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Report

drawn up on behalf of the Committee on Energy and Research

on the proposal from the Commission of the European Communities to the Council (Doc. 293/78) concerning a second energy research and development programme 1979 – 1983

Rapporteur: Mr P. DE CLERCQ

PE 55.484/fin.

English Edition

By letter of 28 August 1978 the President of the Council of the European Communities requested the European Parliament, pursuant to Article 235 of the EEC Treaty, to deliver an opinion on the proposal from the Commission of the European Communities to the Council for a decision concerning a second Energy Research and Development Programme (1979-1983).

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

On 18 September 1978 the Committee on Energy and Research appointed Mr De Clercq rapporteur.

It considered this proposal at its meetings of 20 October 1978 and 30 November 1978.

At its meeting of 30 November 1978 the committee unanimously adopted the motion for a resolution and the explanatory statement with one abstention.

Present: Mrs Walz, chairman; Mr Normanton, vice-chairman; Mr Veronesi, vice-chairman; Mr De Clercq, rapporteur; Mr Brown, Mr Edwards, Mr Fitch, Mr Ibrügger, Mr Mitchell, Mr Osborn and Mr Ripamonti.

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 proposal from the Commission of the European Communities to the Council concerning a second Energy Research and Development Programme 1979 - 1983

The European Parliament,

- having regard to the proposal from the Commission of the European Communities to the Council[1],
- having been consulted by the Council (Doc. 293/78),
- having regard to the report of the Committee on Energy and Research and the opinion of the Committee on Budgets (Doc. 499/78),
- having regard to its resolutions,
  - on the proposal from the Commission of the European Communities to the Council (Doc. 473/74) for programmes of research and development actions in the field of energy[2]
  - on the proposal from the Commission of the European Communities to the Council (Doc. 264/76) for a decision reviewing the energy research and development programme adopted by the Council's decision of 22 August 1975[3],

1. Welcomes the proposal to continue and expand the indirect action multiannual energy research and development programme;

2. Recognises the importance of research into new energy sources, as without such research the potential contribution of these sources cannot be assessed;

3. Hopes that further research might enable new energy sources to make a greater contribution in the medium and long terms than has hitherto been forecast;

4. Congratulates the Commission on its timely transmission of this proposal to the European Parliament, and requests that the proposal for the next multiannual energy research and development programme be presented at least a year before the expiration of this programme;

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[1] OJ No. C228 of 26.9.1978, page 4

[2] OJ No. C76 of 7.4.1975, page 28

[3] OJ No. C293 of 13.12.1976, page 17

5. Emphasises the need for vigilance in order to avoid duplication of research effort, and consequently stresses the importance of the Advisory Committee on Programme Management;

6. Notes with approval that at the end of the programme's second year a progress report will be drawn up for the European Parliament and the Council;

7. Reserves its position with regard to the wind energy project, which forms part of the solar energy sub-programme, pending the adoption of the report[1] on the need for Community action to promote the exploitation of wind, wave and tidal energy for electricity production;

8. Approves the Commission's proposal subject to the adoption by the Commission of the following amendment pursuant to Article 149(2) of the EEC Treaty.

[1] PE 53.244 rev. II, rapporteur: Mr BROWN

TEXT PROPOSED BY THE COMMISSION OF THE EUROPEAN COMMUNITIES*	AMENDED TEXT

Proposal for a Council Decision adopting an Energy Research and Development Programme 1979 to 1983

Preamble unchanged

Article 1 unchanged

Article 2	Article 2
The upper limit for expenditure commitments and for staff necessary for the implementation of this programme is evaluated at 125 million European units of account and 37 employees respectively for the duration of the programme. The European unit of accounts is defined in Article 10 of the Financial Regulation of 21 December 1977[1] applicable to the general budget of the European Communities.	The upper limit of expenditure commitments necessary for the implementation of this programme is estimated to be 125 million European units of account (EUA), as defined in Article 10 of the Financial Regulation of 21 December 1977[1], and the staff is estimated at 37. These figures are of an indicative nature only.

Articles 3 and 4 unchanged

Annex unchanged

*For full text see OJ No. C228 of 26.9.1978, page 4

1 OJ No. L 356, 31.12.1977, p.1

B

EXPLANATORY STATEMENT

I. INTRODUCTION

1. The first Energy Research and Development Programme was adopted by the Council on 22 August 1975, and should run from 1 July 1975 to 30 June 1979. This first programme was the subject of a report by Lord Bessborough (Doc. 526/74) which was adopted by the European Parliament in March 1975.

2. In his report Lord Bessborough stated that new proposals to continue and develop this programme should be presented at least one year before the expiration of the programme. The Commission is to be congratulated on having presented the draft second proposal in August 1978, almost a year before the first programme is due to expire. This initiative is particularly welcome as the Committee on Energy and Research is all too often consulted within a few months of the expiration of a programme, thereby giving little time to conduct a serious study of the Commission's proposals.

3. Lord Bessborough's report also proposed, inter alia, an amendment to the Commission proposal whereby the programme should be reviewed at the beginning of 1977. This request was met and a proposal to modify the programme was sent to the European Parliament in August 1976. This modification was considered in the report by Mr Pintat (Doc. 403/76) which approved the changes suggested by the Commission.

II. DESCRIPTION OF THE PROPOSAL FOR A SECOND ENERGY RESEARCH AND DEVELOPMENT PROGRAMME

4. Like its predecessor, the present programme will cover the following fields:-

- energy conservation
- production and utilisation of hydrogen
- solar energy
- geothermal energy
- energy systems analysis and strategy studies

The programme should be carried out by cost sharing contracts with industrial firms, research centres and universities in the Member States.

5. The motivation behind this programme is to reduce the Community's dependence on imported sources of energy by energy conservation and the development of alternative sources of energy. This indirect action programme will be complementary to direct actions in the energy field undertaken at the Joint Research Centre.

6. Full details of each of the five actions in the second programme are given in the annex to the programme. Very briefly these programmes can be summarised as follows:-

(i) Energy conservation

7. This includes activities in the following areas:

(a) domestic and commercial applications
(b) industry
(c) transport
(d) energy transformation
(e) energy storage

The Commission has estimated that the Energy Conservation Programme 1979 - 1983 should cost 25m EUA.

(ii) Production and utilisation of hydrogen

8. This project is divided into three sections:

(a) thermochemical production
(b) electrolytic production of hydrogen
(c) transportation, storage and utilisation of hydrogen

Project (a) is being carried out in close cooperation with the Joint Research Centre.

Project (c) will cover the compilation of safety manuals, the analysis of storage methods and certain assessment studies on the role of hydrogen in the production of synthetic fuels and coal gasification.

The Hydrogen Programme should cost 15m EUA for 4 years.

(iii) Solar Energy

9. This programme is divided into 8 projects, the main emphasis being laid on projects (a), (b), (c) and (e) which should involve the development and building of prototype systems in these fields. The 8 projects are as follows:

(a) solar energy applications to dwellings
(b) thermomechanical solar power plants
(c) photovoltaic power generation
(d) photochemical, photoelectrochemical and photobiological processes
(e) energy from biomass
(f) solar radiation data
(g) wind energy
(h) solar energy in agriculture and industry.

It should be noted with regard to (g) above that Mr Brown is at present drawing up a draft report on wind, wave and tidal energy. The Committee cannot take a decision on this part of the Commission's Energy Research and Development Programme before the adoption of Mr Brown's report.

(iv) Geothermal Energy

10. This project is based on the integrated development of geothermally promising regions up to a stage where a clear decision on the economic feasibility of further exploitation can be taken with a view to possible demonstration projects. It is divided into 4 projects:

(a) integrated geological, geophysical and geochemical investigations into selected areas
(b) subsurface problems of natural hydrothermal sources
(c) surface problems related to the use of hydrothermal resources
(d) hot dry rocks.

The Geothermal Programme should cost 20m EUA over 4 years.

(v) Energy systems analysis and strategy studies

11. This includes:

(a) improvement and further development of the work done in the first programme such as

- maintenance and improvement of the data base and the energy flow model
- implementation of the national model systems in local research organisations
- improvements in the estimation of parameters used in the different models
- complementary developments of the existing models

- regionalisation of the long-term energy demand model
- dynamic net energy analysis

(b) new energy systems' representation

- the dynamisation of certain static models
- the development of simplified models for special purposes
- study of new methods of analysing energy policies

(c) communication with potential model users

(d) world energy modelling - this will be done in cooperation with international institutes and other modelling organisations.

The proposed funding for this programme is 7m EUA over 4 years.

III. FINANCIAL IMPLICATIONS AND STAFFING

12. The funds requested by the Commission for the second Energy Research and Development Programme amount to a total of 125m EUA over 4 years. This more than doubles the sum of 59m EUA for the first Energy Research and Development 4-year Programme. In addition the Commission proposes that the current staff of 27 be increased to 37 in order to carry out the proposed second programme. This staff would be assigned as follows:

Energy conservation

4	Category A
1	Category B
2	Category C

Production and utilisation of hydrogen

3	Category A
1	Category B
1	Category C

Solar Energy

4	Category A
1	Category B
4	Category C

Geothermal energy

2	Category A
1	Category B
1	Category C

Energy systems analysis and strategy studies

4 Category A

3 Category B

3 Category C

IV. COMMENTS ON THE COMMISSION'S PROPOSALS

13. It appears, from Section III of the Commission's introduction to the new proposal, that the first 4-year programme achieved positive results. The Committee on Energy and Research has consistently stressed the need for research into all forms of energy, including certain alternative sources. It has been argued that if as much money had been put into alternative energy sources as went into development of nuclear energy, then alternative energy sources might contribute much more than the 5% estimated for the end of this century.

14. Furthermore, at a time when opposition to the development of nuclear power is becoming a political force (even though many opponents may be misinformed), it would be politically unwise for the Community not to concern itself with research into the development of alternative energy sources, even if this research might possibly serve only to highlight the limitations of such sources.

15. The committee notes with approval that the proportion of funds earmarked for solar energy has increased from 30% in the first programme to 46% in the programme at present under consideration. This adjustment is consistent with the long-term prospects for solar energy, which would appear to have considerable potential in the next century, even though it will not serve as a replacement for nuclear energy or coal after the depletion of world hydrocarbon reserves.

16. The committee also accepts the Commission's decision to reduce the proportion of funds allotted to geothermal energy from 22.4% to 16%, while questioning the relative reduction in importance of research into the production and utilisation of hydrogen. Nevertheless it should be borne in mind that, in absolute terms, funds for both the geothermal and hydrogen programmes have been increased in the second multiannual programme (from 13m EUA to 20m EUA, and from 13.24m EUA to 15m EUA respectively).

17. It should be noted that the Commission has already proposed that the wind energy project, which forms part of the solar energy sub-programme, be revised. No decision can be taken with regard to the wind energy project until Mr Brown's report on the need for Community action to promote

the exploitation of wind, wave and tidal energy for electricity production (PE 53.244/rev.II) has been adopted.

18. At the end of the programme's second year of operation, a report of analysis and state of advancement will be drawn up for the European Parliament and the Council. This is to be welcomed. It should be noted that the first multiannual Energy Research and Development Programme was reviewed late in 1976, when useful modifications were proposed (report of Mr Pintat, Doc. 403/76)[1].

19. It is particularly important that the present indirect action programme should not duplicate work being carried out as direct action in the establishments of the Joint Research Centre. The Advisory Committee on Programme Management has as one of its tasks the monitoring of research carried out by the JRC as well as indirect action research and research undertaken independently of the Commission in the Member States of the Community. This aspect of the work of the ACPM should be stressed as it is necessary to ensure that the direct and indirect action programmes, particularly in the fields of solar energy and hydrogen, will be complementary to one another.

20. The Commission has written into the draft Council decision an Article 2 which is, in its present form, not acceptable to the European Parliament. The European Parliament maintains that appropriations for programmes must be decided in the context of the General Budget of the European Communities, with the Council and the European Parliament acting as the budgetary authority. With regard to Article 2, the purely indicative nature of the estimates of expenditure commitments and staff must be stressed accordingly. The Committee on Energy and Research is therefore proposing an amendment to Article 2 of the draft Council Decision.

V. CONCLUSIONS

21. In conclusion, the Committee on Energy and Research endorses the proposed second energy research and development programme (1979-1983), subject to acceptance by the Commission of the proposed amendment to Article 2 of the draft Council decision pursuant to the second paragraph of Article 149 of the EEC Treaty, while reserving its position with regard to the project on wind energy which forms part of the solar energy sub-programme.

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[1] OJ No. C293 of 13.12.1976, page 17

OPINION OF THE COMMITTEE ON BUDGETS

Draftsman : Mr Tam DALYELL

At its meeting of 21 November 1978 the Committee on Budgets appointed Mr Dalyell draftsman.

At the same meeting it considered the draft opinion and unanimously adopted it.

Present: Mr Lange, chairman; Mr Aigner, vice-chairman; Mr Dalyell, draftsman; Lord Bessborough, Lord Bruce of Donington, Mr Dankert, Mr B. Nielsen, Mr Shaw and Mr Spinelli.

I. Introduction

1. The second four-year energy research and development programme should be considered, as regards its structural characteristics and objectives, as the logical follow-up to the current programme[1].

2. Like the first programme, the second is intended to promote energy conservation by cutting losses in production and utilization and to encourage the development of new sources of energy.

3. The ultimate objective is to reduce Community imports of energy sources which currently account for about 60% of all energy consumed in the Community.

4. Specifically, the second four-year energy research and development programme concentrates on five sectors of activity summarized in the following table:

Energy Conservation	Production & utilization of hydrogen	Solar energy	Geothermal energy	Energy systems analysis and strategy studies
Domestic and commercial applications	Thermo-chemical production	Domestic applications	Acquisition of data	Improvement & development of first energy systems programme
Industry	Electrolytic production	Thermo-mechanical solar plants	Sub-surface problems of natural hydro-thermal sources	New energy systems representations including recent methodological developments
Transport	Transport, storage, utilization	Photovoltaic conversion		
Energy transformation		Photo-chemical, photo-electro-chemical, photo-biological processes	Surface problems related to the use of hydro-thermal resources	Communication with potential users
Energy storage		Energy from biomass	Hot dry rock	World energy modelling
		Wind energy		
		Solar energy in agriculture and industry		

[1] The first four-year energy research and development programme was approved by the Council of Ministers on 22 August 1975 and published in the Official Journal on 2 September 1975. It expires on 30 June 1979

II. First and second programmes: a comparison

5. Referring to the current R & D programme, the Commission notes that it has been possible to achieve 'considerable results' in the five fields specified by the Council[1] both as regards 'enhancing' research and 'stimulating' work at Community level.

6. It also notes that 'the progress made in the various technical fields and the assessment of their future energy potential as candidate actions at Community level have led to a change in emphasis between the different subprogrammes'[2]. Some sectors, such as those concerned with solar energy and energy conservation, have accordingly gained in importance, whilst for others it has been necessary to reduce the appropriations previously committed. The following table shows the differences in the two programmes:

	Funding		Percentage share		Percentage difference
	First programme (m ua)	Second programme (m EUA)	First programme	Second programme	
Energy conservation	11.38	25.00	19.3	20.0	+ 0.7
Production and utilization of hydrogen	13.24	15.00	22.4	12.0	- 10.4
Solar energy	17.50	58.00	30.0	46.4	+ 16.4
Geothermal energy	13.00	20.00	22.0	16.0	- 6.0
Systems analysis/ energy modelling	3.88	7.00	6.3	5.6	- 0.7
TOTAL	59.00	125.00	100.0	100.0	

7. It is important to note that the Commission takes the opportunity of the increased funding and differences in structure between the first and second programmes, as illustrated in the previous paragraph, to justify specific additional requests for staff.

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[1] The same fields are also proposed for the second programme.

[2] Proposal from the Commission to the Council concerning a second four-year energy research and development programme, Vol. I, p. 5.

The situation is as follows:

Objectives	Staff		Difference
	In place for first programme	Requested for second programme	
Energy conservation	6	7	+ 1
Production and utilization of hydrogen	4	5	+ 1
Solar energy	6	9	+ 3
Geothermal energy	4	6	+ 2
Systems analysis/ energy modelling	7	10	+ 3
TOTAL	27	37	+ 10

8. Of the ten new administrators asked for, three would be assigned to the solar energy sector, which can be justified by the increased importance (+ 16.4%) this sector will assume in the second programme. However, a similar increase (+ 3 administrators) is also being requested for a sector whose overall share in the programme has remained practically static (systems analysis/energy modelling), and, as far as research is concerned, is actually being reduced in importance.

III - Views of the Committee on Budgets

9. As regards the financial aspects of the programme, your rapporteur considers that the amount of 125 m EUA to be spread over a four-year period as indicated in the following table, is not excessive.

Schedule of utilization of commitments over the period 1 July 1979 - 30 June 1983 (in m EUA)

Area	1979	1980	1981	1982	1983	TOTAL
Energy conservation	1,500	10,000	10,000	3,000	500	25,000
Production and use of hydrogen	1,000	6,000	5,000	2,000	1,000	15,000
Solar energy	3,000	26,000	16,000	10,000	3,000	58,000
Geothermal energy	1,000	8,000	6,000	4,000	1,000	20,000
Systems analysis and modelling	500	2,500	2,500	1,000	500	7,000
TOTAL	7,000	52,500	39,500	20,000	6,000	125,000

10. As our committee had occasion to point out when it considered the first programme[1], the expenditure earmarked for staff and administrative requirements is extremely moderate; the same holds good for the second programme. For the four-year period, this expenditure totals 9 m EUA, or about 7% of the overall cost.

11. Your rapporteur welcomes the comprehensive presentation of the financial statements which are not only complete in all their parts but, by setting out in detail the annual payments and commitments, provide a very clear picture of the financial structure of the various projects. Your Committee appreciates the sensible financial statement.

12. It is worth noting at this point, that an appropriation of 4 m EUA is entered in the remarks column of Item 3357 of the Council's draft general budget of the European Communities for 1979; this in fact amounts to a reduction of 3 million in relation to the appropriations contained in the Commission's preliminary draft budget.

13. One final remark needs to be made about the proposal for a Council decision. Article 2 makes reference to the expenditure commitments and staff requirements for the implementation of the programme. Even though this is merely an estimate, your rapporteur considers that, in order to safeguard Parliament's powers, the article ought to be reworded in accordance with a formula recently agreed upon in the Committee on Budgets.

Quite apart from this consideration, the Commission must, of course, in accordance with the undertaking given at the Council meeting of 22 April 1970, provide Parliament with all relevant information by forwarding the cost estimates concerned to enable the latter to give an opinion on Community acts having financial implications. As already pointed out, however, these estimates must not constitute an integral part of the proposed regulations and decisions.

IV. Conclusions

14. In the light of the foregoing, your draftsman:

- having regard to the importance of energy research for the overall development of the Community's economy, which cannot be free from external constraints until the Community has achieved an adequate degree of self-sufficiency in energy;

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[1] Doc. 526/74, p. 17

- having regard to the first energy research and development programme and the results which the Commission claims to have achieved;

- having regard to the cost of this programme, which is particularly modest as regards staff and administrative expenditure;

- reserves the right to request further information from the Commission on staff needs, and on the estimates for 'expenditure under contracts';

- asks the Committee on Energy and Research to endorse the proposed amendment to Article 2 in order to safeguard Parliament's powers and to comply with the request by our committee in similar cases;

- approves the Commission's proposals for a second four-year energy and research development programme.

TEXT PROPOSED BY THE COMMISSION OF THE EUROPEAN COMMUNITIES	AMENDED TEXT

Council decision adopting an energy research and development programme 1979 - 1983

Article 1 unchanged

Article 2	Article 2
The upper limit for expenditure commitments and for staff necessary for the implementation of this programme is evaluated at 125 million European units of accounts and 37 employees respectively for the duration of the programme.	The amount of the expenditure commitments necessary for the implementation of this programme is estimated to be 125m EUA, as defined in Article 10 of the Financial Regulation of 21 December 1977, and the staff is estimated at 37 employees. These figures are of an indicative nature only.
The European unit of account is defined in Article 10 of the Financial Regulation of 21 December 1977 applicable to the general budget of the European Communities.	

Articles 3 and 4 unchanged