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Report

drawn up on behalf of the Committee on Energy and Research

on the communication from the Commission of the European Communities to the Council (Doc. 229/77) on the common policy in the field of science and technology

Rapporteur: Mr Erik HOLST

PE 49.765/fin.

English Edition

By letter of 14 July 1977 the President of the Council of the European Communities requested the European Parliament to deliver an opinion on the communication from the Commission of the European Communities to the Council on the common policy in the field of science and technology.

The President of the European Parliament referred this communication to the Committee on Energy and Research as the committee responsible and to the Committee on Budgets for its opinion.

On 11 July 1977 the Committee on Energy and Research appointed Mr HOLST rapporteur.

It considered this communication at its meetings of 29 September 1977 and 27 October 1977 and unanimously adopted it at the latter.

Present: Mrs Walz, chairman; Mr Flämig and Mr Veronesi, vice-chairmen. Mr Edwards, deputizing for the rapporteur; Mr Covelli, Mr Fuchs, Mr Giraud, Mr F. Hansen (deputizing for Mr Lezzi), Mr Jensen, Mr Liogier, Mr Noe', Mr Osborn and Mr Zeyer.

The opinion of the Committee on Budgets is attached.

C O N T E N T S

A

The Committee on Energy and Research hereby submits to the European Parliament the following motion for a resolution together with explanatory statement:

MOTION FOR A RESOLUTION

embodying the opinion of the European Parliament on the communication from the Commission of the European Communities to the Council on the common policy in the field of science and technology

The European Parliament,

- having regard to the communication from the Commission of the European Communities to the Council[1];
- having been consulted by the Council (Doc. 229/77);
- having regard to its previous resolutions on the Community's policy relating to energy and research and more particularly on
  - a scientific and technical policy programme[2],
  - the 'objectives, priorities and resources for the common research and development policy'[3];
- having regard to the report of the Committee on Energy and Research and the opinion of the Committee on Budgets (Doc. 361 /77);

1. Points to the need for the Community to have a common research and development policy in the field of science and technology;
2. Emphasizes that a common policy can only be carried out effectively on the basis of clearly defined objectives which must constitute a coherent entity in conformity with the general aims of the Community;
3. Emphasizes further that the objective of the R & D policy can only be realized through projects selected according to detailed criteria in conformity with the objective of priority areas;
4. Feels that the Commission's communication on the guidelines for the period 1977-80 meets these fundamental requirements for a coherent policy in this field since the objectives, resources and priorities of R & D policy are clearly laid down and soundly based both on the Community's general aims and on the objectives of sectoral policies;
5. Supports the Commission's view that, even though an actual common policy does not yet exist in a number of sectoral policy areas, major R & D projects relating to aspects of these policies and which pave the way for the creation of policies of this nature can meaningfully be carried out;

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[1] OJ No. C 187, 5.8.1977, p.3

[2] OJ No. C 108, 10.12.1973, p.58

[3] OJ No. C 125, 8.6.1976, p.18

6. Is of the opinion that the energy sector is vital to the development of our society and that this justifies the dominant position which it occupies in the Community's research policy;

7. Realizes that the present economic situation narrows the scope for increasing the number and scale of projects within other areas of research, but nevertheless calls on the Commission in future proposals to give such areas the place which their importance warrants, not least research within the social policy sector;

8. Welcomes the fact that the proposed guidelines are calculated in large measure to select an R & D policy which will ensure that implementation of each individual sectoral policy project incorporates as many aspects as possible of other areas of sectoral policy, thus also making provision for interdisciplinary research projects;

9. Recalls the fact that the Community must command the necessary resources to implement the proposed policy, and urgently requests that declarations of intent and statements of objectives be reflected in the appropriate budgetary appropriations;

10. Requests the Commission to amend Article 2, concerning budgetary implementing provisions, of the proposed research programme on forecasting and assessment, to bring its wording into line with that proposed by Parliament on 7 July 1977 for Article 95 (1) of the Financial Regulation;

11. Notes with regret that previous attempts at cooperation and coordination in the field of R & D policy, being the very cornerstone of and idea behind a common policy, have not yet been crowned with any substantial degree of success;

12. Urges the Commission to apply all its endeavours to changing this state of affairs, but points out at the same time that Member States must abandon their pursuit of national interests, a practice that has been witnessed far too often;

13. Takes the view that the Commission, by reorganizing, rationalizing and improving the effectiveness of the decision-making processes in research and development policy, can make a not inconsiderable contribution to this policy;

14. Welcomes the fact that the Commission, despite the lack of a common industrial policy, intends to provide aid for projects of industrial interest, particularly those of small and medium-sized high-technology undertakings with considerable innovation potential that can boost competitiveness and create jobs;

15. Expresses satisfaction with the proposal that has been put forward for a research programme on forecasting and assessment, this being an essential preliminary to the creation of an on-going common policy attended by minimum wastage of resources and to being able to shape the future through long-term planning;

16. Requests that the Commission report annually to the European Parliament on the implementation of this research programme;

17. Endorses the Commission's communication and proposals subject to the above comments, and provided that the Commission incorporates the following amendment in its proposal for a research programme on forecasting and assessment, pursuant to the second paragraph of Article 149 of the EEC Treaty, while stressing that the financial implications and staff requirements indicated in the financial record are merely indicative in respect of the financial year in question, until such time as examination of the budget has been completed, and that these figures in no way impose on the European Parliament any kind of obligation or limitation in the exercise of its budgetary powers.

TEXT PROPOSED BY THE COMMISSION OF THE EUROPEAN COMMUNITIES[1]	AMENDED TEXT

PROPOSAL FOR A COUNCIL DECISION

on a research programme on forecasting and assessment in the field of science and technology

Preamble and Article 1

Unchanged

Article 2	Article 2
The upper limit for expenditure commitments and the maximum number of staff necessary for the execution of the programme is estimated to be 4.4 million units of account and 10 staff respectively, the unit of account being defined in Article 10 of the Financial Regulation of 25 April 1973 applicable to the general budget of the European Community.	Overall expenditure commitments and staff necessary for the execution of the programme are estimated to be 4.4 million units of account and 10 staff respectively, the unit of account being defined in accordance with the financial regulations in force. This assessment of expenditure and staff is indicative in nature and as such shall appear in the 'Remarks' part of the budget. Each year the budgetary authority shall enter the appropriations and staff necessary for the execution of this programme in the research and investment programme of the Community.

Articles 3, 4, 5, 6 and 7

Unchanged

[1] For full text see OJ No. C 187, 5.8.1977, p. 3.

B

EXPLANATORY STATEMENT

I. Introduction

1. This communication from the Commission of the European Communities to the Council deals with the guidelines for policy in the field of science and technology for the period 1977-1980. The document proposes continuing the common policy which had its true beginnings in the Council's adoption of the four resolutions of 14 January 1974[1] which laid down for the first time the formal overall terms of reference for such a policy. These resolutions followed the Commission's first proposal for an overall action programme for a common policy in this field[2]. In a report on this proposal[3] the Committee on Energy and Research emphasized the need both to implement and promote a common scientific and technological policy (which at that time scarcely existed) and for this policy to be incorporated in a clearly defined political context.

2. The first significant result was the Council's adoption in August 1975 of an energy research and development programme[4] which was based on the Commission's communication entitled 'Energy for Europe: Research and Development'. In a report on this document the committee gave its unconditional support to the programme[5].

3. In the light of these very modest initial steps and of the still rather fragmentary policy in the field of science and technology, the Council called on the Commission in June 1975 to initiate as soon as possible a discussion on the objectives of the common policy, on the basis of which guidelines could be drawn up for the period up to 1980.

4. The Commission presented its initial reflections on the objectives of this policy in the document 'Objectives, priorities and resources for a common research and development policy'[6]. The Commission's thoughts had now crystallized to produce a definition of the overall objectives and a set of criteria for the implementation of research programmes designed to bring about a genuine common policy. Once again the committee delivered a positive opinion in line with views expressed previously[7].

5. For the sake of completeness it should be added that the present communication setting out guidelines conforms in broad outline with the abovementioned communication on the objectives, priorities and resources of the common policy, although the various aspects have been dealt with in

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1 OJ No. C 7, 29.1.1974
2 Doc. 166/73, COM(73) 1250 final
3 See the FLÄMIG report, Doc. 219/73
4 OJ No. L 231, 2.9.1975
5 See the VANDEWIELE report, Doc. 447/74
6 COM (75) 535 final
7 See the KRIEG report, Doc. 71/76

greater depth and defined more precisely, a point which is welcomed by the committee. It is also a matter for satisfaction that on-going R and D projects and the guidelines set out in the communication for future projects and programmes in a number of specific areas of sectoral policy reveal a high degree of continuity in the conduct of policy.

6. Encouraged therefore by the results of the first phase of the common policy and recognizing the major problems relating to supplies and matters of an economic, structural and even human nature that the Community is faced with and which R and D policy may make an important contribution towards solving, the Commission proposes that the Council adopt the following proposals:

- Resolution on the guidelines for the common policy in the field of science and technology;
- Decision on promotion of industrial research projects;
- Decision on a research programme on forecasting and assessment in science and technology.

II. Proposal for a resolution on the guidelines for the common policy in the field of science and technology

A. The objective of the common policy

7. The guidelines proposed by the Commission are intended to provide a clear framework for the Community's measures in the field of research policy, with the aim of being able to:

- define and implement research programmes of common interest,
- coordinate research policy in the Member States.

(a) Selection criteria for research programmes

8. With regard to current and future research programmes and the contents of such programmes, the Commission document clearly underlines the need for such programmes to make up a coherent entity that accords with the Community's general objective of social progress, balanced economic growth and an improvement in the quality of life.

On the basis of this ambitious overall objective and in accordance with the clear brief received by the Commission after the Council's adoption of the four resolutions of January 1974 concerning specific proposals for a common policy in the field of science and technology, priority has been given to the following areas:

- ensuring the long-term supply of resources: energy, agriculture, raw materials, water;
- promotion of internationally competitive economic development;
- improvement of the living and working conditions of the local population;

- protection of the environment and nature.

9. The definition and implementation of measures in these fields are intended partly to support the Community's sectoral policies (e.g. energy and the environment) and partly to help frame new policies in other sectors where a clear need for Community action either exists or might arise.

10. In order to define more precisely the principles on which selection is based, the Commission, after consulting the appropriate bodies and institutions both within the Community's own organization and in the Member States, has drawn up a set of criteria for deciding whether a given project ought to be implemented.

In addition to complying with the objectives laid down in the three Community treaties and the Council resolution of 14 January 1974, which at the same time constitutes the formal legal basis of a given project, the following four general criteria must also be met:

- effectiveness/rationalization
- transnational nature
- transnational markets
- common requirements.

11. Finally, a number of more specific criteria are laid down which - viewed individually - are an essential but no necessarily an adequate criterion for launching a project: these criteria are as follows: greater cost-effectiveness and competitiveness, insufficient national R & D capacity, increased innovation potential, importance as a stimulus, convergent development trends through coordination, opportunities for long-term planning, harmonization and standardization of methods of comparison and measurement as also of information systems and the independent provision of services and infrastructures. The list of such criteria ends with the promotion of requisite structural changes in support of the regional policy.

12. The Committee on Energy and Research welcomes the fact that the Commission has established clear objectives for the common policy and can only endorse the selection criteria specified, these being not only well-defined but well-founded too. The Community aspect features prominently, and the cost-effectiveness of future projects is also an important cirterion. The desirability of making optimum use of the resources employed must be emphasized seeing that both the Community and the member countries are struggling with economic problems as a result of which only limited resources are available for R&D policy.

(b) Guidelines for the priority sectoral policies

Ensuring supplies of resources

13. 'The affluent society', 'the squandering of resources', 'limits to growth' have become part of our everyday vocabulary and disguise facts that convey a terrifying vision of the future. The life of each and every citizen is threatened unless action is taken in time. The oil crisis made this apparent to everyone, although greater difficulty has been experienced in drawing the necessary conclusions.

14. In the field of energy, which occupies an altogether predominant position within scientific and technological research as a whole and rightly so bearing in mind its vital importance for every aspect of social development, the Commission stresses the importance of seeking a flexible energy research policy. Having regard to the Community's large measure of dependence on imported energy, a situation which may end in economic and political dependence, the Committee on Energy and Research has repeatedly emphasized the importance of an energy policy based on a number of options and, accordingly, cannot but endorse the Commission's primary objective.

The development of energy technologies involves expenditure on a massive scale and the long-term perspectives which usually accompany such development are attended by many uncertain factors. It is therefore right that the Commission should in the short and medium term promote R & D projects which can help to encourage recourse to energy sources that can be exploited and/or developed on the territory of the Community, primarily the extensive coal resources that are available. Equal importance attaches to the development of energy conservation technologies.

In the medium and long term the development of nuclear and alternative energy sources has a major part to play. The guidelines for research into the problems of safety and waste relating to nuclear power simply complete the picture.

15. The committee has in countless reports given detailed consideration to virtually all aspects of energy policy, and the specific scenarios will not therefore be gone into here. While recognizing the different energy supply situations in the various Member States, the committee cannot but emphasize once again the importance and necessity of framing and pursuing a genuine common energy policy. The problems connected with this sector are colossal - likewise the expenditure - and cannot be resolved at national level. In no area is the incentive greater and the need clearer for joint action.

Raw materials

16. As in the field of energy, the Community must here face the prospect of a dangerous degree of dependence on imported raw materials. The Commission accordingly proposes a virtually identical R & D policy for raw materials, viz. raw materials conservation through recycling, substitution and product design, a vital precondition being the development of appropriate technologies, and increased self-sufficiency. In the latter field, R & D programmes are proposed that encompass (1) prospecting, (2) new methods of ore processing and (3) the utilization of deep and low-tonnage deposits.

Agriculture and food resources

17. Bearing in mind successfully completed projects and agriculture's major importance for the Community, there is good reason for continuing the R & D policy. The committee welcomes the fact that the projects envisaged are calculated to support not only the agricultural policy but other sectoral policies as well, not least energy and environmental policy. The realization of a practically oriented and profitable agricultural industry is precisely the kind of task which it is often difficult to combine with the objectives of the latter two fields.

Environment and life in society

18. These sectors account for two of the four priority areas. There is understandable surprise therefore at the fact that only 5.4% of the Community's total budgetary appropriations for research have been allocated to these sectors (environment: 4.3%). It should be appreciated however that the majority of R & D projects are to be carried out as concerted actions and will not therefore be charged against the budget.

No new projects as such are planned for the environment sector, since the existing programme will run until 1980. The rapporteur would, however, have welcomed environmental research being stepped up and calls on the Commission to support national environmental projects in the form of concerted actions; these can yield useful results while having minimal budgetary implications.

19. There is need for an increased research effort in the social sectors, the enormous financial burden which social affairs budgets represent being the clearest proof of this. The complexity, diversity and huge scope of the problems involved can give any selection of research topics the appearance of a random choice. Taken individually, the projects selected by the Commission are of importance.

20. Although there may be arguments for including many other areas, something which is hardly likely to be possible for economic reasons, the rapporteur notes the absence of one field in particular, viz. 'research into industrial medicine'. The specific area in question relates to the millions of workers in the Community who, because of the demand for efficiency and increased industrial and economic activity, are working under conditions of physical and mental strain. Additionally, the thousands of new chemical products such as paints, etc., which are developed each year, often have dangerous long-term effects on both workers and consumers. Although people's living and working conditions are a priority area and although the Commission's communication refers to improving these conditions, an independent place has not been found for a research programme to examine one of the most serious effects of the industrial and technological age. The rapporteur regrets this and urges the Commission to incorporate this vital subject in future proposals for research in the field of social policy.

Services and infrastructures

21. An essential element of all research projects is that they must meet the requirement to provide a service to any interested parties. Despite this apparently obvious statement of fact the committee welcomes the information that the Commission is also endeavouring to create the conditions for such a policy by building up the necessary infrastructure (e.g. the Bureau of Reference) and facilitating the flow of information so as to give maximum possible encouragement not only to actual research but also to the dissemination of research findings.

(c) Coordination of national research and technology policies

22. The guidelines proposed by the Commission were not intended solely to provide a basis for defining and implementing common policy in the field of science and technology as indicated above, but were also intended to coordinate the research policies of the Member States. The Commission rightly regards coordination as the backbone of the Community's R & D policy.

23. By comparing and examining the policies of the Member States (research potential, plans, projects, budgets, methods) and by identifying, analyzing and comparing the research objectives of the Member States, the following four fundamental goals of the common policy are to be pursued and attained:

- the elimination of unnecessary and unwarranted duplication of effort in national programmes;
- the avoidance of divergent tendencies which would be contrary to the interests of the Member States;
- the improvement of efficiency or reduction of the cost of national and Community projects;
- the gradual harmonization of procedures for the formulation and implementation of scientific policies within the Community.

24. This objective sets out the actual argument for and idea behind collaboration at Community level; it is an incontrovertible objective which was enshrined in the earliest common programmes and which has rightly been reiterated by all the Community institutions ever since.

In spite of this the Commission is obliged to state that 'previous coordination efforts' have been 'considerably limited', among other reasons because 'some Member States still adhere to a limiting non-committal concept of coordination which, in fact, is not in line with the Council Resolution of 1974'. It can be added that this also conflicts with the legal undertakings in the matter of coordination adopted by the Council which are enshrined in more or less all research programmes.

25. The committee cannot overemphasize its regret at this disappointing evaluation of previous efforts at coordination and the result of these efforts. Among the reasons given by the Commission to explain this state of affairs are the following:

- how is it possible to coordinate research policy when even in the separate Member States the planning of programmes and projects reflects a certain lack of coordination?
- not all Member States are in agreement about their research aims and some declared aims change rapidly;
- the greater the interest, practical application and importance of new technological projects in the eyes of national industry, the greater the reluctance on the part of the Member States to relinquish national interests.

26. The political decision lies with the Council. As is clear from the foregoing, the committee takes the view that the Commission's R & D policy is backed by clearly defined objectives and workable selection criteria, a policy moreover which the Council can scarcely disagree with when one recalls previous Council declarations and resolutions. Both a moral and a political obligation exist therefore not simply to adopt the present resolution on future guidelines but to act in accordance with its contents. The committee therefore calls on the Council and hence on the Member States to relinquish the pursuit of national interests, which all too easily result in a policy of obstruction as witnessed recently by the European Parliament in connection with the delayed adoption of the multiannual research programme and the still unresolved problems surrounding the JET fusion project.

B. Methods of implementation and resources

27. Three forms of action have developed in the Community for implementing R & D programmes: direct, indirect and concerted action, the last being a comparatively new concept.

These forms of action have often been described in reports by this committee and will not be described again here. Suffice it to say that the development of these forms of action offers scope for the necessary degree of flexibility and hence optimum utilization of existing research potential. It should also be possible to provide a link between the various forms of action - this being an essential requirement - via the joint Advisory Committees on Programme Management for direct and indirect actions and by means of the provisions ensuring that the chairman of the steering committee for concerted action participates in the meetings of the 'Advisory Committees on Programme Management', if a direct and/or indirect action are being conducted in the same field.

28. The Commission and the Council can call on a number of advisory bodies to formulate and implement research and development projects. The purpose of

these bodies is to guarantee that the programmes concerned are scientifically, technically, administratively and financially sound and in conformity with the objectives that have been laid down, a requirement that can be met since these committees are composed of experts from both the Commission and the Member States.

29. It needs to be said, however, that even a cursory glance at the organizational structure of the decision-making processes associated with the coordination of the R & D policies and programme approval and implementation procedures of the Member States conveys an impression of excessive complexity and inflexible decision-making arrangements. This cannot but have repercussions on the results of the R & D policy, particularly on the policy of coordination both within the Community institutions and - perhaps above all - between the Community and the Member States.

30. Regarding the latter field the Commission has, in fact, put forward a proposal, which the committee can endorse, that the mandate of the joint Advisory Committees on Programme Management to coordinate the various forms of action be extended to include the task of coordination between national and Community programmes.

31. The Commission has acknowledged the existence of this organizational problem, which is incidentally far from new, saying that 'for the future it will be necessary to analyze the individual structures and procedures, advisory bodies and decision-making processes to determine their effectiveness. This should contribute to a simplification of the present planning and decision-making processes, greater efficacy and a more responsive and dynamic Community research and technology policy'.

Curbing bureaucratic tendencies and red tape should always be an end in itself. The committee would have been pleased if a start had already been made in this respect and urges the Commission to set to right away. Success here would in all probability also resolve some of the regrettable problems of coordination mentioned above.

III. Proposal for a decision on the promotion of industrial research projects

32. As a part of the Community's general scientific and technology policy the Commission has produced the above draft decision. Apart from the Community's general objectives and the guidelines set out in the Commission's communication, the justification for this proposal is to be found in the keen international competition to which advanced, high-technology industries are exposed. This is felt with particular force in periods of economic stagnation or recession of the kind currently being experienced by the Community countries. The need to work towards the rationalization of costs and resources by means of work-sharing is obvious, and results can best be achieved with transnational research projects.

33. The Commission therefore proposes financial aid for transnational projects carried out by small and medium-sized undertakings with innovation potential. In so doing, the Commission has to a large extent taken account of views put forward by the European Parliament including, for example, those of the Committee on Energy and Research concerning the need for innovation and research policy measures to be taken by the Community[1].

34. As has been frequently pointed out by the European Parliament, there is in fact no common industrial policy as such - a regrettable state of affairs from the research angle, since it means there is likewise no overriding objective. The Commission has therefore taken a pragmatic line and proposed projects in high-technology industrial sectors and those in need of new technology, where the pressure of competition and demand for new innovation potential are considerable. Examples of such sectors are aviation, data processing, telecommunications and energy and transport research.

35. Furthermore, the Commission has been guided by the objectives laid down for other sectoral policies, e.g. conservation and more rational use of energy and raw materials and/or the development of new technologies.

This is also reflected in the measures which the Commission proposes for stepping up industrial research:

- the development of a Community policy for innovation,
- the promotion of pilot and demonstration projects,
- sectoral measures and other special measures.

36. The committee endorses this proposal for a decision, since it regards the projects which might be carried out as a result of the decision as a step forward, albeit a modest one. This assessment takes account of the limitations which the lack of a meaningful common policy in the industrial field entails.

IV. Proposal for a decision on a research programme on forecasting and assessment in the field of science and technology

37. In a chapter on the 'long-term priorities for research and development policy' the Commission points out that 'a common policy in the field of science and technology without long term objectives and priorities is .... incomplete and not well-founded'.

Even though the abovementioned guidelines proposed by the Commission are primarily short-term measures, realization of most of the projects envisaged naturally has long-term effects and perspectives, this being their only effective justification. Yet at the same time it is clear that, in a dynamic society, knowledge of some of the long-term effects will be attended by major

[1] Resolution tabled by Mrs H. WALZ, Doc. 75/77

elements of uncertainty.

38. It is evident that the more accurately future developments and hence needs and requirements can be forecast, the earlier measures can be put in hand to counteract and eliminate adverse trends or to encourage positive tendencies. The present communication setting out the guidelines for the common policy is proof of the usefulness of establishing clear objectives and appropriate criteria for Community action.

39. The same thoughts lay behind the Commission's proposal, subsequently adopted by the Council, for the first action programme on forecasting, assessment and methodology dating from 1974, according to which objectives, criteria and priorities were, if not to be fixed, then certainly indicated.

40. The 'Europe + 30' study was the first result of this programme. Many lines of development were indicated although it was clear at the same time that many problems relating to forecasting were still unresolved.

41. The Commission proposes therefore to gain further experience by carrying out an experimental five-year programme.

By analyzing the research activities already being carried out in this field it will be possible to compile a proper overall survey. It will also be possible to establish what additional studies might be required. This work is to be carried out in collaboration with the existing appropriate organizations and institutes. On this basis alternative R & D trends, problems and options are to be identified so that long term objectives and priorities can be determined. Studies of this nature are also an essential preliminary if a Community forecasting network - an eventual aim - is to be set up. At the end of the fourth year the Commission is to assess the programme and report to the Council and Parliament. However, in order to be able to follow developments in this vital field the committee asks that an annual report be delivered to Parliament on the implementation of this research programme.

V. Financial aspects of the common policy in the field of science and technology

42. It has to be recognized that, both in the individual Member States and in the Community, the total funds available for R & D policy are limited.

An analysis of public funds for research and development undertaken by the Commission points to the following conclusions:

- since 1970/71 stagnation in public funds for the R & D sectors in all Community countries;

- slower growth in research funds than in the budgets and gross national products of the Member countries;
- since 1975 renewed growth in public expenditure on R & D in the USA;
- the percentage of R & D expenditure in the Community budget is smaller than the corresponding percentage in the Member States (an average of 1.90% and 3.44% respectively for the years 1974-76);
- of the priority sectoral policies the energy sector takes up no less than 64% of total expenditure, while the health and industry sectors receive 15-16% and 12-14% respectively. Only 6-8% of total appropriations are therefore available to be shared among the remaining sectors.

43. That the best investment in the future would be to promote R & D policy in the field of science and technology is a statement that has frequently been made and a truth that has never been disputed. Nevertheless, in the light of the above analysis the Committee on Energy and Research is compelled to admit that this is not adequately reflected in terms of the necessary public expenditure. This is very much to be regretted, and the committee calls on the responsible bodies to change their policy on expenditure so that R & D policy really is given a place in the national budget which shows that it is a priority sector.

The committee feels that the proposed appropriations totalling 13 million EUA for aid to projects of industrial interest and of 4.4 million EUA for the forecasting and assessment programme represent a level of expenditure that is at once reasonable and necessary. However, with reference to the favourable opinion of the Committee on Budgets, and at its suggestion, the committee requests the Commission to amend Article 2 of the latter proposal, to bring the wording of the budgetary implementing provisions into line with that proposed by Parliament in July 1977 for Article 95(1)[1] of the Financial Regulation. This removes an ambiguity in the Commission's proposal.

44. Bearing in mind the uncertain economic situation, it needs to be pointed out once again that optimum use must be made of the funds allocated. The Commission and the member countries must therefore in the future conscientiously seek and pursue a policy of cooperation and coordination, which can be applied with a considerable degree of effectiveness. The same goal must also be pursued in the joint research projects in which the Community participates through its links with other countries and with international organizations.

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[1] See RIPAMONTI, PE 49.897, p8, note 1

VI. Conclusions

45. The Commitee on Energy and Research can, as is clear from this explanatory statement endorse the communication submitted by the Commission on the guidelines for common policy in the field of science and technology. The objectives and selection criteria that are laid down are meaningful and well-founded; at the same time they constitute a coherent entity, the importance of the need for the latter having often been emphasized by the committee. Only by having a clear objective, yet one with built-in scope for flexibility, as necessarily required in a dynamic society, can optimum use be made of the appropriations allocated in this area.

46. The committee can likewise endorse the two proposals for decisions on the promotion of industrial projects and on the research programme on forecasting and assessment in the field of science and technology. Whereas the aim of the latter is to guarantee that the Community policy can continue to be based on clear guidelines so as to ensure an on-going policy of research and development, the first proposal forms an important element in the actual realisation of the common policy.

47. The committee therefore endorses the objectives, resources and priorities proposed by the Commission and consequently recommends to the Council that it adopt these proposals at the same time making it possible for the Commission to be given the resources to enable this policy to be put into practice. This is partly a question of providing the appropriate budgetary resources and partly of taking effective action to promote the policy of cooperation and coordination so that a forceful common policy can be created for the benefit of the Community and its individual citizens.

OPINION OF THE COMMITTEE ON BUDGETS

Draftsman: Mr C. RIPAMONTI

At its meeting of 21 September 1977 the Committee on Budgets appointed Mr Ripamonti draftsman.

It considered the draft opinion at its meeting of 14 November 1977 and adopted it unanimously.

Present: Mr Aigner, acting chairman, deputizing for the rapporteur; Lord Bruce of Donington, Mr Caro, Mr Früh, Mr Hansen, Mr Mascagni, Mr Noè (deputizing for Mr Alber), Mr Notenboom and Mr Würtz.

1. The Commission's communication on the common policy in the field of science and technology constitutes a document of fundamental significance for the future of Community policy in this area.

It is important from the point of view of policy decisions, since the Commission proposes that the Council approve, in a resolution, the guidelines it has drawn up for the development of Community policy in this area for the period 1977 - 1980. Approval by the Council would mean that these guidelines would form a legal background for all proposals for actions drawn up by the Commission in accordance with the terms of reference defined in Article 1 of the resolution.

2. From the point of view of the legal implementation of this common policy the Commission's communication contains two decisions laying down the regulations applicable to actions concerning, firstly, the promotion of industrial research projects and, secondly, research into forecasting and assessment in the field of science and technology.

3. The document submitted by the Commission is also of crucial importance from the budgetary point of view since it enables an assessment to be made of the medium-term financial and budgetary prospects of common policy in the field of science and technology. The data supplied by the Commission will enable the budgetary authority to make an overall political assessment of budgetary trends in this sector of Community activity.

Further, the decisions proposed by the Commission contain certain positive features from the point of view of the prerogatives of the budgetary authority.

Finally, these drafts imply the adoption of an opinion by Parliament on the budgetary decisions to be taken in respect of the 1978 financial year.

I. FINANCIAL AND BUDGETARY PROSPECTS OF THE COMMON POLICY IN THE FIELD OF SCIENCE AND TECHNOLOGY

A. Mechanisms of budgetary decision-making

4. The present budgetary presentation of appropriations allocated to science and technology reflects the state of Communicy policy in this field, which consists of a slightly haphazard collection of disparate actions rather than a genuine policy.

Indeed, in Title III of the budget, in which most of these appropriations[1] are entered, reference is made to the 'specific tasks' of the Institution.

The guidelines submitted by the Commission are intended to change this state of affairs by integrating these disparate measures into a coherent policy. This should be reflected in a more coherent presentation in the budget.

5. The objectives of such a policy, which serve as criteria for the budgetary authority in entering appropriations in the budget, are to develop research in the Community with a view to

(i) safeguarding the long-term supply of resources (energy, agriculture, raw materials and water);

(ii) promoting the internationally competitive economic development of the Community;

(iii) improving living and working conditions;

(iv) providing greater protection of the environment and nature.

6. These objectives, as defined by the Commission at the request of the Council[2], are of vital importance for the future of the Community, and it would be unrealistic to think that they could be achieved without appropriate research programmes and without a coherent policy in this field. The Community has already accepted the principle of such a policy[3]. The guidelines set out in the resolution proposed are intended to contribute to its implementation.

They are intended to integrate research activities, hitherto decided on in a disparate manner by the Council, into a coherent policy framework and also by defining the content of this policy in terms of objectives and criteria, to prompt new actions. These guidelines are thus intended to lend coherent and dynamism to the common research policy.

7. The budgetary authority must also ask itself, once it has admitted the usefulness in principle of a particular item of expenditure, whether the methods envisaged for the implementation of objectives will be the most effective ones and whether there is any danger of expenditure incurred for a purpose recognized by the budgetary authority failing to achieve the desired end.

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[1] Other appropriations are entered in the ECSC or EDF budget, or in various chapters in Title II.

[2] Resolution of 14 January 1974, quoted on p. 51-52 of Doc. COM(77) 283 final.

[3] See the declaration by the Heads of State or Government meeting in Copenhagen on 14 and 15 December 1973. Council resolutions of 14 January 1974.

8. At first sight the methods proposed by the Commission may seem extremely cautious, and even excessively so.

In a Community endowed with effective institutions it might have been considered that the first thing to do to promote the implementation of such a policy was to create the instruments and powers necessary for that policy. The Commission, however, has worked on the assumption that the Community is incapable of providing itself with such instruments either in the legal sphere - the more interesting an action, the more reticent are the Member States and the Council in deciding to implement it at Community level - and in the budgetary sphere, as Community appropriations in this field amount to no more than 1 or 2% of expenditure by the Member States.

9. To criticize the Commission for its caution and to say that its political realism leads only to an admission of failure would be to fail to acknowledge the attempts it has made to break the institutional deadlock in regard to the decision-making process. Indeed, the Commission believes that before there can be any question of embarking on the next stage, and 'a simplication of the present planning and decision-making processes, greater efficacy and a more responsive and dynamic Community research and technology policy'[1], it is necessary to act at a higher level by taking part in the shaping of policy decisions and makimg the authorities responsible more aware of what is at stake.

10. To this end the Commission proposes the adoption, or rather approval of certain criteria of an objective nature which would enable the authorities responsible to select more easily the research projects to be implemented at Community level. The application of these criteria could not, of course, replace the policy decision. These criteria would be used by the Commission, in defining the projects to be proposed, by the Council, in taking the legal decisions, and by the budgetary authority, in entering the necessary appropriations in the budget.

The objective nature of these criteria should at least facilitate, if not make automatic, the policy decision at these various levels.

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[1] p. 44 of Doc. COM(77) 283 final.

11. Insofar as these criteria should facilitate the decisions of the budgetary authority, the Committee on Budgets recommends that Parliament approve the criteria defined by the Commission on pages 7,8,9 and 10 of its document, and in particular specific criteria Nos. 1, 2, 3, 7, 8, 10 and 11 and the four general criteria.[1]

B. Community and public financing of the research policy in the community

12. The Commission presents a triennial estimate of Community financial resources to be allocated to research and development. For projects decided on, under review or merely in preparation it forecasts expenditure of 962 m.u.a. for the period 1977 to 1980, a third of which is earmarked for the JRC. Research in the energy field receives the lion's share, with 58.8% of the appropriations (565 m.u.a.) and is followed by industrial research with 14.2% (136 m.u.a.).[2]

13. Unfortunately it is extremely difficult to assess these estimates in the context of the triennial estimates presented with the preliminary draft budget for 1978, since the latter does not contain a specific entry for the common policy on science and technology. In addition, the triennial estimate presented here has the same defects as the triennial estimate contained in the premiminary draft in that it merely projects present structures into the future and thus makes them more rigid. It would be useful if it were supplemented by an assessment of the financial resources necessary to implement the objectives defined for this policy.

It is, however, true that the Commission does not yet have an adequate system of assessment enabling it to make a precise systematic assessment of the efficacy of projects, the only sound basis on which new research activities can be defined and identified. It is the aim of the second decision proposed by the Commission to create just such an instrument.

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[1] For a definition of these criteria, see Annex II.

[2] For a breakdown of these criteria, see the table reproduced in Annex III.

14. The Commission also presents an analysis of the public financing of research and development which enables a comparison to be made between the situation in the Community and in the Member States. The value of this analysis is obvious, since the aim of the common policy is to coordinate and, where appropriate, supplement national policies.

15. Several interesting conclusions may be drawn from the Commission's tables and graphs:

- public research funds are stagnating in the Community countries;
- the Community allocates a much smaller percentage of its budget to research than the Member States;
- Community research appropriations are very small indeed compared to Member States' appropriations and also compared to the funds which the latter allocate to international - extra-Community - cooperation in this field.

16. Certain political conclusions, especially in regard to budgetary and financial policy, may be drawn from these facts.

Firstly, the Committee on Budgets draws Parliament's attention to the fact that the approval of the guidelines presented by the Commission implies a firm commitment in favour of a common policy in this field of science and technology, with all the budgetary implications which such a policy entails.

17. In addition, this commitment presupposes a renewed increase in public financing throughout the Community. The volume of Community appropriations must therefore increase and raise the level of national appropriations in its wake.

18. Further, if the research policy is to have a European dimension - and it cannot exist unless it does - it is obvious that the proportion of Community appropriations spent on it must be brought in line with national spending and the percentage of research appropriations in the Community budget must be increased. This does not strictly speaking imply a transfer

of funds from national budgets to the Community budget, since the Community's role is to coordinate and take over national activities when the Member States run up against technical or financial limitations. Nevertheless, the national budgets might be reduced to a certain extent in that coordination at Community level would eliminate duplication.

II. RULES PROPOSED IN RESPECT OF THE UTILIZATION OF APPROPRIATIONS ALLOCATED TO

1. THE PROMOTION OF INDUSTRIAL RESEARCH PROJECTS AND

2. THE RESEARCH PROGRAMME ON FORECASTING AND ASSESSMENT IN THE FIELD OF SCIENCE AND TECHNOLOGY

19. In addition to the resolution and the guidelines for the common policy, the Commission communication comprises two proposals for action which are due to be launched in 1978. It is therefore necessary to create the legal instruments and financial resources vital for the implementation of these actions.

A. The decision on the promotion of industrial research projects

20. This decision empowers the Commission to grant subsidies to private undertakings, preferably small or medium-sized, for the implementation of industrial research projects. The draft decision establishes principles and the measures necessary for its implementation will have to be laid down by Council legislation.

21. There is nothing controversial about this text as far as budgetary orthodoxy is concerned. The Commission proposes that appropriations should be entered in the budget without specifying a ceiling or even indicating a figure. Forecasts of expenditure appear only in the financial record. Finally, the Commission will implement the appropriation on its own responsibility and with the assistance of a specialized committee which will have no more than advisory powers. It will take its decisions in such a way as to meet the criteria set out in Article 2 which correspond to the objectives set for the common research policy.

22. Although the draft decision provides details concerning the formulation of project specifications to accompany applications for assistance, the manner in which the appropriation placed at the disposal of the Commission should be managed and, in particular, the amount of the Community's participation in the financing of projects, the setting up of the Advisory Committee and the procedures for supervising the utilization of the appropriations are to be determined by a future Council regulation.

The Committee on Budgets feels that the Council would be misusing its power to lay down implementing measures if it used this power to delay or pervert the implementation of the present basic decision.

B. The decision on a research programme on forecasting and assessment in the field of science and technology

23. The regulations proposed are intended to fit into the framework of the common policy in the field of science and technology, of which they represent an important component. They are consistent with the 'Europe + 30' study and supplement other Community activity in the research field, such as that pursued by the Foundation for the Improvement of Living and Working Conditions and the Institute for Economic Research and Analysis.

Their adoption would therefore reflect the Community's resolve to develop a common policy on scientific and technological research.

24. The decision takes the form of a programme decision, which is the usual form in this area. In accordance with customary practice the Commission provides an estimate of the upper limit for expenditure and the number of staff necessary. In order to remove certain ambiguities, the Committee on Budgets proposes that the wording of Article 2 of the decision should be brought into line with that proposed by Parliament on 7 July 1977[1] for Article 95(1) of the Financial Regulation.

25. The Commission is to be responsible for the implementation of the programme and the relevant appropriations. It is to be assisted in this task by an advisory committee, which will have to be created for the purpose. The Committee on Budgets points out that the setting up of such a committee implies a budgetary decision.

26. After an operating period of four years the programme will be reviewed by the Commission, the Council and Parliament and, depending on the experience gained, the creation of a Community forecasting institute may be envisaged.

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1 Article 95(1): 'An overall allocation covering several years (hereinafter called 'tranche') which is indicative in nature and which may be modified in the annual budget shall be made for all direct and indirect actions'.

III. THE BUDGETARY DECISIONS RELATING TO THE 1978 FINANCIAL YEAR

27. The Commission has presented highly detailed financial records for the two decisions proposed.

As far as the industrial research projects are concerned, the amount of appropriations to be set aside for subsidies is to be determined by the budgetary authority on the basis of the Commission's estimates. The latter forecasts a total amount of 13m EUA over a period of three years, 2m EUA to be payable in 1978 (including 500,000 EUA during the first quarter).

Despite the fact that a regulation implementing this decision will have to be adopted, the Commission believes that it is possible and realisitc to expect this action to get off the ground quickly.

28. As far as the programme on long-term forecasting in the field of science and technology is concerned, the appropriations are split almost equally between staff expenditure and expenditure for research carried out by contract. Over a period of five years they should amount to 4.4m EUA.

The Commission makes provision for the appointment of 10 officials, including 6 Category A officials, for the implementation and management of the programme, from the beginning of the 1978 financial year, in addition to existing staff.

The appropriations set aside for contracts would be divided into payment appropriations and commitment authorizations. The rate of utilization of these appropriations, which will be rather slow during the first year, should accelerate during the period from 1979 to 1981, during which the financial burden would be felt most heavily.

29. The Council has decided against entering appropriations in the draft budget for the 1978 financial year in respect of these two actions. The practical effect of this decision would be to defer the launching of these programmes to another year.

30. There is, however, no technical obstacle to the rapid launching of these two programmes which have been carefully prepared by the Commission's departments, after consulting experts and the national officials in CREST.

Moreover, it should be possible for Parliament and Council to reach joint agreement without difficulty on the policy decision in respect of each of these programmes.

The principle of a common policy on industrial, scientific and technological cooperation has been adopted by the Heads of State or

Government, by the Council and by Parliament[1], and the programme on forecasting and assessment in the field of science and technology is an essential component of a common research policy, the principle of which has also been approved by the Community's political authorities.

31 Unlike the Council, the Committee on Budgets therefore feels that it is desirable to permit these actions to commence in the near future by entering the relevant appropriations in the budget for the 1978 financial year. It therefore recommends Parliament to use its budgetary powers to this effect. It takes the view that the Council can hardly justify the non-entry of the appropriations in the 1978 budget by the fact that it does not expect to take its decision on these regulations in the near future. In view of the advanced stage of preparation of the texts, which have been approved by senior officials of the Community and the Member States within CREST, any delay by the Council in adopting them would undeniably constitute a misuse of its powers.

CONCLUSION

32. The Committee on Budgets approves the principle of allocating increased budgetary resources in the coming years, for a common policy in the field of science and technology. It believes that the coherence of such a policy must be reflected in the structure of the budget.

- It acknowledges and deplores the institutional and budgetary obstacles and constraints which are preventing the development of this common policy. It believes, however, that a firm commitment by Parliament in support of this policy would help to remove some of these obstacles and constraints, at least in the budgetary sphere, and might lead to an increase, in both absolute and proportional terms, in the funds set aside for this sector.

- It approves the guidelines fixed by the Commission of the European Communities and considers, in particular, that the criteria proposed for the selection of Community activities are likely to facilitate the decision-making work of the budgetary authority.

- It takes a favourable view of the regulations proposed on (i) the promotion of industrial research projects and (ii) a research programme on forecasting and assessment in the field of science and technology. However, it feels that in order to remove any ambiguity the wording of Article 2 of the latter decision should be brought into line with the text proposed by Parliament in connection with the revision of the Financial Regulation. Its approval is therefore subject to the amendments shown in the annex to this document.

[1] See point 4.2 of the financial record for the decision on the promotion of industrial research projects.

. It considers it undesirable to delay the commencement of these two actions and recommends that the relevant appropriations should be entered in the budget for the 1978 financial year and that the texts necessary for their implementation should be adopted at an early date by the Council.

TEXT PROPOSED BY THE COMMISSION OF THE EUROPEAN COMMUNITIES	AMENDED TEXT

DRAFT COUNCIL DECISION

on a research programme on forecasting and assessment in the field of science and technology

Recitals and Article 1

unchanged

Article 2	Article 2
The upper limit for expenditure commitments and the maximum number of staff necessary for the execution of the programme is estimated to be 4.4 million units of account, and 10 staff respectively, the unit of account being defined in Article 10 of the Financial Regulation of 25 April 1973 applicable to the general budget of the European Communities.	The upper limit for expenditure commitments and the number of staff necessary for the execution of this programme is estimated to be 4.4 million units of account, and 10 staff respectively, the unit of account being defined in accordance with the financial regulations in force. This assessment of expenditure and staff is indicative in nature and as such shall appear in the 'remarks' part of the budget. Each year the budgetary authority shall enter the appropriations and staff necessary for the execution of this programme in the research and investment budget of the Community.

Articles 3, 4, 5, 6 and 7: unchanged

ANNEX II

Proposals from the Commission concerning the drawing up of criteria for the common policy in the field of science and technology

The system of criteria which has been drawn up cannot be considered rigid and needs to be applied with flexibility. It will nevertheless help the Commission and the Community's other institutions, as well as the scientists, industrialists and politicians concerned, to answer the following questions: is there a need at Community level to carry out this or that research programme? Will it make a long-term contribution to the development of a common research policy?

The system of criteria adopted has three levels. The first of these levels is laid down by the three Community Treaties and the Council decision of 14 January 1974. The second level of the system comprises four general criteria:

1. Efficiency
   Achieving greater efficiency and rationalization at Community level (e.g. fusion).

2. Transnationality
   The nature of research and technological projects calls for a transnational structural approach (e.g. transport, information and documentation or telecommunications).

3. Wider market
   Development costs and openings for certain projects require transnational markets (data processing, aeronautics and astronautics).

4. Joint needs
   There are a number of needs which are common to all Community Member States (e.g. the environment, town planning, standardization, radiological protection, etc.).

These general criteria must be supplemented by specific criteria (third level of the system of criteria). The various criteria vary as to their significance, and this should be discussed in the light of practical examples of programmes and projects. The criteria will at times overlap. Various criteria may be grouped together (see diagram). Their function is to provide a systematic check-list and act as guidelines. If an existing or new research or technological project meets one of the criteria under consideration, this fact constitutes an argument in favour of adopting a common research project. Obviously, the various selection criteria can be no more than an essential condition, without being sufficient in themselves. A political decision alone can confirm whether the criteria under consideration are in fact sufficient to justify a joint research activity.

The twelve specific selection criteria are as follows:

1. Excessive costs - whether in terms of appropriations or staff for the various Member States - or significant savings resulting from joint action - e.g. for major long-term projects such as fusion research for the construction of major experimental plant.

2. National research and development capacity is inadequate. Community cooperation could enable the immediate development of topical research projects, thus leading more rapidly to commercially viable results. Examples: new energy sources (geothermal, solar), energy savings.

3. Actions which, by pooling specific national programmes, would lead to greater effectiveness and constitute a new collective effort; genetics and various sectors of solar energy research are good examples of this.

4. The development of a R & D sector is still in its infancy. A joint programme would have a good chance of being competitive at international level. Examples can be found above all in the field of industrial research, e.g. new systems of international land transport.

5. A Community project should comprise genuine innovative potential, whether in the industrial or the public sector. Examples: new sources of energy in the industrial sector and town planning or the environment in the public sector.

6. Joint actions could play a major part in stimulating certain sectors of R & D where development is too slow, such as pilot plants, e.g. for gasification of coal or fuel reprocessing or pilot projects in the field of new energy sources (geothermal and solar energy, heat pumps, thermal insulation of buildings).

7. It is important to prevent Member States' guidelines from diverging since this would conflict with Community interests; one example would be coordination of research in the Member States in the field of solar energy, where the fragmentation of the European industry would be undesirable in view of the strong pressure of international competition.

8. The Community actions provide the opportunity for long-term planning, in the face of the pressure exerted on national research and development programmes to concentrate on the short term, and in view of the Member States' limited resources. The options for the distant future should remain open in such sectors as research on fusion or on non-nuclear energy.

9. A joint research and technology policy, and a technology and economy which are competitive at international level or even among the Member States, are only possible through intensified harmonization and standardization of methods of comparison, measurements and information systems. The Community reference bureau, the data bank on the effect of 'chemical products on the environment' ECDIN or the European information network EURONET are examples of the various ways in which this criterion may be applied.

10. The service function and the service infrastructures for the Community. In the narrow sense, this means, for instance, the work of the reference bureau, or the distribution of scientific and technical information. In the wider sense, the research potential of the Joint Research Centre represents, particularly for those Member States with limited potential, a service which they would not be able to obtain elsewhere.

11. The service function and infrastructures are bound up with the criterion of the independence of joint research activities. Community research could in fact play an increasingly important role in Europe. With a joint policy on technology independent, in particular, of industrial interests it would be possible to pursue activities of common interest in 'sensitive' areas such as radiological protection, reactor safety, and applications for genetics and to make more objective assessments on these issues.

In general, explicit support by the Member States - for instance, because the political situation or a serious crisis require it - would be a major incentive for launching a joint research programme.

Similarly, research projects which may contributre to adapting structures within the framework of the Community regional policy should be given priority.

ANNEX III

Appropriations entered or proposed for the research and development policy during the period 1977-1980, broken down by sector

A. DIRECT, INDIRECT AND CONCERTED ACTIONS

Sectoral policies	Direct actions JRC prog.	Indirect & concerted actions	Total	
			in 1,000 u.a.	%
Energy policy	187,600	378,260	565,860	58.8
Industrial policy	-	136,985	136,985	14.2
Environmental policy	28,144	13,397	41,541	4.3
Resources and raw materials	7,036	20,900	27,936	2.9
Transport policy	-	18,600	18,600	1.9
Agricultural policy	-	14,416	14,416	1.5
Social policy	-	8,620	8,620	0.9
Development aid	-	4,500	4,500	0.5
Public and other services	126,973	17,015	143,988	15.0
TOTAL[3]	349,753	612,693[1]	962,445	100.0

B. ACTIONS FOR SPECIFIC OR NON-BUDGET FINANCING

ECSC technical research	148,550
Technological development in the field of hydrocarbons	102,200
Technological section of the EDF	1,500

C. GRAND TOTAL[2]

A + B	1,269,696

[1] Including Community participation in concerted action (between 4 and 8 million u.a.)

[2] The contribution from Member States in the total of actions under A and B may be estimated as follows for the period 1977-80 (in 1,000 u.a.)

- indirect actions	697,610
- concerted actions	58,100
- ECSC	99,400
- Hydrocarbons	190,000
	1,045,110

[3] The estimate of annual adjustments of staff expenditure is not included in this figure.

Source: Doc. COM/229/77 of 20 July 1977