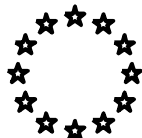


# **2001**

**EXTERNAL MONITORING REPORT  
ON THE  
SPECIFIC PROGRAMME  
FOR  
RESEARCH AND TECHNOLOGICAL  
DEVELOPMENT**



**IN THE FIELD OF**

**NON-NUCLEAR  
ENERGY**

*This is part of the series of the external annual monitoring reports prepared for the EC Framework Programme and the Euratom Framework Programme, and their constituent Specific Programmes, and also - as a novelty - covers the implementation of the European Research Area related activities (ERA).*

*The Commission has over the years been placing increasing emphasis on the evaluation of Community R&D activities. With the overall Reform of the Commission, evaluation activities are more and more placed in the heart of the decision process.*

*In line with this continuous effort for improvement, a revised programme monitoring scheme has been introduced in 2001, based on the system launched in 1995 which involved independent external experts in the monitoring activities. The new mechanism launched this year has been built in order to better involve the experts monitoring the implementation of ERA and specific programmes, by representing them in the Framework Programme Panel. The timely response by the Programme management to the recommendations produced by the experts will be enhanced, providing the basis for a quick response mechanism to programme developments, as the follow up of experts recommendations will be receiving still more attention.*

*This report is the third covering the Fifth Framework Programme; the report also highlights progress in relation to implementation of ERA and results and impact of previous Framework Programmes. The report should help reinforce establishment of best practices and identify the scope for further improvements in programme implementation.*

*The report consists of two parts:*

**Part A:** *External monitoring report prepared by the following independent external experts:*

*Mr Eusebio Girau (Resigned mid-January 2002)*

*Mr Matti Heikkila*

*Miss Judith Stammers (Chairman from mid-January 2002)*

*Mr Isidor Weisbrodt*

**Part B:** *Responses of the Programme management to the external monitoring report.*

**PART A:**

**Report of the external Monitoring Panel**

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# 1. EXECUTIVE SUMMARY

This report focuses on the 2001 activities of the EESD Programme, Part B: Energy. The panel's methodology involved examining documents provided by the programme management, holding detailed discussions with individual Commission staff members and surveying the Energy Programme Committee and the External Advisory Group members, the NCPs and a few contractors.

Calls published during the year were generally well subscribed with quality proposals in almost all the required areas. The proposal evaluations were well conducted and contracts placed for significant projects. Projects tended to be larger than in previous years. Some clusters were achieved. Existing thematic networks were strengthened and new ones added. Overall, progress was made in establishing the basis of an ERA in energy. However, involvement of SMEs was poor, largely due to the complexity of the application and negotiation process. The time taken to negotiate contracts remains too long.

The plans for the energy part of FP6 have been greeted with mixed feelings. People appreciate the need to strengthen the ERA and the potential benefits of the new procedures. However, there are concerns over the apparent budget cut, the narrow set of topics to be covered, the lack of attention to the conventional energy sources needed to maintain the EU's security of supply, and the strong bias towards large projects.

The pilot study to measure the impact of some FP4 projects was published during the year and a more detailed impact assessment of all the completed FP4 projects is about to be launched. It is, of course, too soon to evaluate the impact of FP5 projects. Until this is done, we cannot know how much the programmes have contributed to the achievement of EU energy policy targets. Communication and dissemination of project outputs to the market able to take up the results remains poor.

The programme is run by enthusiastic people, knowledgeable in their fields, who are dedicated to making the programme work. They are not best served by the administrative procedures with which they have to comply. Neither are they helped by the organisational structure, with its split between two DGs and its many interfaces. Many officers continue to be overloaded and the internal information systems are still not satisfactory.

The monitoring panel's major recommendations are as follows:

- DG Research and DG TREN should investigate the communication flows needed for efficient running of the programme, identify the internal interfaces that hinder this, and take any steps needed to improve the organisational structure.
- The complex and time-consuming procedures currently required for submitting proposals and negotiating contracts should be simplified, more pragmatic and (in the case of contract negotiation) the time duration reduced.
- The internal information systems should be improved so that they become truly effective tools for all parties – scientific, contracts and finance officers and those requiring statistics on the programme.
- The programme managers should develop and implement in a professional way a strategy for communicating and disseminating project outputs to the market.
- The programme managers should put serious effort into measuring the impact of work funded by the programme so far.

## **2. PANEL METHODOLOGY**

The monitoring exercise was launched 7-8 November 2001 with a series of meetings at which the monitoring panel was provided with documents and presentations on the Fifth Framework Programme (FP5) as a whole, the plans for the future programme, and the part of the FP5's specific programme on Energy, Environment and Sustainable Development (EESD) that is concerned with non-nuclear energy (NNE). Senior staff in both DG Research and DG TREN gave the latter presentations, since the management of the NNE programme is split between the two DGs. DG Research is concerned with the medium- to long-term research component while DG TREN focuses on activities expected to impact on the market in the short term.

On 26 November 2001, the panel returned to Brussels for further briefing and discussions with key DG Research and DG TREN staff on the NNE programme activities that had taken place in 2001, the names of Commission officials whom it might be fruitful to meet later, and the panel's future work programme.

On 15 January 2002 the panel (along with all those concerned with the FP5 monitoring exercise) attended presentations on FP5's horizontal programmes concerned with the creation of the European Research Area (ERA), the international dimension of EC RTD activities, innovation and SMEs, and the mobility of researchers.

The detailed discussions with DG Research and DG TREN directors, heads of unit and technical, finance and contract officers concerned with the NNE programme took place 14-18 January 2002. The questions posed to the twenty seven interviewees were designed to determine for 2001 the progress and significant results that had occurred within the programme, how far ERAs had been established in the various sectors that make up NNE, experiences concerning participation in the programme of candidate countries, SMEs and women, the progress that had taken place to date in developing the new Framework Programme, internal and external management issues, progress regarding communication, dissemination and publicity of the results of the programme, evaluation and monitoring, the impact of previous NNE programmes, and follow-up of the previous monitoring and five-year assessment recommendations.

Questionnaires probing the same issues were sent during 3 January to 11 February 2002 to all Member States' and Participating Countries' delegates to the Energy Programme Committee, members of the External Advisory Group, the National Contact Points for the EESD programme and a small number of contractors. Some members of the Energy Programme Committee were also National Contact Points. In all, thirty five questionnaires were returned – ten from Member States' delegates to the Energy Programme Committee, six from Participating Country delegates to the Energy Programme Committee, seven from members of the External Advisory Group (EAG), ten from National Contact Points (NCPs) and two from contractors. A small amount of follow-up telephone discussion took place.

The information in the documentation received, the results of the face-to-face discussions and the returned questionnaires was then analysed, conclusions drawn and this report produced.

## **3. INTRODUCTION**

This monitoring report focuses on the 2001 activities of the EESD programme, Part B: Energy. It includes activities of FP5 as well as projects from FP3 and FP4 that were ongoing or completed during the year.

The driving forces for the FP5 Energy sub-programme are the EU's international commitments regarding climate change, the strong socio-economic demand for clean affordable energy sources, and the liberalisation of energy markets and globalisation of the economy. The EU's energy policy targets are: meeting the Kyoto objectives of an 8% reduction in CO<sub>2</sub> and other greenhouse gas emissions between 2008 and 2012 compared to the 1990 level; doubling the share of renewable energy sources from 6% to 12%; for 2010, realising savings in the use of energy by an amount which corresponds to 18% of the total use of energy in 1995; and maintaining security of supply.

The strategic goal of the FP5 Energy sub-programme, therefore, is to develop sustainable energy systems and services for Europe leading to the provision of high-quality and low-cost energy services, increased security and diversity of supply, improved industrial competitiveness and reduced environmental impact.

The programme is mainly concerned with tackling two key actions:

Key Action 5: Cleaner energy systems, including renewables;

Key Action 6: Economic and efficient energy for a competitive Europe.

Generic studies essential to achieving the objectives of the programme are also included. These assess impacts on society, and above all on the economy and employment.

The programme budget for 1998-2002 is 1042 M€

The work programme was updated in October 2000. This introduced a number of innovative concepts for the remaining years of the FP5 Energy sub-programme. It assigned 60% of the budget to a core set of Target Actions. The remaining 40% was to be spent on topics in the existing work programme, proposals to comply with priorities of strategic importance to the EU. It made a clear differentiation between short- and medium- to long-term issues, the budget being split equally between the two types. Short-term projects were defined as those whose results would be exploited in <5 years. It encouraged the submission of projects which had a real impact at EU level with an expected EC contribution of >1.5M€

DG TREN is responsible for the short-term work and DG Research for the medium- to long-term actions.

The programme is implemented through calls for proposal. Calls prior to introduction of the updated work programme were as follows:

1<sup>st</sup> call, deadline 15 June 1999 – over 230 projects selected for funding.

2<sup>nd</sup> call, deadline 4 October 1999 – approximately 90 projects selected for negotiation.

3<sup>rd</sup> call, deadline 31 May 2000 – approximately 150 proposals recommended for funding.

Open call for Accompanying Measures and Thematic Networks, cut-off dates 15 February and 1 September 2000 – 30 proposals recommended for funding.

Calls subsequent to introduction of the updated work programme were:

4<sup>th</sup> call (deadline 9 February 2001) for medium- to long-term projects related to (a) Target Actions for fuel cells and hydrogen, bio energy, integration, cleaner fuels for transport, storage and PV and (b) the General call, i.e. topics related to any area of the work programme. 190 proposals received. 63 accepted for immediate negotiation.

5<sup>th</sup> call (deadline 15 March 2001) for short-term projects related to (a) the Target Actions for application driven fuel cells, sustainable communities, clean urban transport and gas power generation and (b) the General call. (The call for Target Action clean urban transport was opened in conjunction with a call for the FP5 Growth programme, which had its own budget.) 213 eligible proposals received. 53 accepted for immediate negotiation.

6<sup>th</sup> call (deadline 14 December 2001) for medium- to long-term projects related to (a) all Target Actions and (b) the General call and short-term projects related to (c) Target Actions for application-driven fuel cells, bio electricity and eco buildings and (d) the General call. The results of the evaluation are not public yet.

Other 2001 calls relevant to the Energy sub-programme were:

Open call for RTD activities of a generic nature, Training and Accompanying Measures (cut-off dates 9 February and 14 December 2001).

Open call for SME Measures – exploratory awards (cut-off dates 17 January and 18 April 2001) and co-operative research (cut-off dates 17 January, 18 April and 19 September 2001).

Strategic activities carried out during 2001 included strengthening of international links, carrying out a number of policy-related orientation studies and analyses, and planning the launch of a complete impact assessment of completed FP4 projects to follow the pilot exercise that was completed in February 2001.

To implement and develop the Energy sub-programme, the Commission is (depending on their mandate) assisted by or able to consult with a number of committees:

- the Energy Programme Committee – delegates from 30 countries (the EU member States and 15 Participating Countries). It met 6 times in 2001.
- the External Advisory Group (EAG) – 21 members selected by the Commission on the basis of their personal capacities. They met 3 times in 2001.
- the Energy Working Group (EWOG) – 13 members from the different Energy and Quality of Life Programme Committees and EAGs. It met 4 times in 2001.

During 2001, Commission staff concerned with the FP5 Energy sub-programme participated in discussions concerning the new framework programme for 2002-2006 (FP6).

Both DGs continued to feel the effects of the Commission reform initiated previously. DG Research was settling down after their reorganisation the year before. In addition, DG TREN (not yet operating steadily following the recent merger of DGs Energy and Transport) underwent further internal reorganisation to achieve better links between research and policy.

## **4. ANALYSIS AND FINDINGS**

### **4.1 STRATEGY – OBJECTIVES**

#### **4.1.1 Progress in ERA and programme implementation**

The revised work programme introduced in October 2000 was based on the following. To achieve a stronger link between the Energy sub-programme and EU energy policy, it assigned 60% of the budget to a core set of Target Actions and identified a few strategic priorities. It made a distinction between short- and medium- to long-term activities. It encouraged submission of large and/or clustered projects with real impact at EU level. The aim was for the medium- to long-term actions to lead to generation of new knowledge that contributes to the European scientific and technological base, with a view to enhancing the creation of a European Research Area (ERA).

The ideas behind the revision were generally approved by Commission staff and the Energy Programme Committee, EAG members and NCPs. Nearly all considered that the EU must take a strategic lead and provide overall co-ordination for future supply and efficient use of energy, including establishment of rules and regulations. They felt there must be goal-oriented concerted and co-ordinated research programmes consisting of EU programmes and national programmes covering research institutions and industry. All parties must contribute to common know-how pools. There is a need for two-way information flow between the EU and Member States, and networking in all energy sectors. Improvement of acceptability by the public is another task. It was recognised that only medium- to long-term projects could contribute to the creation of the ERA. Near-commercial work should remain in the national programmes (including industry programmes) or commercial consortia.

However, some members of the Energy Programme Committee and the EAG expressed reservations about the revised work programme. Their main worry was that:

- the focusing on Target Actions was achieved at the expense of fundamental research in general and specific work on the conventional oil, coal and electricity sources which remain the EU's major sources of energy supply and in some cases (e.g. the hydrocarbon services sector) employment and turnover.

Other points of concern raised were that:

- the work programme lacks publicity
- it is difficult for users to understand the structure of the work programme
- the priorities of strategic importance imposed on the General call were not sufficiently well explained to proposers

- the clear distinction between short- and medium- to long- projects was introduced to ease management problems and did not necessarily help the user
- it is not helpful to the user to have different deadlines for short- and medium- to long-term projects
- the bias towards large projects disadvantaged SMEs, particularly those from smaller Member States.

During 2001 the revised work programme was used for the first time. This was considered by Commission staff to be generally successful. The proposals received were of a higher quality and larger than before. Assignment of the correct proportion of the budget to the different actions was relatively easy. Only in one area (gas power generation) were the numbers of good proposals lower than the programme managers wished.

It is too early to identify the major achievements of the FP5 Energy sub-programme in 2001. The impact of projects completed in the year has yet to be evaluated and projects begun during the year are hardly underway.

However, it can be said that during 2001:

- existing thematic networks were strengthened and new ones added in the areas of integration of renewables, biomass, rational use of energy, co-generation, etc.
- some clustering of projects was achieved. A notable example was CIVITAS (see 4.1.2)
- new projects were initiated in all Target Areas
- good work was maintained and initiated in the areas of the General call
- some work of a socio-economic nature was initiated as support for political decision-making
- a qualitative assessment of the NNE proposals selected in the first three calls for proposals in FP5 was completed
- the pilot exercise for assessing the impact of FP4 projects was completed
- planning of the assessment of the impact of all completed FP4 projects began.

In some cases, the introduction of thematic networks and/or clustering was achieved by highly proactive moves on the part of the Commission technical officer. Other technical officers were more hesitant to work in this way, feeling their role should remain that of a provider of information on the opportunities provided by the calls.

From the above, it can be seen that during 2001 the Energy sub-programme went some way towards establishing the basis for creation of an ERA in energy. More rapid implementation in the future, however, is only likely to be achieved if more technical officers adopt a proactive approach, targeting the groupings which have potential for forming the networks that will lead to an ERA.

It must be said, however, that many people – Commission staff, members of the Energy Programme Committee, the EAG and NCPs alike – have difficulties with the term ‘ERA’. They find it confusing and feel that it does not promote the idea of a well co-ordinated European R&D area that is in competition with non-European industrialised countries or blocks. The monitoring panel considers that considerable professional effort must be devoted to explaining and promoting the concept if realisation is to occur.

#### **4.1.2 Significant results in the European and international context**

It is too early to assess the final achievements of the FP5 Energy sub-programme in 2001. Most projects have, at most, reached their middle phase.

Detailed assessment of FP4 projects has proved difficult due to lack of information on market penetration, job creation and increased export opportunities. There are not enough resources within the Commission to perform such studies. However, the results of a pilot study to assess FP4 on the basis of 90 completed projects were published in 2001 (see section 4.3). In addition, a complete assessment of 500 completed FP4 projects is about to begin. The results will enable conclusions to be drawn on the real achievements of FP4.

Some specific conclusions on significant results achieved in 2001 can, however, be drawn:

- In the field of bioenergy, projects made good progress although market penetration was not high. Projects such as Arbre in UK and Värnamo in Sweden have been successful. The Arbre project has already given export opportunities to participants. The Värnamo demonstration requires scaling up to 40–50 MW electrical, to further develop the concept. The target for biomass in the White Paper is 50%, and it seems difficult to reach this. Bioenergy is as much part of Common Agriculture Policy as it is of energy policy.
- Because of the preparation of a Directive on liquid biofuels, much of the emphasis in bioenergy sector was shifted to this area. However, a programme for liquid biofuels is still lacking.
- In the transport sector, the CIVITAS project to demonstrate transport systems based on fuel cells using natural gas in a number of European cities is proceeding well and promises significant results. The CUTE project to apply fuel cells using hydrogen to buses in a number of countries has also attracted great interest.
- Also regarding fuel cells and hydrogen, cluster projects such as FUERO and the European Integrated Hydrogen Project are having an impact.
- Wind power projects in FP4 have to a high degree led to products which have been multiplied and introduced successfully into the marketplace.
- One of the disappointing technology areas has been photovoltaics. The costs/prices are not yet acceptable for the market, despite the support given by the EU and member states. One of the difficulties has been the insufficient availability of silicon material that is appropriate for PV in terms of quality and price.

In addition, a number of energy socio-economic projects were used directly for EU policy-making in 2001:

- The green accounting framework EXTERNE was the main source for the establishment of an external cost value in the Community guidelines on state aid for environmental protection (OJ C 37, 3/2/2001).
- The computer-based framework SAFIRE provided the renewable targets for each Member State and for the EU as a whole in 2010 used in the Directive on the promotion of electricity from renewable energy sources (OJ L 283, 27/10/2001).
- The world and European energy models POLES and PRIMES are being considered as the scientific references for the economic effects of a EU-wide industry-level emission trading in the Proposal for a Directive establishing a scheme for greenhouse gas emission allowance trading within the Community (COM(2001)581, 23/10/2001).

In many areas, work carried out through the Energy sub-programme is seen to be of international significance. Furthermore, it is recognised that the EU can learn from work carried on in other parts of the world and needs to keep in touch with that. Therefore, a number of activities took place in 2001 in the area of international co-operation:

- An implementing agreement of the existing scientific and technical agreement between the EC and the US Department of Energy was signed in May 2001. This lists common co-operation priorities. A meeting of the steering group was planned for end-2001. Within the framework of the agreement an exploratory workshop on US/EU co-operation on stationary and mobile fuel cell research was held in September 2001.
- Two meetings with Russian authorities were organised at ministerial level in parallel with the EC/Russia energy dialogue.
- High level meetings in the framework of science and technology co-operation agreements with Australia, China and Canada were also prepared.
- Commission staff (scientific officers and members of the policy unit) participated (some actively, some as paper observers) in a number of implementing agreements of the International Energy Agency (IEA) energy programmes.
- A general agreement for information exchange and co-operation was signed between DG TREN and the Electric Power Research Institute (EPRI) in October 2001. The first workshop was held in November 2001, when an initial exchange of information took place.

Those surveyed (particularly the EAGs) were concerned that current international co-operation activities were ad hoc. They felt that a clearer strategy should be developed for the Energy sub-programme in this area. There were suggestions that:

- the existing international co-operative agreements already existing should be strengthened and extended

- there should be closer co-operation with Russia, Uzbekistan, Kazakhstan, etc., on oil, gas, coal, etc., bearing in mind the vast reserves there
- existing international networks (e.g. the OPET and ENRICH networks) should be exploited to increase international co-operation
- further international workshops should be held. These could be similar to the one on fuel cells organised through the US:EU agreement but on other subjects, e.g. topics such as CO<sub>2</sub> sequestration that are important with respect to reduction of emissions and the Kyoto agreement. They might be held in different countries, including the Accession Countries.
- a link should be established with UNESCO (COMEST) work on ethics in science and technology including energy. The 'Energy Ethics Vision' published by the UNESCO energy task force should be reviewed and applied to the ERA in energy.

The monitoring panel supports these ideas but considers that in the implementation of bilateral and other international co-operation agreements care should be taken to ensure that the information flow is in both directions.

### **4.1.3 Participation of Candidate Countries**

Statistics on the involvement of Candidate Countries and Associated States in the Energy sub-programme in 2001 are given in Annex 6.1. For the 175 new contracts signed in 2001, 2% (i.e. 3.05 M€) of the total EC funding went to the Candidate Countries and Associated States. 91% of the funding to Candidate Countries and Associated States was for short-term projects. The numbers of contracts signed in 2001 in which the Candidate Countries are involved is shown in the table on the next page. It can be seen that, while each country is involved in at least one short-term project, only the Czech Republic, Poland (and Turkey) were involved in medium- to long-term work. Organisations from the Candidate Countries are rarely project co-ordinators.

*Numbers of contracts signed in 2001 in which participants from Candidate Countries and Associated States are involved*

	Short-term	Medium- to long-term	Total
Czech Republic	4	4	8
Poland	5	1	6
Romania	5	0	5
Bulgaria	5	0	5
Estonia	3	0	3
Cyprus	2	0	2
Slovakia	2	0	2
Turkey	1	1	2
Hungary	1	0	1
Latvia	1	0	1
Lithuania	1	0	1
Slovenia	1	0	1

Technical officers reported that the 6<sup>th</sup> Call (deadline 14 December 2001) brought in an increased number of proposals from consortia which included Candidate Country participants. None of the technical officers took particular steps to encourage such involvement. However, the NCPs promote the existence of the programme. In addition, a number of German and Austrian consultancies have strong links with Eastern Europe and pass on details of the opportunities to key organisations there. The results of the evaluation of the 6<sup>th</sup> Call are not available yet.

To strengthen the participation of Candidate Countries in all FP5 activities, two special NAS (Newly Associated States) calls were launched in August and September 2001. The NAS1 call (budget 5M€) with a deadline of 14 December 2001 was addressed to the co-ordinators of ongoing contracts, encouraging them to consider adding partners from the NAS. The aim was to allow NAS country organisations to participate in existing projects. The NAS2 call (budget 5M€) with a deadline of 31 January 2002 was aimed at supporting integration of NAS in the ERA by means of specific Accompanying Measures. At the time of writing, the results of the evaluation of the proposals submitted in response to these calls are not public. However, most technical officers reported that one or two proposals had been received in their particular subject areas in response to these calls.

Points made in the discussions and survey responses are as follows:

- NAS1 applications depend on the willingness of existing project co-ordinators to spend time seeking out and inviting participants in the Candidate Countries. It would be more helpful to contract a co-ordinator from the Candidate Countries to seek out co-ordinators of existing projects which have the potential for being useful to Candidate Countries.
- the FP5 Energy sub-programme was not designed to take account of the particular needs of the Candidate Countries. This is likely to be true for the FP6 programme as well. A few projects should be developed that aim to meet Candidate Countries' specific needs. Although these could include some Member States' participation, the majority of participants should be from Candidate Countries. The aim would be to enhance research capabilities, bring technical standards and their application to the level of Western Europe and develop basic infrastructures in the areas covered by the Energy sub-programme. Examples might be: a network aimed at improving raising buildings energy standards; support for areas (such as geothermal exploration) where basic work in Member States was funded by the EC years ago.
- Candidate Countries' main current problems are those Member States faced years ago. Therefore their main need is for good dissemination of best practice. Whether this is best met by FP5 or by the Energy Framework Programme – or, indeed, by some other route – is a matter of debate. However, attention should be paid to it. It could, for instance, be carried out by the agencies established through the Altener and Save programmes within the Energy Framework Programme.

- Finding own funding to enable them to participate in Energy sub-programme projects is a major issue for organisations in Candidate Countries. They need extraordinarily good terms. It would be helpful if the extra funding for accepted proposals was automatically available through, say, PHARE.

The monitoring panel supports the above suggestions and would encourage their implementation.

#### **4.1.4 Participation of SMEs**

The share of SMEs, in terms of personnel and turnover, is very large in the industrial sector in the EU – in some countries >70%. SMEs have a high potential for presenting innovative ideas and for job creation. Therefore, it is very important that their participation in the EU RD&D programmes is safeguarded. Their role, however, is not similar to that of large enterprises. Within the SME sector R&D has not the same weight, and the scope of activities is often narrow and not aligned with the R&D objectives of the Commission. Therefore it cannot be expected that their share in the EU R&D programmes corresponds to their total turnover or numbers of personnel.

Comprehensive statistics on the actual involvement of SMEs in the Energy sub-programme in 2001 are not available. From the data provided (see Annex 6.1) it can be seen that, of the 833 participations in the contracts signed in 2001, 41% (338) are private commercial organisations of some sort. How many of these are SMEs is not known. What is known is that there are 40 SME participations in the medium- to long-term contracts. This represents 26% of the total number of private commercial organisations participating in the consortia for the medium- to long-term programme. Together, these SMEs will receive 1.87 M€- 12% of the total funding for private commercial organisations and 5% of the total funding for the medium- to long-term programme. From the information provided, it seems likely that the involvement of SMEs in the consortia running the short-term projects signed in 2001 is somewhat higher.

The above figures relate to ‘true’ SME participation where the company is participating in the research partly by its own funding. The greatest involvement of SMEs in the Energy sub-programme, however, is as sub-contractors. A number of SME component manufacturers or software companies are making normal business within the Commission programs selling their products or services to project consortia. Essentially, they do not bring any added value to the research.

The involvement of SMEs in the Energy sub-programme was larger in FP3 than in FP4, and it is still smaller in FP5. This is alarming. The biggest single reason is that the application procedures are highly complicated. Despite efforts at the Commission to simplify and streamline these procedures the contrary has actually happened, and more and more special skills and effort is required. For economic reasons, SMEs in general cannot create and maintain such skills. Furthermore, they do not have the money to retain research staff for whom they do not have agreed projects and funds. (This is also true for universities.) In addition, SMEs operate with very short time leads in their decision making, financing and invoicing, and the slow pace with which these issues are dealt with in the Commission R&D programmes does not suit them.

This discourages newcomers from trying to enter the programmes. Those who have already gained experience have a clear advantage. Therefore, for SMEs the programme begins to have features of a closed club.

The Commission is not able to communicate individually with SMEs because they are so numerous. Here associations of SMEs have an important role to play, as target groups for the Commission. A good example is offered by Eurogif in the hydrocarbon services sector.

The horizontal programmes (such as CRAFT and Exploratory Awards) genuinely help SME participation. The problem, however, is that the horizontal programmes are in general poorly understood by the technical officers managing the thematic parts of the programme. Therefore integration of projects funded through the horizontal programmes into the thematic parts of the programme is not good.

The discussions and survey responses suggested that special programmes to support SMEs should be retained in FP6. Other possible measures to help ‘true’ SMEs participation in the Energy sub-programme

would be streamlining procedures, creating a special help-desk, introduction of simple type of contract (where the contractor is paid a fixed agreed sum on delivery of outputs) and speeding up contract negotiation by, for instance, delegating decisions in the Commission down to operational level and shortening the time it takes to sign contracts and pay invoices.

The monitoring panel strongly supports the above ideas. It feels that strenuous efforts should be made to remove the obstacles to SME participation in the programme so that their numbers increase.

#### **4.1.5 Women and Science**

The managers of the Energy sub-programme have, over the past few years, participated in the Gender Watch System to determine women's participation in FP5. In its Communication of 17 February 1999 'Women and science: mobilising women to enrich European research' the Commission stated that it would seek a 40% participation of women at all levels in implementing and managing research programmes. The gender impact assessment of the Energy sub-programme carried out by external contractors and published in 2001 plus the Commission Staff Working Paper SEC(2001)77 provided some baseline data. Among other information, they considered women's participation in the programme as external evaluators, on Commission-appointed committees and in programme management.

Concerning external evaluators, the studies showed that the numbers of evaluators of Energy sub-programme proposals fell from 22% in 1999 to 16% in 2000. In 2001, the equivalent figure was 22%: 45 of the 207 evaluators used in 2001 were women.

Delegates to the Programme Committee are appointed by Member States and participating countries so their gender distribution cannot be controlled by the Commission. (In fact, in 2001 25% of Member States' delegates and 17% participating countries' delegates are women, giving 21% overall. In 1999 and 2000, the overall figures were 16% and 18% respectively.) Members of the EAG, on the other hand, are appointed by the Commission. According to the studies, in 2000 15% of the EAG were women. In 2001, the equivalent figure was 14%: 3 of the 21 members of the EAG were women.

Concerning programme management, no historical data were available: the external study confined its examination to DG Research. In 2001, no women Directors or Heads of Unit in either DG Research or DG TREN were concerned with the Energy sub-programme management. Among the 43 scientific officers responsible for individual project management, 3 (7%) were women. There were, however, a number of women in policy planning, etc., as well as information and helpline, finance and secretarial staff.

No meaningful data are available for the participation of women in the consortia carrying out individual projects funded in 2001.

From the discussions and survey responses, it is clear that the low involvement of women in the Energy sub-programme reflects the situation in the wider world. Specific points made were as follows:

- To achieve even 22% women evaluators in 2001, technical officers were strongly encouraged to use the women in their fields that appear on the list of potential evaluators. However, in some sectors there is a very small pool of women scientists from which they can draw. In addition, women with family responsibilities can find it difficult to come to Brussels for 5 days to take part in an evaluation. As a rule, it is easier to find women generalists than it is to find suitable women in the hard sciences or power engineering. If suitable women do not exist, then they cannot be selected as evaluators.
- There was a unanimous view that, in the evaluation of proposals, no account should be taken (nor, indeed, has it ever been taken) of participants' gender. Quality must be of paramount importance.
- To increase the participation of women in the programme in any capacity, the numbers of women working in the field would have to be increased. This is, however, not a task to be addressed by the Energy sub-programme. It is a wider issue to be taken up by Member States' governments, elsewhere in the Commission and society as a whole. To tackle it through the Energy sub-programme could complicate what is already a difficult area. In the sub-programme change should occur naturally and not be forced.

- Nevertheless, the Commission could try to lead by example and, when recruiting new staff, endeavour to increase the numbers of women involved in management of the Energy sub-programme.
- Initiatives such as 'Women and Science' are helpful in encouraging women in the field. They play a more active role in some countries than in others. It could be useful for the Commission to encourage the submission of proposals from associations that promote women scientists or, indeed, from women at all. Seminars targeted at women could be held in Member States and participating countries. Successful women scientists could be used to promote the programme.

The monitoring panel supports the above ideas.

#### **4.1.6 Towards the new Framework Programme**

In the plans for FP6, non-nuclear energy issues are to be covered specifically by the priority thematic area 1.1.6 Sustainable development, global change and ecosystems, i) Sustainable energy systems. The main aim is to support establishment of the ERA and the programme will make use of large integrated projects and networks of excellence to bring together research actors. As with FP5, it is being divided into two parts – one covering research activities having an impact in the short and medium term and the other having an impact in the medium to longer term.

Specific issues to be covered in the short and medium term programme are:

- Clean energy, in particular renewable energy sources and their integration in the energy system, including storage, distribution and use
- Energy savings and energy efficiency, including those achieved through the use of renewable raw materials
- Alternative motor fuels.

Specific issues to be covered in the medium and longer term programme are:

- Fuel cells, including their application
- New technologies for energy carriers/transport and storage, in particular hydrogen
- New and advanced concepts in renewable energy technologies
- Capture and sequestration of CO<sub>2</sub>, associated with cleaner fossil fuel plants.

In addition, relevant work is to be included in the priority thematic programme 1.1.6 ii) Sustainable surface transport, as well as in the specific activities covering a wider field of research (i.e. supporting policies and anticipating scientific and technological needs, horizontal research activities involving SMEs, and specific measures in support of international co-operation) and work to support the foundations of the ERA.

The budget for the whole Sustainable development, global change and ecosystems area is 2120 M€ It is not known how much of this will be set aside for sustainable energy systems but it has been suggested this will be 810 M€ Even with the part of the sustainable transport systems work devoted to energy, it seems likely that there will be a budget cut from FP5 to FP6.

The survey responses produced some clear messages concerning the plans for FP6:

- In the light of the messages in the Gothenburg Energy Council, the Commission's Green Paper on Security of Energy Supply and the need to meet Kyoto targets on greenhouse gas emissions, etc., the relatively low emphasis on energy issues in FP6 and the reduction in budget compared to FP5 is, to say the least, unfortunate.
- For the same reasons, the focus of the sustainable energy systems programme on a relatively narrow set of topics is unwise. The programme should be re-balanced so it has a greater impact on the real world. Europe's energy-related goals will not be achieved through FP6 as it stands at present. Room must be made for work to improve the use of the conventional energy sources (hydrocarbons and coal) that will continue to be Europe's major energy sources for decades to come. Topics of importance to the Candidate Countries (for example, clean coal, rational use of energy in buildings, geothermal) should not be left out. The global competitiveness of EU industry should be supported. There is also a case for including work for developing countries, on the grounds that the latter's activities have an impact on Europe's security of supply.

- Major projects have a real place in the programme, bearing in mind the need to establish an ERA. However, great care should be taken when developing clustered projects: these are not always successful. In addition, space must be made for more modest projects and developments that are important for Europe.
- There is a real need for more demonstration projects.
- The plans for FP6 are not well understood outside the Commission. If the programme is to be successful, great care should be taken to explain the programme and mode of operation to potential users. The NCPs will require detailed briefing. Proposal preparation is time consuming, so briefing should be early enough to allow for this. Publicity should be geared to those centres of excellence that will make a real contribution, rather than to organisations that look to FP6 as a means of funding their survival.
- Every effort should be made to have simpler procedures in FP6 than have been used in FP5.

The discussions with Commission staff showed that, by and large, the technical officers concerned with technical areas included in the plans for FP6 were reasonably happy with the technical content of the new programme whereas those who are not share the views of the respondents from the Programme Committee, EAG and NCPs in feeling that, as it stands, the programme will not support the meeting of EU goals concerning security of supply and emission of greenhouse gases.

Inclusion of medium-term projects in both parts of the programme was welcome, although definition of what was to be included in 'short- to medium-term' and medium- to longer-term' was needed.

Concerning the administrative aspects of the new programme, Commission staff made the following points:

- Large projects will not necessarily lighten the load on Commission technical, finance and contract officers, unless administrative requirements are reduced.
- Assuming that in FP6 the project co-ordinator takes over some of the responsibilities currently vested in the Commission officers, the liability of the project co-ordinator will need to be defined carefully.
- If a large project crashes or is unsuccessful, this will have a big impact on the programme.
- Even Commission staff find the plans for the new programme confusing. The situation will be worse for potential contractors. Care must be taken, therefore, to provide adequate and timely information to key parties.
- The lessons learnt in FP5 must be fed into FP6. This will be difficult if FP5 comes to an abrupt end and there is a step change to FP6, with its new concepts. Rather, it would be better to begin FP6 by focusing on projects whose administrative structures are similar to those used in FP5 and introduce the new ideas (such as large integrated projects where the project co-ordinator takes over some of the responsibilities currently held by the Commission) gradually. That way there would be evolution rather than revolution.

The monitoring panel supports the following ideas:

- If possible, the budget for the energy part of FP6 should be increased.
- The technical subjects currently listed in the plans for FP6 should be retained.
- Also included should be work on conventional energy sources and other topics required if Europe is to have security of supply and meet Kyoto targets.
- The needs of Candidate Countries regarding coal research and renewable energy topics (e.g. geothermal energy) not currently mentioned in FP6 plans should be included.
- Small but important projects should not be excluded on grounds of size.
- The concepts that are new to FP6 should be introduced gradually so that there is a gradual evolution from FP5 to FP6.
- The new programme should be publicised widely, adequate and timely briefings being given to NCPs and key potential participants.

## **4.2 MANAGEMENT AND PROCESSES**

### **4.2.1 Main management issues**

## Internal aspects

### *Division of work between DG Research and DG TREN*

As explained earlier, management of the Energy sub-programme is split between DG Research and DG TREN. Short-term projects are the responsibility of DG TREN and the medium- to long-term projects are managed by DG Research.

Following the reorganisation of DG TREN, technical management of short-term projects is carried out in five thematic units – two (concerned with conventional energy sources) in Directorate C and three (concerned with new and renewable energy sources, demand side management and clean urban transport) in Directorate D. In these five units, 18 scientific officers are responsible for the individual projects. (These officers are also responsible for Energy Framework Programme projects in their subject areas, making for good links between the two framework programmes.) Each of Directorates C and D has its own Finance Cell, responsible for the administrative side of contract negotiation and payment of invoices. Each Directorate, too, has a policy unit concerned with the drafting of relevant legislation and policy papers in their area. Overall co-ordination of the research programme (including the interface with DG Research, the evaluation process for short-term projects, and overall dissemination of results) is carried out by another unit, in Directorate B.

Management of all the medium- to long-term projects in the Energy sub-programme is carried out within one Directorate (Directorate J) of DG Research. Two units are concerned with the technical management; they have between them 25 scientific officers. Policy issues (and provision of the Secretariat for the Programme Committee) are the responsibility of another unit in the same Directorate. Contract and financial administration is dealt with by a fourth unit there.

The existing organisational structure has some advantages. For instance, it places long-term research into a research environment and, in theory, encourages strong links between short-term work and policy. In practice, however, staff are so pressed for time and therefore focused on their own activities that the feeding of research results into policy development, and vice versa, does not always happen.

The main disadvantage of the organisational structure is the large number of interfaces within DG TREN and therefore between DG TREN and DG Research. The excellent contact between scientific officers in the two DGs working in the same thematic areas goes some way to reducing the adverse impact of these interfaces. However, the two parts of the Energy sub-programme are essentially run as separate programmes. Contact at unit head and Director level is low. Separate databases and statistics are maintained and anyone (such as this monitoring panel) requiring overall data has to make separate approaches to the two DGs.

The monitoring panel considers that the present organisational structure is not satisfactory and recommends that the two DGs investigate the communication flows needed for efficient running of the programme, identify the interfaces that hinder this, and take steps to improve matters.

### *Overlap with other EU programmes*

There is a very small amount of overlap between the FP5 Energy sub-programme and the FP5 Quality of Life, Growth and Environment programmes. Co-operation between scientific officers working in the common fields is good and the issue does not seem to create problems.

As indicated below, the Energy Framework Programme (EFP) is managed by the same DG TREN units/officers concerned with the short-term part of the FP5 Energy sub-programme. The EFP is not a research programme, but an enabling programme closely linked to energy policy. The two programmes have some common thematic areas (notably energy efficiency and renewable energy) but appear to be run as complementary rather than over-lapping programmes.

### *Human resources*

For a number of years, scientific officers' workload has been unsatisfactorily high. Many officers have had to manage far too many projects so they have had no time to focus on non-administrative matters. In addition, changes in scientific officers responsible for particular projects has sometimes brought problems for contractors, because of loss of memory in the Commission on what has been agreed, etc.

In 2001, the situation in DG Research was generally better than previously because of a reduction in project numbers. This resulted from the requirement that a project had European added value (which eliminated projects with one or two contractors) and the trend towards larger projects. Scientific officers consider that 20 constitutes a reasonable number of projects for one person to manage and a number of officers have now reached this level.

In DG TREN, however, the situation still seems to be difficult. Many officers have to manage 40 or more projects – sometimes as many as 150. (Not all these are in the FP5 programme; some are in the Energy Framework Programme.) They also have many 'sleeping' projects that have been completed from the technical officers' viewpoint but which the finance officers still regard as 'open'. This stems partly from the internal reorganisation of DG TREN and the resultant changes to the subject coverage and staffing of the finance cells. This caused a backlog of invoices that needed checking and paying and contract files that needed closing. The finance cells are now almost fully staffed and the situation is improving. The problem also results from the complicated administrative procedures required to negotiate and run contracts. Scientific officers consider that if these could be simplified, their workload would be reduced considerably.

Both DGs, however, consider that if numbers of projects were not to decrease in the future some form of external help would be required. This could take the form of passing certain aspects of management to project co-ordinators (as envisaged for FP6), using Project Technical Assistants (this is favoured by DG Research) or externalisation of project administration (favoured by some parts of DG TREN).

The monitoring panel recommends that every effort should be made to simplify internal procedures so that scientific officers can devote more time to encouraging the submission of and managing high quality projects that support the creation of an ERA and help Europe meet its energy supply and Kyoto targets.

### *Internal information systems*

An information system for project management that is common to DG Research and DG TREN does not exist. The two DGs have a common database for evaluation of proposals (Evaluation Tool) which is set up in the evaluation building for the period of an evaluation, but their main databases are established and run quite separately. The Evaluation Tool is itself quite separate and not a module of the main databases.

The DG Research IIS system for managing FP5 projects is still under development and as it exists at present does not meet the day-to-day needs of scientific officers. Therefore each unit, and in some cases each officer, has developed its own database. They are strongly encouraged to ensure that this is compatible with the central system. A system for management of FP6 projects is under development.

DG TREN's main system is PMS, which is not only used for negotiating and managing FP5 research projects but is also used for DG TREN's non-research contracts, such as supply of office equipment, etc. Because some scientific officers find PMS complicated or does not give all the information they need, they generally establish their own databases to help them manage their own projects. The unit responsible for PMS is continually introducing new modules to meet different common needs. PMS is being modified to cope with the first Call for FP6. A new tool for FP6 is being developed but this will not be ready until 2003-4. The DG will continue to use PMS for its non-research contracts. It has not been decided yet whether FP5 contracts will eventually be input into the FP6 system.

The monitoring panel recommends that both DGs produce central databases for FP6 that are easy to use and meet the needs of all parties. Every effort should be put to (a) getting these ready for the start of FP6 and (b) ensuring that the outputs of the DG Research and DG TREN systems are compatible.

### *Contract negotiation*

The system for contract negotiation in both DGs is complicated and time-consuming. The technical part of the contract can generally be agreed in a few weeks. It is the financial approval that takes time. Both DGs have tried to shorten the duration in the past year. DG Research, for instance, has sent out the draft contracts to contractors before obtaining Commission Services' final approval. This has helped but the system is still a lengthy one due to the complexity of procedures. Both DGs have felt the effects of reorganisation and re-staffing of their contracts/finance units during 2001 and this has added to what is already a difficult situation. Moreover, in some cases there seems to be lack of understanding on the part of people in these units of scientific officers' and contractors' needs.

Other points made in discussions and survey responses were:

- Large clustered projects with a lot of participants, in particular, take a long time and a lot of effort to negotiate. In one recent case, negotiation took 3 man months' effort on the part of the (very experienced) project co-ordinator.
- The FP5 proposal forms ask for unrealistically precise data (on, say, the exact year in which travel will be made) which later appears in contract budgets and causes difficulties at time of invoicing. Scientific officers consider that the procedures envisaged for FP6 projects will overcome this particular problem.
- Contractors may hear nothing from the Commission for several months and then receive a request for additional information, to be supplied in a very short time.
- Requirements for budget cuts can cause difficulties for contractors, of which the Commission is probably unaware.
- The requirement for a bank guarantee for advance payments in cases when Commission staff are not certain of a contractor's financial stability does not seem to cause much of a delay to contract negotiation.
- The time taken over contract negotiation puts SMEs off submitting proposals and has caused them to withdraw from proposals in which they were initially involved.
- New scientific officers need guidance on how to conduct a negotiation.
- The same type of contract is used for all research projects, regardless of budget.

The monitoring panel recommends that both DGs make strenuous efforts to simplify procedures during the coming year and delegate financial responsibility to the lowest practical level in Commission Services – while requiring the signatory to take real responsibility for their action. Consideration should be put to using a simple fixed-fee type of contract (where payments are to be made on delivery of agreed outputs) where this is practicable.

### *Payment of invoices*

The discussions and survey responses show that invoices are still taking longer to be paid than the 60 days allowed in a contract. This partly results from backlogs built up during the reorganisation and re-staffing of finance units. It is also sometimes because contractors do not send all the necessary reports, forms, etc., to support invoices. However, some finance units say that even though they are now almost fully staffed, even when all the paperwork is in place it is still impossible to achieve payment within 60 days. This causes problems for all contractors, particularly SMEs. Contractors would welcome a single point of contact in the Commission for both technical and financial issues.

The monitoring panel recommends that the DGs make strenuous efforts to simplify procedures so that they can meet their payment obligations as set out in contracts.

## External aspects

### *Access by potential applicants*

The survey responses suggest the following:

- The programme does not always attract the right people. It favours those who have been involved in the past, who are prepared to spend time on proposal preparation and wait for contract negotiation. Thus the same names appear year after year. The complicated procedures can put off key researchers and companies who would have a lot to offer the ERA.
- Publicity for the programme is generally poor, and does not always reach the right people.
- The NCPs require better and more frequent contact with and information flows from the Commission which they can pass on to potential proposers.
- The Cordis web site needs to be greatly simplified so potential applicants can find current Calls and work programmes easily.
- Information packages remain unnecessarily complex and difficult to understand.
- The distinction between the DG Research and DG TREN parts of the programme should be explained better.
- Scientific officers are good at responding quickly and effectively to pre-proposals sent to them.
- Feedback to unsuccessful proposers is not sufficiently detailed, bearing in mind the time and effort they will have spent in preparing their proposals.

The monitoring panel recommends that the Commission put strenuous professional effort into reaching key researchers and companies that can make a real contribution to the programme and encouraging them to submit proposals. The web site should be improved and the information package simplified.

### *Relations with the NCPs*

As indicated above, the NCPs require good and frequent supply of information from the Commission if they are to perform their role of publicising the programme and encouraging submission of proposals. The survey responses indicate the following:

- NCPs need more contact with and better information from the Commission. Fewer meetings have been held for NCPs on the Energy sub-programme than for those concerned with the other FP5 programmes.
- NCPs require more specific information on the programme than can be found in the information pack.
- Simplification of administrative procedures related to proposal preparation would, of course, help all NCPs. However, it would be particularly beneficial to NCPs in small countries who do not have a lot of staff and where the majority of potential proposers are SMEs who need help in developing collaborative ventures.
- Scientific officers often take a long time (because of their heavy workload) to respond to requests from NCPs.
- NCPs would value more networking between NCPs.

The monitoring panel recommends that the Commission should strengthen its contacts with the NCPs and encourage networking between them.

### *Relations with the Energy Programme Committee and EAG*

The discussions and survey responses concerning the Energy Programme Committee showed the following:

- Scientific officers have no contact with the Programme Committee. Contact is maintained at Director and (for relevant agenda items) head of unit level. The Secretariat is provided by Directorate J of DG Research.

- Beyond what is learnt through comments made to the Programme Committee meetings, there is no contact between the EU programme and Member States' and participating countries' national programmes. Better two-way flows were maintained in FP3 and FP4.
- The participating country delegates to the Programme Committee are in general satisfied with relations between the Commission and the Committee.
- Members States' delegates to the Programme Committee appreciate the improvement in relations which has taken place over the last couple of years between the Committee and the Commission and the part played in this by the present chairman. However, they are still not wholly satisfied with the situation. They made the following points.
  - DG TREN is felt to be more remote from the Committee than DG Research. The latter has a more professional way of working with the Committee.
  - Papers are often sent out only a few days before a meeting or tabled at it. This does not permit informed discussion.
  - The information provided contains much unnecessary detail, so no time is available for the Committee to offer a strategic sense of direction or discuss its vision for the future. The Committee has not, for instance, been asked for its views in the formulation of FP6.
  - Members are given the impression they are there merely to ratify decisions already made by the Commission. They do not feel the Commission takes notice of their opinions. The Commission should regard the Committee as its ally in moving towards common goals.
  - The informal working group established in 2000 has been useful, particularly in view of the large number of delegates who attend the main meetings. More use of this concept should be made in the future.
  - The proposal to discontinue the specific energy committee in FP6 and replace it with the overall Framework Committee in energy mode is viewed with disquiet, since it may separate the Commission further from energy experts in Member States.

The responses from the EAG suggest the following:

- The EAG has good relations with the Commission and values the opportunity to make a contribution. However, some members doubt its overall usefulness and think effort should be put to considering how this might be strengthened.
- The work of the Energy Working Group, to which some members of the EAG belong, is valued.
- EAG members would appreciate it if meeting dates were not changed, agendas clearly defined, and a limited number of focused papers sent out in good time, rather than tabled.

The monitoring panel recommends that the Commission considers how it can get the best value from the Programme Committee and EAG. Between them the members possess a fund of knowledge and experience. The meetings should be prepared well in advance with focused papers that do not contain unnecessary detail.

#### **4.2.2 Communication and information dissemination**

Communication and dissemination of the results of FP5 projects continues to be poorly handled. Projects are all required to contain some information dissemination element. This generally focuses on preparation and publication of a report, presentation of papers to conferences and seminars and creation of a website. Because of their heavy workload, scientific officers have generally not had a chance to check what has happened to communicate the results of a project after EU funding has ceased. The Cordis website, too, is deficient in this area. The Commission is putting some effort to disseminate project information through national and local agencies. (The positive role of the OPET network in disseminating the results of completed projects within the countries of participating organisations has, for instance, been noted by the monitoring panel.) However, dissemination of project information is not being carried out at all comprehensively.

The monitoring panel recommends:

- The Commission should put considerable effort into communicating and disseminating the results of projects. It should develop a strategy for getting outputs to the market.

- The Commission should also ensure that at least a summary of all project findings should be posted on the Cordis website.

### **4.2.3 Evaluation methodology**

The proposal evaluation process is generally considered to be successful. External evaluators are chosen from a database of potential evaluators to perform an independent and impartial evaluation. Technical as well as socio-economic expertise is present in the evaluation panels, a 30% share of women evaluators being sought. A good balance has been reached between technical and socio-economic criteria for the evaluation. The process seems to be fair, transparent and effective.

There are features in the evaluation process, however, which deserve further discussion.

Evaluators are given on an average of two hours to read one proposal, which is too little. To remedy this would require either more days in Brussels or more evaluators. The evaluation exercise takes 5 days, which is considered to be a maximum of time that competent evaluators are able to spend in Brussels, away from their other duties. It is difficult to find a larger number of competent experts. In earlier FPs the evaluators took the proposals home and worked on the evaluation there, which allowed them to devote more time to the exercise. It was felt, however, that this jeopardised the confidentiality of proposals and the procedure was dropped.

A further topic of discussion has been whether evaluators should know the names of proposers, at least during the initial stages of an evaluation. Opinions on this differ between evaluators as well as within the Commission. The current practice in the Energy sub-programme is that evaluators know the names of proposers from the beginning. The proponents of anonymity say that this is necessary if the impartiality of the evaluation process is to be preserved. They also feel there should be harmonisation on this point between the different specific programmes in the FP. The Growth programme, for example, already makes use of anonymous evaluation. The opponents deny the threat to impartiality, and note that a knowledge of companies in the early stage of evaluation is important, disclosing the credibility, experience and overall ability of the consortium to perform the tasks in their proposal. They further point out that an anonymous evaluation would add to the complexity of the evaluation process and to the time required.

The daily rates paid to evaluators have not changed for at least 8 years. Evaluators generally do not undertake the work for financial gain. Rather, they enjoy the opportunity to have an inside look at the processes of the Commission, to update their knowledge of the relevant topics in the FP, and to learn how to write good proposals. However, the monitoring panel considers that, to preserve credibility and attract evaluators of real experience, consideration should be given to increasing the rates.

A so-called extended panel completes the evaluation process. The tasks of this group (which consists of a selection of evaluators from the panels carrying out the stage 1 evaluation) are to harmonise any biases of the stage 1 panels, to take care of special cases (e.g., very large proposals), to suggest possible clustering of projects, and to prepare the final ranking of proposals. The extended panel has the right to re-evaluate proposals, and override the work of the earlier panel. The work of the extended panel is not always tightly controlled: sometimes the panel is able to choose its own method of working. This gives them more weight than the stage 1 panels. This is unfortunate, since the stage 1 evaluation takes more time, and is carried out by experts in the particular field of the proposal.

The monitoring panel recommends:

- tighter guidelines be given to the extended panel in future
- for the remainder of FP5, the other evaluation procedures used in the Energy sub-programme remain as they are at present. The issues concerning place of evaluation, proposer anonymity, and daily rates for evaluators should be considered in more depth and changes made as appropriate for FP6.

## **4.3 IMPACT OF PREVIOUS NNE PROGRAMMES**

As indicated earlier, the results of a pilot study to assess FP4 on the basis of 90 completed projects were published in 2001. The major finding was that the impact of energy research related to new sources of energy is strongly conditioned by the political structure of the energy market. As long as there is no 'full pricing' of traditional fossil fuels to include external costs (environmental costs, pollution costs, health care costs, etc.) as well as more direct subsidies, the impact of such energy research will be relatively weak. Conversely, research on improving efficiency in the use of traditional fossil fuels is likely to have a much greater commercial aspect and, indeed, impact on environmental issues. The initial indications of commercial leverage from the EU research funding spent on the projects point very much in this direction.

Regarding the main initial outputs of the projects, the pilot study of FP4 projects showed:

- A majority of projects managed to develop a new technical advance (new tool, technique, pilot, prototype, product, service, etc.) from their research. Inputs to intellectual property rights were acknowledged in a third of the projects.
- Only 10-15% projects report new products or services. The energy field is dominated by marginal improvements in existing products, processes and techniques. In the policy area, 25% projects claimed to have an input to development of technical standards along with 10% which claimed to affect regulations or directives.
- While indicators of dissemination (publications, presentations) were high, interviews with projects led to a major concern about its actual effectiveness. Important research knowledge stayed within traditional academic and sectoral boards. Technology transfer was poor.

A complete assessment of 500 completed FP4 projects is about to begin. The results will enable conclusions to be drawn on the real achievements of FP4. However, the conclusions of the pilot study support the suggestion in 4.2.2 that a strategy should be developed and implemented to get the results of FP4 to the marketplace.

The survey forms sent to Programme Committee delegates and EAG members as part of the current monitoring exercise, asked respondents' (off-the-cuff) opinions of the impact of FP4 and FP5 projects. The views of the 22 respondents who answered that question are as follows. FP5 projects were considered to have a greater impact than FP4.

*Views of Energy Programme Committee delegates and EAG members on the impacts of FP4 and FP5 Energy sub-programme*

% respondents who considered impact of FP4/FP5 Energy sub-programme to be:				on the following:
high	average	low	don't know	
8	59	22	11	Global competitiveness of EU industry
53	33	14	-	Environmental protection
19	31	44	6	Management of external energy dependence
42	25	28	5	National energy RTD programmes
6	19	53	22	Employment

The table suggests that respondents felt the programme to have greatest impact on reducing harmful emissions and on national energy programmes.

**4.4 FOLLOW-UP OF PREVIOUS MONITORING RECOMMENDATIONS**

The key recommendations of the 2000 monitoring panel fell into five categories: Calls for tender; internal organisation; management information systems; impact assessment; monitoring methodology.

Concerning the recommendations relating to Calls for tender, the 2001 panel found:

- The new work programme introduced in October 2000 and used for the first time in 2001 is much clearer than the previous version. Nevertheless, potential proposers new to the programme still have difficulties gaining a clear understanding of what is required of them.

- The concept of European Added Value is still not crystal clear to proposers and evaluators.
- The issue of whether evaluators should know the names of proposers during the initial stages of evaluation has not yet been tackled.
- The deadlines for receipt by the Commission of short- and medium- to long-term proposals are now on the same date. This is very helpful. However, the two sets of proposals received in response to the latest Call (deadline 14 December 2001) were not evaluated during the same week, which reduces Commission staff's ability to shift proposals from one Call to another.

Concerning the recommendations relating to the internal organisation, the 2001 panel found:

- The organisational structure is still complicated with a great many interfaces that have to be negotiated for efficient running of the programme.
- Communication between policy units and those running the programme remains poor.
- During 2001, scientific officers' workload remained high, leaving them little time to focus on areas requiring technical expertise. The situation is, however, improving. By the end of the year, the numbers of projects managed by some (but by no means all) officers had reduced to an acceptable level. In DG TREN, strenuous efforts are being made to close the backlog of projects completed from the technical viewpoint but still open in the eyes of the contracts/finance units. Consideration is being given to externalising parts of the scientific officers' work. No use was made of Project Technical Assistants (PTAs) during 2001 although some are being appointed. However, this of itself will not relieve scientific officers of administrative burden.

Concerning the recommendations relating to the management information systems, the 2001 panel found:

- The panel's recommendation that users be represented on the working groups recommending on the design of these systems was taken up.
- However, much remains to be done to create systems that are user-friendly and meet their needs.

Concerning the recommendations relating to impact assessment, the 2001 panel found:

- The panel's recommendation that the experience gained from the pilot exercise on 90 FP4 projects has been taken up: a full-scale impact assessment is being launched early in 2002.
- It is too early to tell if the panel's recommendations for handling impact assessment in FP6 have been taken on board.

Concerning the recommendations relating to monitoring methodology, the 2001 panel found:

- The situation regarding provision of statistics has hardly improved. The 2001 panel was provided with sets of statistics from the two DGs during the period of the monitoring exercise, some in the last couple of weeks. They were not always compatible, or up-to-date.
- The panel's suggestion that the monitoring process be adapted to the Commission structure was not taken up. The 2001 panel had, in essence, to conduct two separate monitoring exercises (one for each DG) and pull them together.

## **5. CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 GENERAL CONCLUSIONS**

The 2001 monitoring panel concluded that:

- The work programme for the FP5 Energy sub-programme clearly supports EU energy policy targets concerning greenhouse gas emissions, increasing use of renewable energy, reducing primary energy consumption, and maintaining the EU's security of supply.
- Some significant projects have been supported but it is not known how much they have contributed to achieving these EU targets, or otherwise impacted on the real world. Unless strenuous efforts are made to assess impacts, this state of ignorance will continue.
- Since communication and dissemination of the results of programme projects continues to be poorly handled it is feared that the impact will not be great.

- However, it is known that during 2001 results from some projects were used directly for EU policy-making.
- In addition, a spot check of Programme Committee and EAG members suggests that the programme has probably had some impact on reduction of greenhouse gas emissions and on the energy research programmes of Member States and participating countries.
- The 2001 Calls were generally well subscribed, with quality proposals in almost all the needed areas.
- However, proposal preparation takes a long time, partly on account of the number of forms that have to be completed, and their complexity. This discourages newcomers from trying to enter the programme, particularly SMEs.
- The proposal evaluations were well conducted.
- Contract negotiation, as ever, took a long time despite efforts on the part of both DGs to speed things up. Negotiation of contracts for large projects with many partners, in particular, takes real effort on the part of the project co-ordinator and the Commission. Even for smaller projects, the time duration to obtain the necessary signatures within the Commission is long. The time it takes to acquire a firm contract can cause contractors a lot of problems regarding staffing, etc.
- The contracts agreed tended to be larger than those of previous years. Some clusters were achieved. Existing thematic networks were strengthened and new ones added. Overall, progress was made in 2001 in establishing the basis for an ERA in energy. More rapid implementation in the future, however, is only likely to be achieved if more scientific officers adopt a proactive approach, targeting the groupings that have the potential or forming the networks that will lead to an ERA. It has to be said that many people have difficulties understanding the term 'ERA'.
- The plans for the energy part of FP6 have been greeted with mixed feelings by those in the Commission and those on the advisory committees. Most people appreciate the aims of the programme and the potential benefits of the new procedures. However, there are concerns over the apparent budget cut, the narrow set of topics to be covered, and the strong bias towards large projects. In particular, the lack of attention to the conventional energy sources that will remain Europe's main sources of supply for years to come, was felt to be unwise.
- Of the new FP5 contracts signed in 2001 only a very small percent involved participants from candidate countries. These were mostly for short-term work. The NAS1 Call at the end of 2001 attracted some proposals for inclusion of participants from candidate countries in existing projects from most of the thematic areas of the programme. However, more could be done to help candidate countries through the programme.
- SMEs can be involved in the programme as subcontractors (supplying products or services to the project partners) or as 'true' participants. The numbers of SMEs taking part in the programme has decreased over the years, mainly because of the complexity and long duration of the application process. The horizontal programmes genuinely help SMEs participate but as a rule are poorly understood by the scientific officers managing the thematic parts of the programme. Therefore integration of projects funded through the horizontal programmes into the thematic programmes is not good.
- The involvement of women in the programme is probably as good as it could be, given the small numbers of women working in many of the areas covered by the programme in Europe as a whole. Real effort has been made by the programme managers to include as many women as possible among proposal evaluators and to achieve a reasonable representation of woman on committees whose members are appointed by the Commission. However, the numbers of women working on the Energy sub-programme within the Commission are tiny. There are no directors or heads of unit and only one or two scientific officers.
- The FP5 programme is run by an enthusiastic set of people, knowledgeable in their respective fields, who are dedicated to making the programme work.
- They are not best served by the complex administrative procedures with which they have to comply. Neither are they helped by the organisational structure in which they work, with its split between two DGs and (at least in DG TREN) its many internal interfaces. Further, the relationship between policy units and those running the programme is not strong enough for research results to be fed naturally into energy policy work, and vice versa.
- Many of the scientific officers have continued to be heavily overloaded during 2001, although the situation seems to be getting better.

- The internal management information systems in both DGs continue to be under development and not particularly user-friendly. There are no links between the DG Research and the DG TREN systems. Coherent sets of statistics covering the whole programme are impossible to obtain.
- The obligations regarding the time it takes to pay invoices set out in contracts are not being met by the Commission.
- Relations with the Programme Committee and EAG have improved over the last few years and are today reasonably good. However, members would welcome focused papers being sent to them in advance of meetings and would like to feel their views are taken more into account.
- Relations with the NCPs needs strengthening and the flow of information to them improved.
- Many of the problems identified by the 2000 monitoring panel remain unresolved.

## 5.2 **RECOMMENDATIONS**

The 2001 monitoring panel has five major recommendations which it would like to see implemented during the coming year, as follows.

- The panel considers that the present organisational structure with its split between two DGs and its many internal interfaces is not satisfactory. It recommends that the two DGs investigate the communication flows needed for efficient running of the programme, identify the interfaces that hinder this, and take steps to improve matters.
- The complex and time-consuming procedures currently required for submitting proposals and negotiating contracts should be simplified, more pragmatic and (in the case of contract negotiation) the time duration reduced. To achieve the latter, approvals within the Commission should be given at the lowest (rather than the highest) responsible level. The present procedures put off quality researchers and companies (including SMEs) from participating in the programme.
- The internal information systems should be improved so that they become truly effective tools for all parties – scientific, contracts and finance officers and those requiring statistics on the programme. Every effort should be made to make the outputs from the DG Research and DG TREN systems compatible. Every effort should also be made to having the FP6 systems in place from the beginning of that programme.
- The programme managers should develop and implement in a professional way a strategy for communicating and disseminating project outputs to the market.
- The programme managers should put serious effort into measuring the impact of work funded by the programme so far.

In addition, the panel has the following recommendations concerning the specific detail of the Energy sub-programme.

### *Concerning the ERA:*

- Professional effort should be devoted to explaining and promoting the concept of the ERA.

### *Concerning international co-operation:*

- A strategy should be developed concerning international co-operative actions in NNE.
- The existing co-operative agreements should be strengthened and additional ones introduced. More NNE-related workshops should be held. Care should be taken to ensure that the information flows are in both directions.
- International networks (such as the OPETs) should be exploited to increase international co-operation.
- A link should be established with UNESCO work on ethics in science and technology, including energy.

### *Concerning Candidate Countries:*

- A way should be found to develop projects that aim to meet Candidate Countries' specific needs – to enhance their research capabilities, bring technical standards and their application to the level of Western Europe, and develop basic infrastructures in the areas covered by the NNE programme.
- Further ways should be found to disseminate best practice to Candidate Countries.
- A way should be found to help proposers from Candidate Countries find own funding for shared-cost FP projects.

*Concerning SMEs:*

- Special programmes to support SMEs should be retained.
- Scientific officers managing the NNE programme should become better acquainted with the special SME programmes to ensure better integration of projects funded through them into the NNE programme.
- Strenuous efforts should be made to remove the obstacles to SME participation by, for instance, streamlining procedures, creating a help-desk, introducing a simpler type of contract (e.g. where the SME is paid a fixed agreed fee on delivery of outputs) and speeding up contract negotiation, contract signature, and payment of invoices.

*Concerning Women and Science:*

- The Commission should try to lead by example and, when recruiting new staff, endeavour to increase the numbers of women involved in the management of the NNE programme.
- The Commission should encourage submission of proposals from associations that promote women scientists. Seminars targeted at women could be held in Member States and participating countries. Successful women scientists could be used to promote the programme.

*Concerning FP6:*

- If possible, the budget for the energy part of FP6 should be increased.
- The technical subjects currently listed in the plans for FP6 should be retained.
- Also included should be work on conventional energy sources and other topics required if Europe is to have security of supply and meet Kyoto targets.
- The needs of Candidate Countries regarding coal research and renewable energy topics (e.g. geothermal energy) not currently mentioned in FP6 plans should be included.
- Small but important projects should not be excluded on grounds of size.
- The concepts that are new to FP6 should be introduced gradually so that there is a gradual evolution from FP5 to FP6.
- The new programme should be professionally publicised widely.
- Adequate and timely briefings should be given to NCPs and key potential participants.

*Concerning human resources:*

- Every effort should be made to simplify internal procedures so scientific officers can devote more time to encouraging the submission of and managing high quality projects that support the creation of an ERA and help Europe meet its energy supply and Kyoto targets.

*Concerning contracts:*

- Consideration should be put to using a simple fixed-fee type of contract (where payment is made on delivery of agreed outputs) where this is practicable.

*Concerning payment of invoices:*

- Strenuous efforts be made to simplify procedures so the Commission can pay invoices within the time limits set out in contracts.

*Concerning access by potential applicants:*

- The Commission should put professional effort into reaching key researchers and companies that can make a real contribution to the programme and encouraging them to submit proposals.
- The web site should be improved and the information package simplified.

*Concerning relations with the NCPs:*

- The Commission should strengthen its contacts with the NNE NCPs and encourage networking between them.

*Concerning relations with the Energy Programme Committee and the EAG:*

- The Commission should consider how it can get the best value from the Programme Committee and the EAG. The meetings should be prepared well in advance with focused papers that do not contain unnecessary detail.

*Concerning communication and information dissemination:*

- The Commission should ensure that at least a summary of all project findings is posted on the Cordis web site.

*Concerning proposal evaluation:*

- Tighter guidelines should be given to the extended panels from now on. The other evaluation procedures should stay as they are for the remainder of FP5. The place of evaluation (whether this be in Brussels or in evaluators' own offices), proposer anonymity and evaluators' daily rates should be reconsidered and changes made as appropriate for FP6.

## 6. ANNEXES

### 6.1 BUDGET AND STATISTICS

Obtaining consistent statistics for the programme for 2001 has proved difficult. The following has been pieced together by the monitoring team from the data given to them.

The total budget for the Energy sub-programme for 1998-2002 is 1042 M€

The number of projects ongoing during 2001 that resulted from calls made prior to the introduction of the updated FP5 work programme in October 2000 was 219 – 120 medium- to long-term projects managed by DG Research and 99 short-term projects managed by DG TREN. DG TREN also had a number of projects which the technical officers considered to be completed but which had not yet been closed by the finance units.

During 2001, proposals were received from the following calls:-

4<sup>th</sup> call (deadline 9 February 2001) for medium- to long-term projects related to:

- Target Actions for fuel cells and hydrogen, bio energy, integration, cleaner fuels for transport, storage and PV.
- The General call (i.e. topics related to any area of the work programme).

5<sup>th</sup> call (deadline 15 March 2001) for short-term projects related to:

- Target actions for activity driven fuel cells, sustainable communities, clean urban transport and gas power generation.
- The General call (i.e. topics related to any area of the work programme).

Open call (cut-off date 9 February 2001) for:

- RTD actions of a generic nature
- Training
- Accompanying measures

Open call for SME measures:

- Exploratory awards (cut-off dates 17 January and 18 April 2001)
- Co-operative research (cut-off dates 17 January, 18 April and 19 September 2001).

Between them, these calls produced 435 eligible proposals, 194 for medium- to long-term projects which went to DG Research, and 241 for short-term projects which went to DG TREN. A breakdown by Key Action is given below.

#### Breakdown of proposals evaluated in 2001 by Key Action

	Short-term		Medium- to long-term	
	No. proposals	Funding requested (M€)	No. proposals	Funding requested (M€)
Key Action 5: Cleaner energy systems, including renewables	115	307.6	93	174.4
Key Action 6: Economic and efficient energy for a competitive Europe	126	164.7	97	161.3
Generic research activities	-	-	4	2.6
<i>Total</i>	<i>241</i>	<i>472.3</i>	<i>194</i>	<i>337.4</i>

The majority of eligible proposals (403) resulted from the 4<sup>th</sup> and 5<sup>th</sup> calls (which were evaluated together). The breakdown by Target Action/General call was as follows.

**Breakdown of eligible proposals from 4<sup>th</sup> and 5<sup>th</sup> calls**

	Short-term			Medium- to long-term		
	Available budget (M€)	No. proposals	Funding requested (M€)	Available budget (M€)	No. proposals	Funding requested (M€)
Target Actions	~70	69	222.3	~70	120	225.1
General call	~45	144	334.8	~45	70	109.7
<i>Total</i>	<i>115</i>	<i>213</i>	<i>556.1</i>	<i>115</i>	<i>190</i>	<i>334.8</i>

Following evaluation, 116 of these proposals were selected for immediate negotiation, as follows.

**Breakdown of 4<sup>th</sup> and 5<sup>th</sup> calls' eligible proposals selected for immediate negotiation**

	Short-term			Medium- to long-term		
	Available budget (M€)	No. proposals selected	Funding requested (M€)	Available budget (M€)	No. proposals selected	Funding requested (M€)
Target Actions	~70	22	48.0	~70	38	68.0
General call	~45	31	44.6	~45	25	45.2
<i>Total</i>	<i>115</i>	<i>53</i>	<i>92.6</i>	<i>115</i>	<i>63</i>	<i>113.2</i>

The breakdown of these by Key Action is as follows.

**Breakdown by Key Action of 4<sup>th</sup> and 5<sup>th</sup> calls' eligible proposals selected for immediate negotiation**

	Short-term		Medium- to long-term	
	No. proposals selected	Funding requested (M€)	No. proposals selected	Funding requested (M€)
Key Action 5: Cleaner energy systems, including renewables	35	50.7	25	53.2
Key Action 6: Economic and efficient energy for a competitive Europe	18	41.9	38	60.0
<i>Total</i>	<i>53</i>	<i>92.6</i>	<i>63</i>	<i>113.2</i>

In addition to the proposals selected for negotiation from the 4<sup>th</sup> and 5<sup>th</sup> calls, proposals were also selected in 2001 from the Open calls for RTD actions of a generic nature, Training, Accompanying Measures, and SME Measures.

Most of the selected proposals were negotiated and contracts signed during 2001. In all 175 new projects were added to the sub-programme portfolio during 2001 – 121 short-term (funding 114.5 M€) and 54 medium- to long-term projects (funding 36.6 M€). In addition, 3 short-term projects (requested funding 0.75 M€) were under negotiation.

The breakdown of these signed contracts by Key Action is as follows.

**Breakdown of contracts signed in 2001 by Key Action**

	Short-term		Medium- to long-term	
	No. contracts	Funding (M€)	No. contracts	Funding (M€)
Key Action 5: Cleaner energy systems, including renewables	32	41.40	20	18.99
Key Action 6: Economic and efficient energy for a competitive Europe	87	72.73	31	16.70
Generic research activities	2	0.40	3	0.91
<i>Total</i>	<i>121</i>	<i>114.53</i>	<i>54</i>	<i>36.60</i>

The breakdown of the funding for signed contracts by types of action is as follows.

**Breakdown by types of action of funding of contracts signed in 2001**

	Short-term	Medium- to long-term
	Funding (M€)	Funding (M€)
<b>Shared costs actions:</b>		
Research projects (RS)	3.39	32.39
Demonstration projects (DM)	71.97	0
Combined projects (CM)	25.87	0
Access to research infrastructures (ARI)	0	0
Co-operative research (CR)	0	0
Exploratory Awards (EA)	0	0.26
<b>Grants:</b>		
Marie Curie individual fellowships	0	0.93
Marie Curie development host fellowships	0	1.29
<b>Support to networks:</b>		
Research Training Network (RTN)	0	0
Thematic Network (TN)	2.34	0.64
<b>Concerted actions (CA):</b>	0.44	0
<b>Accompanying measures (AM):</b>	10.07	1.10
<i>Total</i>	<i>114.08</i>	<i>36.60</i>

The participation of different types of organisation in the signed contracts is as follows.

**Participation of different types of organisation in contracts signed in 2001**

	Short-term		Medium- to long-term	
	No. participations	Funding (M€)	No. participations	Funding (M€)
Higher education	46	6.14	45	6.82
Research organisations	97	9.48	90	14.67
All other (including industry)	391	98.76	164	15.11
<i>Total</i>	<i>534</i>	<i>114.38</i>	<i>299</i>	<i>36.60</i>

The participation by type of legal entity is as follows.

**Participation of different types of legal entity in contracts signed in 2001**

	Short-term		Medium- to long-term	
	No. participations	Funding (M€)	No. participations	Funding (M€)
<b>Private entities:</b>				
European Economic Interest Group	3	0.21	1	5.35
Private non-profit organisation	48	3.68	45	4.05
Private commercial organisation + consultant	185	56.36	153	15.55
<b>Public entities:</b>				
Governmental organisation	119	12.92	82	10.15
Public commercial organisation	39	19.79	9	0.84
<b>Other entities:</b>				
International organisations	12	0.99	2	0.31
Joint Research Centre	4	0.31	4	0.29
Other	124	20.12	3	0.06
<i>Total</i>	<i>534</i>	<i>114.38</i>	<i>299</i>	<i>36.60</i>

How many of the commercial organisations and consultancies are SMEs is not entirely clear. From the data provided, it can be seen that there are 40 SME participants in the medium- to long-term projects. Thus, 20% of the private entities (and 13% of total participants) are participating in the medium- to long-term contracts signed in 2001 are SMEs. Together they will receive 1.87 M€ funding. This is 7.5% of the total funding accorded to private enterprises (and 5% of the total funding) for medium- to long-term work.

Data of this type was not provided for short-term contracts signed in 2001. However, it is known that there were 103 SME participants in the proposals recommended for funding from the 5<sup>th</sup> and Open calls of February and March 2001. Together they requested 15.46 M€ Although not all these selected proposals necessarily resulted in signed proposals, the figures suggest a higher participation of SMEs in the short-term projects than in the medium- to long-term projects.

The breakdown of the total funding for the signed contracts by country is as follows.

**Breakdown by country of funding for contracts signed in 2001**

	Short-term	Medium- to long-term
	Funding (M€)	Funding (M€)
Member States	105.16	34.45
Candidate and Associated States	2.78	0.27
Other Associated States	5.45	1.74
Third Countries	0.99	0.14
<i>Total</i>	<i>114.38</i>	<i>36.60</i>

The numbers of contracts signed in 2001 in which participants from Candidate Countries and Associated States and Other Associated States are involved are as follows.

**Numbers of contracts signed in 2001 in which participants from (a) Candidate Countries and Associated States and (b) Other Associated States are involved**

	Short-term	Medium- to long-term	Total
<b>Candidate Countries and Associated States</b>			
Bulgaria	5	0	5
Cyprus	2	0	2
Czech Republic	4	4	8
Estonia	3	0	3
Hungary	1	0	1
Latvia	1	0	1
Lithuania	1	0	1
Poland	5	1	6
Romania	5	0	5
Slovakia	2	0	2
Slovenia	1	0	1
Turkey	1	1	2
<b>Other Associated States</b>			
Switzerland	4	9	13
Israel	0	4	4
Norway	13	7	20

The deadline for the 6<sup>th</sup> call was 14 December 2001. This was for:

- short-term projects related to (a) Target Actions for application-driven fuel cells, bio electricity and eco buildings (budget ~75 M€) and (b) the General call (budget ~50 M€);
- medium- to long-term projects related to (a) all Target Actions (budget ~75 M€) and (b) the General call (budget ~50 M€).

14 December 2001 was also the cut-off date for the Open call for RTD activities of a generic nature.

In order to strengthen the participation of Candidate Countries in FP5 as a whole, two special Newly Associated States (NAS) calls were launched in August and September 2001. The first (NAS 1) had a deadline of 14 December 2001 and was addressed to co-ordinators of on-going contracts, encouraging them

to consider adding extra partners from NAS. The NAS 2 call (budget 5 M€) with a deadline of 31 January 2002, was aimed at supporting the integration of NAS in the ERA by means of specific Accompanying Measures.

Evaluation of proposals received from all calls with a deadline of 14 December 2002 took place early in 2002 and at the time of writing was not completed.

## **6.2 ABBREVIATIONS**

DG TREN	DG Transport and Energy
EESD	Energy, Environment and Sustainable Development
EAG	External Advisory Group
EFP	Energy Framework Programme
ERA	European Research Area
EWOG	Energy Working Group
FP3	Third Framework Programme
FP4	Fourth Framework Programme
FP5	Fifth Framework Programme
FP6	new Framework Programme (2002-2006)
IEA	International Energy Agency
M	million
NAS	Newly Associated States
NCP	National Contact Point
NNE	non-nuclear energy
PTA	Project Technical Assistant
PV	photovoltaic
RTD	research and technological development
SME	small and medium-sized enterprise

## **6.3 INFORMATION PROVIDED TO THE EXPERTS BY THE PROGRAMME MANAGEMENT**

### **Council Decisions on FP5 Energy sub-programme:**

- Council Decision of 22 December 1998 concerning the rules for the participation of undertakings, research centres and universities and for the dissemination of research results for the implementation of the fifth framework programme of the European Community (1998-2002)
- Council Decision of 25 January 1999 adopting a specific programme for research, technological development and demonstration on energy, environment and sustainable development (1998 to 2002)

### **Documents related to monitoring:**

- Composition of 2001 Monitoring Panel and Expert Groups
- Broad Guidelines for 2001 monitoring of the implementation of European Research Area (ERA), Framework Programmes and Specific Programmes
- Milestones of the Monitoring 2001
- Revised system of monitoring the research programmes and activities
- 2000 External Monitoring Report on the Non-Nuclear Energy programme
- 2000 Annual Monitoring Report on the RTD activities conducted under the EC and Euratom Framework Programmes
- Five-year assessment of the European Union research and technological development programmes 1995-99. EUR 19426.
- Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions. Comments of the Commission on the conclusions of the RTD Framework Programmes 5-Year Assessment

- Call for applications for inclusion on lists of experts for monitoring the fifth framework programmes and their specific programmes
- Communication to the Commission from Mrs Schreyer in agreement with Mr Kinnock and the President. Focus on results: strengthening evaluation of Commission activities

Information provided by DG Research and DG TREN on the Energy sub-programme, its results and management:

- Self-assessment of Programme implementation provided by Commission staff for the Energy, Environment and Sustainable Development programme
- Energy, Environment and Sustainable Development. Part B: Energie. Slide presentations by DG Research and DG TREN for Monitoring Panel 2001 on work programme update and results of 4<sup>th</sup> and 5<sup>th</sup> calls and Open calls which closed in February and March 2001
- Statistical information and lists of DG Research and DG TREN contracts ongoing and signed in 2001
- Leaflet on DG TREN and its activities
- Organisational chart for DG Research giving names of Heads of Units and details of responsibilities for officers in Units J1, J2 and J3
- Organisational chart for DG TREN giving names of Heads of Units and list of all officers in Directorates B, C and D concerned with NNE and their specific areas of responsibility.
- Lists of names and contact details for members of the Energy Programme Committee and the External Advisory Group
- Minutes of Programme Committee meetings of the Energy sub-programme 2001.
- Report on the customer satisfaction workshop on the proposal preparation process, 29 June 2000.
- Clean and efficient energies for Europe: results for individual projects. EUR 19645/1. 2001.
- Clean and efficient energies for Europe: socio-economic impact of energy research projects. EUR 19464. 2001.
- Qualitative assessment of non-nuclear energy proposals selected in FP5. EUR 19466. 2001.
- Socio-economic projects in energy and environment. EUR 19886. 2001.
- Gender in research: gender impact assessment of the specific programmes of the Fifth Framework Programme. Energy sub-programme. EUR 20018. October 2001.

#### **Documents related to the ERA and FP6:**

- Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions. Towards a European research area.
- Opinion of the Committee of the Regions on the Commission's Communication 'Towards a European research area'
- Economic and Social Committee opinion on the "Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions. Towards a European research area"
- European research area. European Parliament resolution on the communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions "Towards a European research area"
- Council Resolution of 15 June 2000 on the creation of a European area for research and innovation
- Council Resolution of 16 November 2000 on the creation of a European area for research and innovation: guidelines for European Union research activities (2002-2006)
- Communication from the President in agreement with Mr Kinnock and Mrs Schreyer to the Commission. Implementing activity based management in the Commission
- Communication from the Commission. The Regional Dimension of the European Research Area
- European research area guidelines (2002-2006). European Parliament resolution on the Commission communication to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions – Making a reality of the European Research Area: Guidelines for EU research activities (2002-2006)
- Proposals for Council Decisions concerning the specific programmes implementing the Framework Programme 2002-2006 of the European Community for research, technological development and demonstration activities
- Proposals for Council Decisions concerning the specific programmes implementing the Framework Programme 2002-2006 of the European Atomic Energy Community for research and training activities

- Amended proposal for a Decision of the European Parliament and of the Council concerning the rules for the participation of undertakings, research centres and universities and for the dissemination of research results for the implementation of the European Community framework programme 2002-2006. 10 January 2002.
- ERA/FP (2002-2006): ongoing analysis of external contributions received. 23 January 2002.
- Common position adopted by the Council 28 January 2002 with a view to the adoption of a Decision of the European Parliament and of the Council concerning FP6.
- Amended proposals for Council Decisions concerning the specific programmes implementing the Sixth Framework Programme of the European Community for research, technological development and demonstration activities (2002-2006) and concerning the specific programmes implementing the Sixth Framework Programme of the European Atomic Energy Community for research and training activities (2002-2006) as adopted by the Commission on 30 January 2002.

**Documents on other specific programmes in FP5:**

- Council Decision of 22 December 1998 concerning the rules for the participation of undertakings, research centres and universities in the implementation of the fifth framework programme of the European Atomic Energy Community (Euratom) (1998-2002)
- Council Decision of 25 January 1999 adopting a specific programme for research, technological development and demonstration on competitive and sustainable growth (1998 to 2002)
- Council Decision of 25 January 1999 adopting a specific programme on confirming the international role of Community research (1998 to 2002)
- Council Decision of 25 January 1999 adopting a research and training programme (Euratom) in the field of nuclear energy (1998 to 2002)
- Council Decision of 25 January 1999 adopting a specific programme for research and training to be carried out by the Joint Research Centre by means of direct actions for the European Atomic Energy Community (1998 to 2002)
- Council Decision of 25 January 1999 adopting a specific programme for research, technological development and demonstration on improving the human research potential and the socioeconomic knowledge base (1998 to 2002)
- Council Decision of 25 January 1999 adopting a specific programme for research, technological development and demonstration, to be carried out by means of direct actions for the European Community (1998 to 2002) by the Joint Research Centre
- Council Decision of 25 January 1999 adopting a specific programme for research, technological development and demonstration on promotion of innovation and encouragement of SME participation (1998 to 2002)
- Council Decision of 25 January 1999 adopting a specific programme for research, technological development and demonstration on quality of life and management of living resources (1998 to 2002)
- Council Decision of 25 January 1999 adopting a specific programme for research, technological development and demonstration on a user-friendly information society (1998 to 2002)
- 2000 External Monitoring Report on the Quality of Life and Management of Living Resources programme
- 2000 External Monitoring Report on the User-Friendly Information Society programme
- 2000 External Monitoring Report on the Competitive and Sustainable Growth programme
- 2000 External Monitoring Report on the Environment and Sustainable Development programme
- 2000 External Monitoring Report on the Nuclear Energy Fusion programme
- 2000 External Monitoring Report on the Nuclear Energy Fission programme
- 2000 External Monitoring Report on the Confirming the International Role of Community Research programme
- 2000 External Monitoring Report on the Promotion of Innovation and Encouragement of Participation of SMEs programme
- 2000 External Monitoring Report on the Improving the Human Research Potential and the Socio-Economic Knowledge Base programme

**Other documents:**

- Science policies in the European Union: promoting excellence through mainstreaming gender equality: a report from the ETAN Expert Working Group on Women and Science. 2000

- Women and science: making change happen. Proceedings of the conference, 3-4 April 2001
- Women and science: the gender dimension as a leverage for reforming science. Commission staff working paper SEC(2001)771 15 May 2001

#### **6.4 LIST OF OFFICIALS INTERVIEWED**

##### **Directors:**

Mr Hardo Bruhns	DG Research	Directorate J
Mr Alfonso Finat	DG TREN	Directorate B
Mr Pedro de Sampaio Nunes	DG TREN	Directorate C
Mr Gunther Hanreich	DG TREN	Directorate D

##### **Heads of Unit:**

Mr Michel Poireau	DG Research	Unit J1
Mr Angel Perez-Sainz	DG Research	Unit J2
Mr Edgar Thielmann	DG TREN	Unit B2
Mr Karl Kellner	DG TREN	Unit D2
Mr Gonzalo Molina	DG TREN	Unit D3

##### **Scientific, Technical and Policy Officers:**

Mr Jerome Poussielgue	DG Research	Unit J1
Mr Pierre Dechamps	DG Research	Unit J2
Mrs Garbine Guiu	DG Research	Unit J2
Mr Petros Pilavachi	Dg Research	Unit J2
Mr Manuel Sanchez-Jimenez	DG Research	Unit J2
Mr Georges Deschamps	DG Research	Unit J3
Mr Mario Frias	DG Research	Unit J3
Mr John Garnish	DG Research	Unit J3
Mr Barry Robertson	DG Research	Unit J3
Ms Monica Menapace	DG TREN	Unit B2
Mr Massimo Mina	DG TREN	Unit B2
Mr Matti Supponen	DG TREN	Unit C2
Mr Nikolaos Koukouzas	DG TREN	Unit C3
Mr Roberto Gambi	DG TREN	Unit D2
Mr Alexandros Kotronaros	DG TREN	Unit D2
Mr Kyriakos Maniatis	DG TREN	Unit D2
Mr Henri Pauwels	DG TREN	Unit D2
Mr Jean-Marie Bemtgen	DG TREN	Unit D3
Mr Jan E Hanssen	DG TREN	Unit D3
Mr Antonio Paparella	DG TREN	Unit D3
Mr Sylvain de Royer	DG TREN	Unit D4

##### **Contracts/Finance:**

Mr Johannes Spoor	DG Research	Head, Unit J7
Mrs Mari Varho	DG TREN	Directorate D Finance Cell

##### **Informatics:**

Mr Andre Mambourg	DG TREN	Unit 01
Mr Luciano Nannucci	DG TREN	Unit B2

## **6.5 LIST OF OTHERS SURVEYED**

Questionnaires were sent to all Member States' and Participating Countries' delegates to the Energy Programme Committee, members of the External Advisory Group, and the National Contact Points for the EESD programme. Some members of the Energy Programme Committee were also National Contact Points. By 22 March 2002, responses had been received as follows.

Energy Programme Committee delegates from the following Member States:

Belgium  
Finland  
France  
Germany  
Greece  
Italy  
Netherlands  
Portugal  
Spain  
UK

Energy Programme Committee delegates from the following Participating Countries:

Cyprus  
Czech Republic  
Estonia  
Hungary  
Latvia  
Poland

External Advisory Group members from:

Belgium  
Denmark  
France  
Ireland  
Italy  
Norway  
UK

National Contact Points in the following Member States:

Belgium  
Finland  
Italy  
Portugal  
Sweden

National Contact Points in the following Participating Countries:

Cyprus  
Czech Republic  
Latvia  
Norway  
Switzerland

Contractors in:

Finland  
Germany

**PART B:**

**Responses of the Programme Management to the  
external Monitoring Report**



## Responses of the Programme Management to the recommendations of the Monitoring Panel

<p>These responses have been prepared by officials in the NNE programme and represent their personal views on the recommendations of the annual monitoring report. These views have not been adopted or in any way approved by the Commission and should not be relied upon as a statement of the views of the Commission or DG Research.</p>			
A.	<b>Recommendation</b>	<b>Commission Services' Response</b>	<b>Time point / indicator for accomplishment</b>
<p><b>Main 5 recommendations</b>  The panel considers that the present organisational structure with its split between two DGs and its many internal interfaces is not satisfactory. It recommends that the two DGs investigate the communication flows needed for efficient running of the programme, identify the interfaces that hinder this, and take steps to improve matters..  The complex and time-consuming procedures currently required for submitting proposals and negotiating contracts should be simplified, more pragmatic and (in the case of contract negotiation) the time duration reduced. To achieve the latter, approvals within the Commission should be given at the lowest (rather than the highest) responsible level. The present procedures put off quality researchers and companies (including SMEs) from participating in the programme.</p>	<p>It is likely that both DGs will reconsider their organisational structures in view of the implementation of the new FP. The re-structuring will take into account the need for optimal collaboration in the implementation of the common priority on Sustainable Energy Systems.</p> <p>Communication flows at management level have been reinforced by the organisation of meetings of the Group of Directors to discuss the selection of proposals and other managerial issues. Moreover, for the new FP DG TREN and DG RTD intend to clearly identify interfaces and communication flows to streamline co-ordination between them</p> <p>FP5 calls are closed. This recommendation will therefore be taken into account for the definition of FP6 procedures that shall be common to the whole FP. The answer to this recommendation should be given at FP level since procedures will be standardised and can not be defined at specific programmes level.</p> <p>Implementation of procedures and rules for submission, evaluation and negotiation of proposals are being re-considered in the light of the new FP. The conception of new instruments associates the goals of simplification and reducing the time from proposal to contract.</p>	<p>October 2002</p>	

	<b>Recommendation</b>	<b>Commission Services' Response</b>	<b>Time point / indicator for accomplishment</b>
	<p>The internal information systems should be improved so that they become truly effective tools for all parties – scientific, contracts and finance officers and those requiring statistics on the programme. Every effort should be made to make the outputs from the DG Research and DG TREN systems compatible. Every effort should also be made to having the FP6 systems in place from the beginning of that programme.</p>	<p>The answer to this recommendation should be given at FP level since the development of a common IT-system for all five research DGs (TREN, INFOS, RTD, FISH and ENTR) has already been launched and that an inter-DG project office has been established in order to design the system. The system will be developed on the basis of the latest information system technologies and will ensure that proposals/projects data are recorded coherently which will allow a more efficient and consistent data and work-flow management of the FP6 allowing compatibility and mutual access to information data between DG TREN and DG RTD.</p>	<p>The system will be implemented for the 1<sup>st</sup> quarter of 2003 to the 1<sup>st</sup> quarter of 2004.</p>
	<p>The programme managers should develop and implement in a professional way a strategy for communicating and disseminating project outputs to the market</p>	<p>With regard to communication and disseminating of projects outputs the following actions are foreseen:</p> <p>1) An overall strategy accompanied by a plan covering the existing practices, means and resources available, will be established. This will provide details on envisaged actions and deliverables (e.g. publications) for the next 12-18 months period. The publication and wide dissemination of projects results and final reports will be favoured by the adoption of new internal procedures that clearly established measures for dissemination and publication. The OPET Network will play an important part in this process</p> <p>2) The Commission's WEB based dissemination tools have been rationalised and links between them will be improved</p> <p>3) OPET: the OPET network is being restructured and reinforced with a view to providing professional advice and support to the dissemination and marketing of research results - building a bridge between European Research results (research priorities), European Energy policies (Energy policy priorities) and the National, Local or Regional Energy Agencies. This approach, using the advantages of subsidiarity to better support market deployment of local needs guarantees an harmonisation of priorities and feed-back at all levels (European, National, regional, Local).</p> <p>The impact assessment pilot phase has already provided useful information on the impact of finished projects, which will be taken into account for improving project management. This first phase is now being completed by a main exercise covering 700 Joule and Thermie projects. Similar exercises will be carried out as appropriate for the 5<sup>th</sup> FP. A more general methodology to assess Framework Programme impact (ex-ante) is being developed within the inter-service evaluation and monitoring group, and should be incorporated into the practices of all Commission activities, including the the Energy Programme.</p>	<p>November 2002</p> <p>June 2003</p> <p>Preparatory works implemented Nov. 2002. First results expected 2003</p>
	<p>The programme managers should put serious effort into measuring the impact of work funded by the programme so far.</p>		<p><b>November 2002</b></p> <p><b>2003</b></p>

	<b>Recommendation</b>	<b>Commission Services' Response</b>	<b>Time point / indicator for accomplishment</b>
<b>B.</b>	<p><b>Other recommendations</b></p> <p><i>Concerning the ERA:</i></p> <ul style="list-style-type: none"> <li>- Professional effort should be devoted to explaining and promoting the concept of the ERA.</li> </ul> <p><i>Concerning international co-operation:</i></p> <ul style="list-style-type: none"> <li>- A strategy should be developed concerning international co-operative actions in NNE.</li> <li>- The existing co-operative agreements should be strengthened and additional ones introduced. More NNE-related workshops should be held. Care should be taken to ensure that the information flows are in both directions.</li> <li>- International networks (such as the OPETs) should be exploited to increase international co-operation.</li> <li>- A link should be established with UNESCO work on ethics in science and technology, including energy.</li> </ul> <p><i>Concerning Candidate Countries:</i></p> <ul style="list-style-type: none"> <li>- A way should be found to develop projects that aim to meet Candidate Countries' specific needs – to enhance their research capabilities, bring technical standards and their application to the level</li> </ul>	<p>Some of the following recommendations, not specific to the NNE Programme, need to be addressed in the context of the overall FP Monitoring.</p> <p>The Energy programme will contribute and implement in the field of its competence the multidimensional activities that will be proposed within the ERA strategy at General Directorate level, including the promotion and explanation of ERA concepts and actions.</p>	2003
	<p><i>Concerning international co-operation:</i></p> <ul style="list-style-type: none"> <li>- A strategy should be developed concerning international co-operative actions in NNE.</li> <li>- The existing co-operative agreements should be strengthened and additional ones introduced. More NNE-related workshops should be held. Care should be taken to ensure that the information flows are in both directions.</li> <li>- International networks (such as the OPETs) should be exploited to increase international co-operation.</li> <li>- A link should be established with UNESCO work on ethics in science and technology, including energy.</li> </ul>	<p>In view of the implementation of the next FP, two main axes have been defined at RTD / TREN level and will be developed in the context of international co-operation:</p> <ul style="list-style-type: none"> <li>- tightening links with countries with high R&amp;D potential or strategic importance, in particular with Russia (workshops to be organised by DG RTD),</li> <li>- opening participation to FP activities to third countries.</li> </ul> <p>International cooperation also includes the strengthening of links with the USA</p> <p>- The OPET network operates in third countries and is being streamlined with a view to improve its role as a key support to dissemination and innovation in the field of energy.</p> <p>- DG RTD has envisaged to establish the proposed link and is preparing a reflection paper on ethics in energy DG TREN has some accompanying measures involving UNESCO (ongoing)</p>	2002-2003  November 2002
	<p><i>Concerning Candidate Countries:</i></p> <ul style="list-style-type: none"> <li>- A way should be found to develop projects that aim to meet Candidate Countries' specific needs – to enhance their research capabilities, bring technical standards and their application to the level</li> </ul>	<p>- NAS1 and NAS2 target actions will improve the participation of candidate countries to FP5 by developing specific targeted research, demonstration and dissemination activities.</p> <p>- In FP 6, candidate countries will have the same rights and access to EC research activities than EU members States participants. Specific facilities are foreseen particularly under the “stairway of excellence”.</p> <p>- The OPET network is developing those types of activities in a structured way. The new batch of projects, to be decided, will integrate the Panel’s comments as guidelines for the technical annex.</p>	September 2002  2003  December 2002

	<b>Recommendation</b>	<b>Commission Services' Response</b>	<b>Time point / indicator for accomplishment</b>
	<p>of Western Europe, and develop basic infrastructures in the areas covered by the NNE programme.</p> <ul style="list-style-type: none"> <li>- Further ways should be found to disseminate best practice to Candidate Countries.</li> <li>- A way should be found to help proposers from Candidate Countries find own funding for shared-cost FP projects.</li> </ul>		
	<p><i>Concerning SMEs:</i></p> <ul style="list-style-type: none"> <li>- Special programmes to support SMEs should be retained.</li> <li>- Scientific officers managing the NNE programme should become better acquainted with the special SME programmes to ensure better integration of projects funded through them into the NNE programme.</li> <li>- Strenuous efforts should be made to remove the obstacles to SME participation by, for instance, streamlining procedures, creating a help-desk, introducing a simpler type of contract (e.g. where the SME is paid a fixed agreed fee on delivery of outputs) and speeding up contract negotiation, contract</li> </ul>	<p><b>SMEs are a key source of innovation. FP6 includes specific encouraging measures for SMEs. Responsibilities for the management of SME specific actions will be defined at FP level. Therefore, the answer to this recommendation should be given at FP level.</b></p>	

	<b>Recommendation</b>	<b>Commission Services' Response</b>	<b>Time point / indicator for accomplishment</b>
	signature, and payment of invoices.		
	<p><i>Concerning Women and Science:</i></p> <ul style="list-style-type: none"> <li>- The Commission should try to lead by example and, when recruiting new staff, endeavour to increase the numbers of women involved in the management of the NNE programme.</li> <li>- The Commission should encourage submission of proposals from associations that promote women scientists. Seminars targeted at women could be held in Member States and participating countries. Successful women scientists could be used to promote the programme.</li> </ul>	<p>The NNE programme will put special attention to this recommendation for the new recruitments and in the contracting of external experts. Wherever possible, the Commission will stimulate the participation of women speakers in conferences supported and / or organised by her. Nevertheless, it should be pointed out that the limited number of women involved in the field of energy research makes the accomplishment of this recommendation difficult.</p>	

	Recommendation	Commission Services' Response	Time point / indicator for accomplishment
	<p><i>Concerning FP6:</i></p> <ul style="list-style-type: none"> <li>- If possible, the budget for the energy part of FP6 should be increased.</li> <li>- The technical subjects currently listed in the plans for FP6 should be retained.</li> <li>- Also included should be work on conventional energy sources and other topics required if Europe is to have security of supply and meet Kyoto targets.</li> <li>- The needs of Candidate Countries regarding coal research and renewable energy topics (e.g. geothermal energy) not currently mentioned in FP6 plans should be included.</li> <li>- Small but important projects should not be excluded on grounds of size.</li> <li>- The concepts that are new to FP6 should be introduced gradually so that there is a gradual evolution from FP5 to FP6.</li> <li>- The new programme should be professionally publicised widely.</li> <li>- Adequate and timely briefings should be given to NCPs and key potential participants.</li> </ul>	<p>The thematic contents of FP6 are the consequences of institutional discussions. The Commission takes note of the comments expressed by the panel in this regard. However, the answers to these recommendations should be given at FP level.</p> <p>Concerning the size of the projects, priority is always given to projects on the basis of quality and the scale of European impact.</p> <p>The gradual evolution from FP5 to FP6, will be facilitated by appropriate large scale information measures to the scientific community and to the public. In particular, FP6 publicity includes the organisation of a main conference to be held in Brussels the 11-12-13 November 2002 with a dedicated session on sustainable development including energy, and the publication and diffusion of appropriate information on paper and web site.</p>	<p>November 2003</p>

	<b>Recommendation</b>	<b>Commission Services' Response</b>	<b>Time point / indicator for accomplishment</b>
	<p><i>Concerning human resources:</i></p> <ul style="list-style-type: none"> <li>- Every effort should be made to simplify internal procedures so scientific officers can devote more time to encouraging the submission of and managing high quality projects that support the creation of an ERA and help Europe meet its energy supply and Kyoto targets.</li> </ul>	<p>The answer to this recommendation should be given at FP level since procedures will be standardised and can not be defined at specific programmes level. The new concepts under FP6 are expected to change from a project to a programme management approach and to pass from micro-management of projects to macro-management of research activities. Furthermore procedural simplification such as audit certificates will be introduced for the benefit of applicants and commission staff.</p>	
	<p><i>Concerning contracts:</i></p> <ul style="list-style-type: none"> <li>- Consideration should be put to using a simple fixed-fee type of contract (where payment is made on delivery of agreed outputs) where this is practicable.</li> </ul>	<p>The new instruments and model contracts under FP6 are aimed at a more flexible and simplified management. The answer to this recommendation should be given at FP level since contracts are standardised and defined by common participation rules, agreed by Council and Parliament.</p>	
	<p><i>Concerning payment of invoices:</i></p> <p>Strenuous efforts be made to simplify procedures so the Commission can pay invoices within the time limits set out in contracts</p>	<p>The answer to this recommendation should be given at FP level since payments procedures are standardised and can not be defined at specific programmes levels. In the respect of procedures set up to guarantee a high level of control on EC spending Commission services are putting strenuous efforts to accelerate payments.</p>	

	<b>Recommendation</b>	<b>Commission Services' Response</b>	<b>Time point / indicator for accomplishment</b>
	<p><i>Concerning access by potential applicants:</i></p> <ul style="list-style-type: none"> <li>- The Commission should put professional effort into reaching key researchers and companies that can make a real contribution to the programme and encouraging them to submit proposals.</li> <li>- The web site should be improved and the information package simplified.</li> </ul>	<p>Information days are regularly organised by National organisations (eg National Contact Points) with participation of the the NNE programme. Web Sites are considered to be the most efficient instrument for applicants equal access: being open to all public they guarantee the access to EC information sources on an equal basis. Information packages will be simplified in FP6. However, the answer to this recommendation should be given at FP level since information packages and web sites structure will be standardised and can not be defined at specific programmes level.</p>	
	<p><i>Concerning relations with the NCPs:</i></p> <ul style="list-style-type: none"> <li>- The Commission should strengthen its contacts with the NNE NCPs and encourage networking between them.</li> </ul>	<p>A new policy enhancing the role of NCPs is being developed for FP6 by an interservice group, NNE will follow this new policy.</p>	<p>End 2002</p>
	<p><i>Concerning relations with the Energy Programme Committee and the EAG:</i></p> <ul style="list-style-type: none"> <li>- The Commission should consider how it can get the best value from the Programme Committee and the EAG. The meetings should be prepared well in advance with focused papers that do not contain unnecessary detail.</li> </ul>	<p>This has always been the case. The recommendation of preparing and sharpening the focus of topics in advance is taken into consideration.</p>	<p>Next Committee Meeting 28/06/02</p>

	<b>Recommendation</b>	<b>Commission Services' Response</b>	<b>Time point / indicator for accomplishment</b>
	<p><i>Concerning communication and information dissemination:</i></p> <ul style="list-style-type: none"> <li>- The Commission should ensure that at least a summary of all project findings is posted on the Cordis web site.</li> </ul>	<p>This will be done automatically via the new e-TIP service set up by CORDIS, and, in the case of the OPEF network, through its new secretariat.</p>	<p>From May 2002 End 2003</p>
	<p><i>Concerning proposal evaluation:</i></p> <p>Tighter guidelines should be given to the extended panels from now on. The other evaluation procedures should stay as they are for the remainder of FP5. The place of evaluation (whether this be in Brussels or in evaluators' own offices), proposer anonymity and evaluators' daily rates should be reconsidered and changes made as appropriate for FP6.</p>	<p>The answer to this recommendation should be given at FP level since proposal evaluation will be standardised.</p>	