derived products for land reclamation and specific crops (e.g. biomass production).

(g) Use of ecosystems residues as animal feed.

4. **Benthic coastal ecosystems**

Implementation of 'baseline-studies' for selected key species in undisturbed conditions along the European North Sea and Atlantic coast, in the Mediterranean and in the Baltic Sea for the following habitats :

— subtidal sediments,

— intertidal sediments,

— subtidal rock,

— intertidal rock.

Assessment of the role of:

— local physical factors,

— biological interactions,

— climatic and hydrographic factors on the population dynamics of selected components of benthic coastal ecosystems.

5. **Air pollution effects on terrestrial and aquatic ecosystems**

(a) Direct effect of air pollutants (SO_2, NO_X, HCl, ozone, photo-chemical oxidants and their atmospheric reaction products) on plants and terrestrial ecosystems.

(b) Indirect effects of such air pollutants on plants and terrestrial ecosystems, e.g. via the acidification of soil and the mobilization of phytotoxic elements.

(c) Links between the effects of air pollutants and other factors involved in the observed phenomenon of severely damaged terrestrial ecosystems, in particular forests, such as drought, plant diseases, fungi and pests.

(d) Effects of air pollutants and their reaction products on crop plants, in particular reduced productivity.

(e) Effects of air pollutants and their reaction products on aquatic ecosystems (reduction of the population of fish and other aquatic organisms due to acidification and mobilization of trace elements).

D. TERMS OF REFERENCE OF THE COMMITTEE REFERRED TO IN ARTICLE 5 (a)

Unchanged.