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** I

R E P O R T

of the Committee on Energy, Research and Technology

on the proposal from the Commission to the Council for a decision adopting a specific research and technological development programme in the field of non-nuclear energies (1990-1994) (COM(90) 0164 final - C3-0167/90 - SYN 269)

Rapporteur: Mr Charles-Alfred GASOLIBA I BÖHM

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PART B : Explanatory statement
Opinions

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EXPLANATORY STATEMENT

I INTRODUCTION

1. The Commission proposal for a specific R&D programme on non-nuclear energies (1990-1994)¹ under the Third Framework Programme² is the direct successor of the JOULE programme decided under Council Decision 89/236/EEC³ on 14 March 1989.

2. The main elements of the Commission's proposal are:

- (i) Modelling and strategic analysis, a horizontal action. The aim is to define energy R&D strategies and analyze national or Community policies dealing with energy and the environment,

- (ii) Experimental work in advanced technologies for energy-production and CO₂ fixation; using advanced technology to improve efficiencies from fossil fuels and the reduction of emissions through the capture and stable disposal of pollutants,

- (iii) Renewables - the 'solar house', contributing to solar design concepts and pilot systems,
 - the development of grid connected solar, wind, wave, tidal and small hydro plants,
 - an integrated approach to rural development,
 - a test site for geothermal,

- (iv) Energy saving
 - the development of a fuel cell prototype for cogeneration units,
 - the development and improvement of energy saving especially in buildings,
 - advanced transport technologies,

¹ OJ C 174 of 16 July 1990

² Council Decision 90/221/Euratom,EEC of 23 April 1990.

³ OJ L 98 of 11.4.1989

The proposed financial statement for the specific programme provides for the following commitment schedule:

1991	1992	1993	1994	mECU	
38	32.29	65	20.14	sub-total	155.43
				Dissemination	1.57
				<u>Total</u>	<u>157.00</u>

II PROGRAMME ANTECEDENTS

3. The JOULE programme was adopted on 14 March 1989 in implementation of the Second Framework Programme for research and technological development, with an overall financial envelope of 122 mECU, compared to the 175 mECU of the 1985-1988 programme. The scientific and technical content includes the following main 'planks':

- (i) models for energy and the environment
- (ii) rational use of energy
- (iii) fossil fuels
- (iv) renewable and geothermal energies.

4. After the call for proposals completed in 1989, the breakdown of contracts based on A grade proposals for the JOULE programme is

(i) models	2,9	mECU
(ii) rational energy use	31,7	
(iii) fossil fuels	30,5	
(iv) renewables	41	

106 mECU or 87% of the programme

monies. Personnel and administration costs are 15,7 mECU or 13%. The 286 contracts approved for a total Community contribution of 106 mECU contrast with a 'demand' for 1051 projects with a value of 946 mECU (Community support 550mECU). This figure illustrates that 'demand' in terms of the Community contribution for projects submitted exceeds the 'supply' of Community funding by a factor of five.

5. Achievements of the non-nuclear programme which preceded JOULE include

- (in the area of rational energy use) coordination of combustion research and coordination of research into fuel cells; and
 - (in the area of renewable energies) the improvement of wind turbine technology to reduce their cost,
- the development of a photovoltaic system technology,

concerted actions on passive solar;

test trials on energy crops for biomass,

basic research on biological conversion methods and large integrated biomass utilisation schemes.

III Recommendations of the evaluation panel

6. The relatively recent adoption of the JOULE programme means that an evaluation has only been carried out on the preceding 1985-1988 programme. Overall this (rigorous) evaluation is very positive. Some of the 'bulk ratios' for the 1985-1988 are worth recalling here as cross-section indicators of actual work carried out, classified by topic, participant and type.

SUBPROGRAMMES		PARTICIPANT BODIES		TYPE OF RESEARCH	
Biomass	12%	Universities	40%	Basic	22%
Hydrocarbons	12%	Technical Research Centre	24%	Conceptual	32%
Rational Energy Use	16%	Engineering firms	5%	Pilot	26%
Solid fuels	13%	SMEs	5%	Development	5%
Geothermal System analysis	13%	Large Companies	26%	Accompanying Actions	14%
Solar	18%				
New energy vectors	4%				
Wind	10%				

7. A number of points clearly emerge from the Programme evaluation:

- (a) The thematic field of the programme was too wide for the available budget, causing a 'saupoudrage' and a lack of programme strategy
- (b) the action of the advisory Committee is described as the consensus 'management of national compromises'
- (c) heavy contractual procedures, demanding e.g. 17 man-days for the submission of a project proposal, and a 'procurement' approach to the processing of proposals
- (d) the lack of identifiable and quantifiable programme objectives
- (e) poor monitoring of the progress of the programme
- (f) lack of comparative analysis with developments on the world stage especially US and Japan
- (g) poor links with the THERMIE programme.

IV COMMENT

8. Your rapporteur is aware that the JOULE programme and the new programme proposal have been adapted to take the points highlighted by the Evaluation panel into account, most particularly in terms of programme coherence, by regrouping the former sub-programmes in four major thematic elements. However the points concerning programme management are, in the rapporteur's view, still valid to some extent. Amendments have therefore been tabled to improve programme monitoring and to clearly differentiate the non-nuclear programme from THERMIE while improving links.

9. Your rapporteur would point out that, in the new programme proposal, the long management chain has been further extended, even beyond the previous unsatisfactory situation. New links in the chain include the establishment of the details of the programme in the Work Plan before actual programme execution, the requirement to await programme adoption before issuing the Call for Proposals, and the proposed 'exceptional procedure' selection before projects can be selected in the 'normal' way.

10. There is a large element of continuity between JOULE and the new proposed non-nuclear energy programme (NNE). The only significant discontinuities are the exclusion of research on hydrocarbons and biomass, given that the latter is now included in the Agriculture and Agro-industrial research programme.

V CRITICAL ANALYSIS OF THE COMMISSION'S PROPOSAL

11. It is difficult for the rapporteur to see any real justification for the Commission's action in proposing a new programme less than one year after the launching of the old programme, with a significantly different presentation but little substantial modification. Considering that the JOULE programme was finally adopted only on 14 March 1989 and given the extent of the continuity between the two programmes, it is legitimate to put the question why the legislative machinery must be put in motion to obtain a result very similar to the status quo.

12. The vagueness of the programme's objectives would appear to make the task of evaluation almost meaningless. The net impact of the new Non-nuclear Energy (NNE) programme will be continuity for the Commission but it could mean a decreased role for Parliament, since the actual programme planning will take place when the Work Programme is drawn up, without Parliamentary consultation.

13. The principal areas where the Commission's proposal could be improved are:

- (i) The clear definition of fundamental research projects to differentiate between and facilitate links with the demonstration projects funded under the THERMIE programme.
- (ii) Biomass. One of the innovations of the Third Framework Programme is to include biomass in the Agriculture/Agro-Industrial Programme (Biomass is also included in the THERMIE programme). This 'transfer' could in practice involve a significant change in priorities for this action, i.e. a shift in emphasis from work on biomass conversion and utilization to biomass production. A possible compromise, short of

transferring biomass back to the NNE programme, could be the elaboration of Integrated Projects, drawn up in coordination by both Advisory Committees, but where the NNE Committee would have the final power of selection of projects.

- (iii) The Financial Schedule. The proposed financial schedule is unrealistic, and should be amended to show a peak in funding in 1992.
- (iv) Following a meeting with the CREST rapporteur and Commission representatives on 26 September 1990, your rapporteur tabled a number of amendments designed to improve on the Technical annex.
- (v) An annual progress report on the implementation of the NNE programme will be sought to facilitate monitoring by the Parliament of ongoing work and programme implementation.

O P I N I O N

(Rule 120 of the Rules of Procedure)

of the Committee on Budgets
for the Committee on Energy, Research and Technology

Draftsman: Mr Christos PAPOUTSIS

At its meeting of 21 September 1989 the Committee on Budgets appointed Mr PAPOUTSIS draftsman.

At its meeting of 7 November 1990 it considered the draft opinion.

At the latter meeting it adopted the conclusions as a whole unanimously.

The following were present for the vote: von der Vring, Chairman; Lamassoure, first Vice-Chairman; Cornelissen, second Vice-Chairman; Papoutsis, draftsman; Arias Cañete, Böge, Colajanni, Elles, Forte, Holzfuß, Kellett-Bowman, Langes, Lo Giudice, Miranda da Silva, Samland and Theato.

Preliminary remarks

The virtually simultaneous presentation of the legislative proposals on the specific programmes under the 1990-1994 framework programme (Decision 90/221/EEC/EURATOM) and the identical wording of the financial provisions mean that they can be considered jointly and that decisions can be taken on the legislative proposals as a whole. This opinion refers to the specific programme in the field of non-nuclear energies (1990-1994).

Introduction

1. On 23 April 1990, the Council adopted Decision 90/221/EURATOM, EEC⁴, concerning the framework programme of Community activities in the field of research and development (1990 to 1994). Article 1 of the decision provides for the carrying out of the following activities:

- enabling technologies:

1. information and communications technologies;
2. industrial and materials technologies.

- management of natural resources:

3. environment;
4. life sciences and technologies;
5. energy.

- management of intellectual resources:

6. human capital and mobility.

The amount deemed necessary for Community financial participation in the entire programme is 5700 million ECU.

2. On 11 June 1990, 30 September 1990 and 22 October 1990, the Council consulted the European Parliament on the fifteen specific programmes. The proposal on centralized action was not submitted for consideration.

This virtually simultaneous presentation of the new proposals meets the wishes expressed by the Committee on Budgets (see PE 134.413/fin.). This situation can create the conditions necessary to measure the effects of a series of legal instruments against the financial reality defined by the financial perspective and the budgets concerned.

⁴ OJ No. L 117, 8.5.1990, p. 28

3. During consideration of the framework proposal for the framework programme (1990-1994), and also throughout the conciliation procedure up to the adoption of the decision by the Council, the Committee on Budgets had put forward a number of observations.

Its observations concerned, in particular, the financing of the new framework programme, the period which covered financing of both framework programmes (1987-1991 and 1991-1992) and the procedures for implementing the new framework programme, with particular reference to the question of commitology.

The Commission proposals

4. The Commission's approach consists of presenting a harmonized text concerning the financial provisions for each specific activity together with annexes giving an indicative breakdown of the amount deemed necessary and the procedures for implementing each programme. The Commission also devotes an annex specific to each programme solely to the aims and the scientific and technical content.

5. As regards the amount estimated as necessary for each specific activity (Article 2), the Commission proposes a double levy:

- a single-rate levy of 1% on the amount estimated as necessary for each specific programme earmarked for the financing of the centralized dissemination and exploitation of the results;

and on the remainder,

- a variable-rate levy for staff costs. This second levy varies between 2% and 16% according to the specific activity.

6. As regards the 1% levy, Article 4 of the framework decision 90/221/EEC provides for an amount 'deemed necessary of 57 million ECU', which represents in fact the 1% of the amount deemed necessary for the framework programme as a whole. However, while this proposal has the merit at first sight of constituting the amount of 57 million ECU, it does not take account of a number of considerations:

- The total appropriations for the specific activities are not of the same amount, so the impact of the 1% in each of them will not necessarily be the same.
- It is not stipulated in the framework decision that each specific programme must contribute on the basis of a single rate to the financing of the centralized action. The framework decision merely states that the 57 million ECU are drawn 'proportionally' from each activity (see Annex 1, footnote 2).
- It is not stipulated that this levy must precede the levy for staff costs.
- The profile of the partners of each programme is different, and therefore the framework of the implementation of the projects may vary.
- The knowledge acquired on each programme is different, and the means of disseminating it may take various forms.

There is therefore no reason to assume that the single-rate levy meets the requirements of each programme.

7. On the other hand, the Commission has not yet submitted its proposal on the centralized action. Is it then conceivable to start adopting all the specific programmes without seeking to settle, for example, matters relating to intellectual property or industrial property?

On the basis of what guarantees will the partnership which will form around each programme ensure dissemination of the results? And how will the Community dimension of each programme be preserved in the absence of information on the dissemination of the results obtained by its implementation?

8. A second point to be raised concerns the percentage earmarked for staff costs.

The Commission proposes a variable-rate levy for this expenditure. On the basis of the financial statements accompanying the various proposals, the implementation of the framework programme (1990-94) will involve a total staff complement of 1019 persons, regardless of category.

This establishment plan for the framework programme (1990-94) will consist partly of staff to be redeployed from the programmes implemented under the framework programme (1987-91) and partly of newly-recruited staff.

9. Experience shows that the demand for staff is a function of the demand for commitment appropriations for each activity.

How, then, does the Commission intend:

- to coordinate demand for staff for each new specific activity in the light of the real staff requirements still presented by earlier activities which will in fact be acting as a reserve supply and, in addition, respect the rules of transparency in the management of the appropriations concerned?
- to inform the budgetary authority of the actual allocation of staff and the budgetary impact, when the implementation of the new activities does not rule out implementation of the projects under the exceptional procedure which may be justified on the scientific basis of several specific activities?

Does the Commission intend to perpetuate the phenomenon of osmosis already referred to in respect of the specific activities arising from the previous framework programme (1987-1991)? (See in this connection PE 143.199).

10. The implementation of these specific activities involves some innovations as regards management, and the Commission, aware of this new situation, has already deemed it necessary that a study be made of this subject.

At the same time, the Commission had promised to 'inform Parliament' of the findings of that study. That study, which would be very useful for the budgetary authority, has not yet been published. However, the Commission has agreed that the question of staff is one of the points, but not the only one, which would require correction and rationalization measures.

11. Another observation concerns the rules for implementing each specific activity set out in Annex III to each proposal.

The Commission proposes the introduction of an exceptional procedure to make the decision-making process concerning the choice of projects more flexible. This exceptional procedure may call on a sum which may in no case exceed 15% of the amount deemed necessary.

The introduction of this new procedure, which will have to co-exist with the ordinary procedure as well as with the continuation of the activities developed under the specific programmes arising from the framework programme (1987-1991), raises certain questions, namely:

- how does the Commission intend to maintain the partners' interest in the previous activities since there are still appropriations in the budget to be committed for the earlier activities?;
- how can the Commission ensure that there will be no abuse in using this exceptional procedure instead of the ordinary procedure?;
- how does the Commission intend to budgetize projects selected on the scientific basis of several specific activities?

12. The Commission is not sufficiently clear about how it intends to coordinate the timetable of tenders, selection of projects and conclusion of contracts in the context of the ordinary procedure with consideration of the proposals submitted in the context of the exceptional procedure. This situation may well create bottlenecks in the decision-making process as regards the choice of projects and their management. It is important to stress the growing volume of requests submitted to the Commission by the partners and, consequently, to consider whether the administrative deadlines governing the selection of projects do not hamper the optimum allocation of the appropriations approved in the budget. The Commission does refer in Annex III to the drawing up of a vade mecum, but to date, this vade mecum has not been forwarded to the budgetary authority.

13. While the experience acquired argues in favour of the introduction of innovative procedures, they will have a positive impact on Community research only if they preserve the cardinal objectives of that research and also ensure optimal allocation of the financial resources provided for.

14. The new framework programme is a year behind schedule as regards the amounts provided for in the financial perspective and, while part of the financial year 1991 will be devoted to adopting the various decisions, the Commission's firm determination to ensure the vital progression of one of the most important new policies (see PE 140.148) becomes an empty statement.

15. Another observation concerns committeeology. The fears expressed by the Committee on Budgets in its opinion (see PE 134.413/fin.) are confirmed. When a specific activity concerns the industrial sector, the committee involved is of type III. However, in the conciliation procedure for the adoption of the framework programme (1990-1994) and, in particular, in its letter to the President of Parliament (see PE 140.148), the Commission had stated perfectly clearly the merits of the type I committee (i.e. a purely

consultative committee) which confers the greatest speed and efficiency on the decision-making process.

The question is whether that efficiency can be guaranteed, for example, in the case of the selection of projects under the exceptional procedure, which is proposed precisely in order to strengthen the operational aspect of each specific activity in the case of activities involving a type III committee.

It may be pointed out that, in the recent decisions on provisional measures concerning the unification of Germany, the Council agreed to replace a type III by a type IIa committee.

16. The Commission gives no details concerning the choice to be made where a project subject to the exceptional procedure concerns two specific activities which are not covered by the same type of committee. In such a case, which of the two types of committee will be giving its opinion?

17. A final observation concerns the evaluation of the programmes. The research and technological development policy constitutes one of the objectives laid down in the Single Act.

The European Parliament has stressed on many occasions the need to develop this policy while drawing attention to the increased funding requirements. This position will be best strengthened on the basis of the results obtained, with particular regard to sound financial management and increased profitability of the funds allocated to this policy.

18. In its proposals (Article 5), the Commission raises the matter of the evaluation of the programme but nevertheless refrains from providing any additional information regarding the criteria to be taken into account for that evaluation.

It is important for the budgetary authority, particularly where a multiannual activity is involved, to have figures showing trends in the performance indicators interpreting analyses made on the basis of cost-effectiveness, and also on the basis of the indicators which measure the cost of non-research.

Experience shows that there is no pattern to the participation of the Member States in the various activities. A thorough analysis of the cost of non-research is vital because of the complementarity of this policy with other Community policies sometimes acting as infrastructure.

Conclusions

19. The Committee on Budgets accordingly recommends the adoption of the proposal, with the following reservation:

It asks the Committee on Energy, Research and Technology:

to ascertain, with the Commission, whether measures have been taken on the basis of the funds available to ensure, at administrative level, a rational decision-making process as regards selection of projects and their management as well as on the provisions concerning the evaluation of all the specific programmes, in accordance with Article 5 of framework decision 90/221/EURATOM, EEC.

The Committee on Budgets also asks the Committee on Energy, Research and Technology to take account of the following amendments:

Commission text

Amendments

Amendment No. 1
Fourth recital

Whereas, pursuant to Article 4 and Annex I of Decision 90/221/EURATOM, EEC, the amount deemed necessary for the whole framework programme includes an amount of 57 million ECU for the centralized dissemination and exploitation of results, to be divided up in proportion to the amount envisaged for each activity; whereas in view of the importance of this specific programme within the 'Energy' action, the estimate of the financial resources needed by this programme is to be reduced by 1.57 million ECU, which amount is to be allocated to the centralized activities, in order to comply with the second sentence of Article 130p(2) of the Treaty;

Whereas, pursuant to Article 4 and Annex I of Decision 90/221/EURATOM, EEC, the amount deemed necessary for the whole framework programme includes an amount deemed necessary of 57 million ECU for the centralized dissemination and exploitation of results which is to be the subject of a decision of the Council in cooperation with Parliament; whereas, in view of the importance of the specific programme within the 'Energy' action a financial contribution to the centralized activities is required; whereas this contribution is proportional to the financial capacity of the programme and corresponds to the effective demand for the results of research from the socio-economic operators in all the Member States;

Amendment No. 2

Article 2

1. The Community funds estimated as necessary for the execution of the programme under this Decision amount to 157 million ECU. Of this amount 1.57 million ECU is drawn for the centralized dissemination and exploitation of results. The amount thus reduced to 155.43 million ECU includes staff costs which may not exceed 7%. An indicative breakdown of expenditure is set out in Annex II.

1. The Community funds estimated as necessary for the execution of the programme under this Decision amount to 157 million ECU, including staff costs and a contribution to the centralized dissemination and exploitation of results. An indicative breakdown of expenditure for the implementation of this programme is set out in Annex II. The procedures for the dissemination and exploitation of results are set out in Annex III. An indicative breakdown of expenditure and the procedures concerning staff are set out in Annex II.

Amendment No. 3

Annex II

After the heading 'Indicative breakdown of expenditures', add the following new paragraph:

The establishment plan deemed necessary for the duration of the programme consists of 36 statutory posts (A, B and/or C). The Commission shall indicate each year in the preliminary draft budget the number of staff deemed necessary and the corresponding expenditure.

The budgetary authority shall decide on the appropriations.

Amendment No. 4

Annex III

Rules for Implementing the Programme and Activities
for Dissemination and Exploitation of the Results

Paragraph 4

After the fifth subparagraph, add a new subparagraph:

When it submits the preliminary draft budget the Commission shall inform the budgetary authorities whether the appropriations approved in the budget of the previous year have also financed projects retained by the exceptional procedure, and the amounts allocated. Should these projects cover several programmes, it shall state the type of committee which assisted it.

Amendment No. 5

Annex III

Rules for Implementing the Programme and Activities
for Dissemination and Exploitation of the Results

Paragraph 4

Sixth subparagraph

The amount of the financial participation of the Community for all the projects retained by the exceptional procedure will be decided each year, in relation to the projects selected according to particularly strict criteria of excellence. In any case, this amount may not exceed 15%; it may be revised each year in the light of experience.

The amount of the financial participation of the Community for all the projects retained by the exceptional procedure will be decided each year, in relation to the projects selected according to particularly strict criteria of excellence. In any case, this amount may not exceed 10% of the annual budget appropriation.

Amendment No. 6

Annex III

Rules for Implementing the Programme and Activities
for Dissemination and Exploitation of the Results

Paragraph 4

Seventh subparagraph

Add:

It shall forward this vade mecum to
Parliament at the latest before this
Decision is adopted.

Amendment No. 7

Annex III

Rules for Implementing the Programme and Activities
for Dissemination and Exploitation of the Results

Paragraph 7

7. The knowledge acquired during the course of the projects shall be disseminated on the one hand within the specific programme and on the other hand by means of a centralized activity, pursuant to the decision referred to in the third paragraph of Article 4 in Decision 90/221/EURATOM, EEC.

7. The knowledge acquired during the course of the projects shall be disseminated with the specific programme and by means of, and in compliance with, the provisions governing the centralized action to be the subject of a decision taken by the Council in cooperation with Parliament pursuant to the third paragraph of Article 4 of Decision 90/221/EURATOM, EEC. The financial contribution of this programme amounts to ECU, in accordance with the financial provisions of Council Decision concerning centralized activities.

O P I N I O N

(Rule 120 of the Rules of Procedure)

of the Committee on Economic and
Monetary Affairs and Industrial Policy

for the Committee on Energy, Research and Technology

Draftsman: Mr Di Rupo

At its meeting of 16 October 1990 the Committee on Economic and Monetary Affairs and Industrial Policy appointed Mr Di Rupo draftsman of an opinion.

It considered the draft opinion at its meetings of 3 and 4 and 18-20 December 1990.

At the last meeting on 19 December it unanimously adopted the conclusions as a whole.

The following took part in the vote: Beumer, chairman; Desmond, vice-chairman; di Rupo, rapporteur; Barton, Bofill Abeilhe, Cassidy, Caudron, Colom I Naval, de Donnea, de Piccoli, Friedrich, Hoff, Ribeiro, Roumeliotis, Siso Cruellas, von Wogau and Fitzgerald (for Lataillade) and Van Der Waal (for Ruiz Mateos).

I. Content of the proposal for a decision

1. Scope of the specific programme in the field of non-nuclear energies

This research and development programme falls under one of the six actions in the third Framework Programme 1990-1994. This 'Energy' action is subdivided into three research sectors: thermonuclear fusion, fission and non-nuclear energies.

It sets out four special research areas.

(1) Analysis of strategies and modelling

This involves analysis of energy forecasts and assessment of energy policies with particular reference to the environment and the internal market.

(2) Minimum emission power production from fossil sources

Here the aim is to increase the efficiency of energy production from fossil sources (to work towards potential efficiency of 50% as opposed to the present 38%) while reducing emissions.

(3) Renewable energy sources

Here the aim is to accelerate technological readiness and prepare for early market integration of technical options based on solar, wind, hydraulic and geothermal energy. There will be emphasis on various research concerning the solar house, renewable energy power plant, and rural electricity, local fuel and water.

(4) Energy utilization and conservation.

Research here will be directed to:

- developing fuel-cell plants bringing energy savings of 30 to 40% and 10-100 times lower pollution;
- developing and improving technologies to have an impact on energy saving and a reduction of pollution;
- improved energy efficiency in transport, including suitable substitutes for conventional fuels.

2. Implementation of the programme

The Community funds needed for the period 1990-1994 are estimated at 157 m ECU. These appropriations will be earmarked mainly for financing (usually at a rate of 50%) research projects submitted by universities, public or private research centres or industrial undertakings involving participation by at least two mutually independent partners established in different Member States, after calls for proposals in the Official Journal.

The third Framework Programme introduced an exceptional, faster and more flexible selection procedure under which particularly promising and technically innovative projects may be accepted. In such cases the financial participation by the Commission may not exceed 15% of the total project budget.

With the assistance of an advisory Committee, the Commission will select projects, conclude contracts and monitor the programme. The Committee will however be consulted only on projects for which the Community's contribution is over 5 m ECU.

Finally, the Commission will submit a mid-programme report to the Council and Parliament in 1992 and will assess the results at the end of the programme.

II. The general background

1. Community energy policy

During the debate in Parliament on the Gulf crisis held in November 1990, Mr CARDOSO E CUNHA told Parliament of the main features of the Commission's energy policy:

- the establishment of a genuine internal market in energy;
- strengthened policies on energy saving and the use of alternative sources of energy;
- a more vigorous Community presence on the world oil and energy markets;
- the setting up of intervention and regulation systems for the Community market involving the use of stocks;
- a review of the role of taxation on oil and energy.

The European Parliament for its part adopted resolutions calling on the Commission to:

- τ consider how far it would be possible to set up long-term strategic oil stocks and use them to even-out large short-term price fluctuations;
- improve security of supply and ensure fair prices;
- draw up a range of updated measures to reduce the Community's dependence on oil imports;
- implement a policy for developing domestic energy resources,
- stepping up research on alternative energy sources and assisting energy-saving projects.

2. The pattern of consumption

Since the first energy crisis of 1973, energy consumption patterns have changed considerably (see table 1). Consumption of crude oil has fallen, from 60.5% in 1973 to 44.2% in 1989. Nuclear energy has taken a much larger share, moving from 1.9% in 1973 to 14.5% in 1989. Overall energy consumption in the Europe of the Twelve increased by 5% over the last decade, from 1033 mToe in 1980 to 1084.2 mToe in 1989.

Table 1: Gross domestic energy consumption

	1989	1980	1973
Total consumption	EUR. 12	EUR. 12	EUR. 10
(mToe)	1084,2	1033	931,9
Structure %			
Crude oil	44,2	53,9	60,5
Natural gas	18,5	16,5	12,4
Hard coal	18,0	20,0	20,9
Nuclear energy	14,5	4,2	1,9
Lignite	3,2	3,4	3,0
Primary electrical energy	1,6	2,0	1,3

Source: Agence Europe, 24 September 1990.

3. Prices

One of the great difficulties in harmonizing energy policies stems from the highly diverse and complex pricing structures and real cost of the various energy resources.

III. Assessment of the decision

1. General remarks

Scientific research runs well ahead of energy policy. Research today will have no direct influence on our present energy policies. However, experience has shown that since 1973, after 17 years of R & D, Europe is still very vulnerable in respect of energy. The Gulf crisis very clearly shows our over-dependence.

It is therefore obvious that the specific R & D programme for non-nuclear energy must take into account the Commission's energy policy, the wishes of the European Parliament and the new pattern of energy consumption.

In economic terms the main objective is to break the almost directly proportional link between energy consumption and economic growth.

The European Community must be in a position to pursue economic growth while reducing energy consumption.

The R & D programme must also help us to reduce our dependence on the outside world for energy and to diversify our energy supply, by source and origin.

Finally, this R & D programme partly overlaps with the JOULE programme (1989-1992). Although it does differ from the latter in its objectives and structures, it is still a continuation of it.

2. The size of the appropriations

In its opinion on the third Framework Programme (1990-1994)⁵ the Committee on Economic and Monetary Affairs and Industrial Policy in general stressed the inadequate funding of the third Framework Programme, when research and technology were a vital aspect of industrial policy. This was particularly clear in respect of the specific programme on non-nuclear energy covered by the present decision, for which only 157 m ECU have been set aside (the overall budget for the third programme being 5.7 bn ECU).

This is all the more true today with the risk of a new energy crisis and the need for action to protect the environment, especially in the five new Länder in Germany.

It would therefore seem desirable, at the very least when the framework programme is reviewed in 1992 (Article 5), to contemplate a different breakdown of the appropriations still earmarked for the fifth, 'energy' action, under the third Framework Programme (400 m ECU for the 'thermonuclear fusion' programme and 199 m ECU for the 'safety, nuclear fission' programme), in favour of the non-nuclear energy programme.

In the short term, the schedule of annual expenditure (financial statement) should be revised and funds transferred from 92-93 to 91-92. Our proposal is for commitments of 40 m ECU in 1991, 70 m ECU in 1992, 30 m ECU in 1993 and 15.43 m ECU in 1994.

3. Areas selected

There should perhaps have been more explanation and detail regarding the four areas selected and the breakdown of funding between them. The description of the content makes no explicit reference to previous work nor to the real priorities, in view of the paucity of funds available. Thus methane pollution (greenhouse effect) has not been properly taken into account.

However, despite the Commission's relative vagueness, as we have already seen, the aims of the specific programme have to be reconciled with the aims of energy policy.

4. Implementing provisions

Our committee is concerned that research programmes should not serve the interests of larger institutions alone, but also help develop SMUs. However, analysis of the JOULE programme reveals that participation by SMUs has been no more than 10% (of the number of participants and amount of appropriations allocated). The committee hopes that the Commission will, here as in other programmes, seek to increase the share taken by SMUs as far as possible. Moreover, an effort must be made to ensure that financial assistance is not used to support research outside the Community to any great extent.

⁵ Opinion by Mr Metten (PE 134.413)

The report assessing the previous non-nuclear energy programme 1985-1988 drew attention to the red tape which hampered its execution. In this respect it would be valuable if the Commission, in its mid-programme assessment report in 1992, gave its views on the impact of the exceptional procedure recently introduced to cut the red tape, and which is set out in Annex III.

For these reasons we would submit the following amendments:

<u>Commission text</u>	<u>Amendments</u>
Amendment No. 1 Article 8	
1. The procedure laid down in Article 7 shall apply to:	
- the preparation and updating of the work programmes referred to in Article 6(3),	Unchanged
- evaluation of the projects referred to in point 2 of Annex III, as well as the estimated amount of the Community's financial contribution when these projects are submitted through the ordinary procedure referred to in point 4 of Annex III and the above-mentioned amount is more than 5 million ECUs,	Replace '5 million ECUs' by ' <u>1 million ECU</u> '.
- evaluation of all projects submitted through the exceptional procedure referred to in point 4 of Annex III, as well as the estimated amount of the Community's financial contribution,	Unchanged
- measures for evaluating the programme.	

Amendment No. 2

Annex I - Area 1 - Analysis of strategies

Models will be used to assess the strategic role of energy efficiency at demand and supply level and renewables towards a reduction of the damaging effect of energy production and utilization on the environment, emphasis being put on greenhouse gas emissions, in particular CO₂. Energy policy options taking into account different scenarios of CO₂ constraints will be made available.

After the words 'emphasis being put on' add the following:

'the establishment of long-term strategic oil stocks for the European Community, their use to even-out large short-term price fluctuations, and transparency in prices of the various energy resources.'

Amendment No. 3

Annex I - Area 2

Minimum emission power production from fossil sources

This research aims at reducing the adverse effects on the environment from the widespread use of fossil fuels. The following two main lines of activities are planned, involving experimental work from the outset in the fields of advanced technologies for energy production and in fixation of CO₂. Technico-economic evaluation of the several possible routes will be performed in parallel with development of geophysical methods and tools. On the basis of the outcome of these technico-economic evaluations, further experimental work will be performed on the more promising high efficiency power producing systems with CO₂ capture and on CO₂ disposal.

Commission text to read:

'Carrying on from the work already done under the JOULE programme, the aim of this research will be to optimize energy output from fossil fuels and reduce the negative impact on the environment of the large-scale use of fossil fuels. The two main fields of activity will be advanced technologies for energy production and recycling the fixation of CO₂.' Technico-economic ... (remainder unchanged).

Amendment No. 4

Annex 1 - area 2

Energy production from fossil sources using advanced technologies.

Add the following paragraph:

Hydrocarbons

In view of the vital role played by hydrocarbons and in order to ensure energy security for the Community in the future, research and development relating to hydrocarbons will continue. Research will concentrate on technologies to allow new oil and gas fields to be located and exploited, in particular small fields and especially difficult fields.

Amendment No. 5

Annex 1 - area 4

Technologies for energy saving

Add the following paragraph:

Special attention will be given to standardizing building design taking account of passive solar energy and making possible substantial energy savings. The programme will also seek to improve technology in the domestic sector, making possible both energy savings and a substantial reduction in 'greenhouse' gas emissions.

Amendment No. 6

Annex 2

Indicative breakdown of expenditure

Area 1. Analysis of strategies and modelling	5 - 7	Area 1. Analysis of strategies and modelling	<u>2.5</u>
Area 2. Minimum emission power production from fossil sources	20-30	Area 2. Minimum emission power production from fossil sources	<u>20 ± 2</u>
Area 3. Renewable energy sources	20-30	Area 3. Renewable energy sources	<u>30 ± 3</u>
Area 4. Energy utilization and conservation	30-40	Area 4. Energy utilization and conservation	<u>45 ± 5</u>

Conclusions

1. The specific programme on non-nuclear energies provides for finance for research projects in four areas (analysis of strategies; minimum emission power production from fossil sources; renewable energy sources and energy utilization and conservation).

2. The programme should be approved in principle, but the modest funding (157 m ECU) is regrettable, in view of the vital fields of industrial and environmental policy involved, and, in particular, the risk we now face of a new energy crisis.

3. Consideration should therefore be given in the mid-programme review to the possibility of reappportioning the outstanding appropriations for the 'Energy' action as a whole in favour of certain priority non-nuclear energy fields.

4. With the modest funds at its disposal, the Commission should perhaps concentrate on genuine priority activities and linking them to the preceding programme.

5. In its mid-programme review, the Commission should also ensure that SMUs play a greater role in the programme wherever possible; it should also take stock of the recently introduced exceptional procedure.

6. Subject to the above amendments, which the Committee on Energy, Research and Technology is requested to take into account, the proposal for a decision should be approved.

OPINION

of the Committee on the Environment, Public Health and Consumer Protection

Letter from the Chairman of the committee to Mr LA PERGOLA, Chairman of the Committee on Energy, Research and Technology

Brussels, 28 November 1990

Subject: Proposal from the Commission to the Council for a decision adopting a specific research and technological development programme in the field of non-nuclear energies
(COM(90) 0164 final - C3-0167/90 - SYN 269)

Dear Mr La Pergola,

At its meeting of 28 November 1990, the Committee on the Environment, Public Health and Consumer Protection considered the above proposal (1).

The Committee notes with regret the lack of detail provided in Annex I (Scientific and Technical Objectives and Content) of this proposal, a failing it shares with all of the other specific programme proposals. This makes the task of the European Parliament in scrutinising these proposals a very difficult one, for even if it strongly supports particular areas of research activity, as is certainly the case for this particular scientific programme, adequate democratic control is impossible to exercise.

We gather that one option which received active consideration in your committee was that of requesting the Commission to re-write all the specific programme proposals. We would, I think, have supported such a move. Given, however, your decision to deal with the proposals as they stand, the following comments may be useful to you.

This specific programme on non-nuclear energies has a total budget of 157 Mecu. The budget for the controlled thermonuclear fusion programme is 458 Mecu. In our view, as expressed in our opinion on the framework programme, these figures should probably have been reversed. The Evaluation Panel report on the previous non-nuclear energies research programme concluded that the quality of the work done was very high, but that there were enough excellent proposals to justify a five-fold increase in the budget.

There is no doubt, given recent discussions about global climatic change and atmospheric pollution deriving from energy production systems and motor vehicles, that energy conservation and environmentally friendly energy production are high priorities for the coming decades. Accordingly the Committee on the Environment, Public Health and Consumer Protection strongly supports the existence of this research programme, whatever its reservations about the lack of detail provided.

With respect to the specific research areas outlined in Annex I, we make the following observations:

Area 1: Analysis of strategies and modelling

Experience with the World Energy Model developed by IIASA (International Institute for Applied System Analysis) in the 1970's, and the subsequent critique of such modelling techniques prompts caution in all such activities. It is essential to include in this research area social science research aimed at elucidating the cultural and evaluative assumptions which inform the development of models and scenarios.

Area 2: Minimum emission power production from fossil sources

This presents no problems.

Area 3: Renewable energy sources

The section on power plants states that "work on solar thermal power, wave power and tidal schemes be limited to studies and exploratory research". Why is this the case? Surely such schemes deserve significant research support.

Area 4: Energy utilisation and conservation

This is very welcome. The role for energy conservation in Europe is very considerable, and greater research support should help to shift attention from energy supply to energy demand. The possibility of global climatic change strongly reinforces this judgement.

One last general comment: the Committee on the Environment, Public Health and Consumer Protection would very much welcome being kept informed of results and developments arising from this research programme.

Please consider this letter to be the formal opinion of the Committee on the Environment, Public Health and Consumer Protection.

Yours sincerely,

(sgd) Ken COLLINS

(1) The following were present for the vote: Mr Collins, chairman; Mrs Schleicher, vice-chairman; Mr Scott-Hopkins, vice-chairman; Mr Bowe, Mr Fitzsimons, Mrs Green, Mrs Car. Jackson, Mr Monnier-Besombes, Mr Muntingh, Mr Partsch, Mr Pereira, Mrs Quistorp, Mr Schmid, Mr L. Smith, Mr Vernier.