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The European Science Foundation acts as a catalyst for the development of science by bringing together leading scientists and funding agencies to debate, plan and implement pan-European initiatives.

## Foreword

The European Science Foundation is well aware of the importance of the Framework Programme within the European scientific landscape. Consequently, it has provided advice and comments to the European Commission, on the form and content of the Fifth Framework Programme during the course of its design. As the size and shape of the Programme is nearing finalisation, attention is turning to the management of the Programme and ESF considers it crucial that the Programme has the confidence and full engagement of the scientific community. Thus, issues regarding the management of the Fifth Framework Programme are fundamental and the ESF warmly welcomes the decision of the Council of Research Ministers to devote a Colloquium to this key matter.

What follows addresses the principal issues of concern to ESF and, we believe, the scientific community, in the management of the Fifth Framework Programme. These range from the transparency of the management process within the Committee structures and in project evaluation to the administration of approved projects and in the continuity of funding within projects and between Framework Programmes.

What is now necessary is for all concerned to work to create an efficient and open management system for this and subsequent Framework Programmes.

**Enric Banda**  
ESF Secretary General

## Introduction

The European Science Foundation (ESF) is the European association of 62 national research councils and academies from 21 countries. As such, it has to have concern about the development of European science as a whole, of which the EC Framework Programme forms a very significant part. Already, ESF has provided substantial advice as to the scientific content of the Fifth Framework Programme (FPV) in its document *Beyond Framework Programme IV*, published in June 1996. Following the publication of the formal European Commission proposal for FPV, the ESF made a number of inputs to the Commission. This further advice was consolidated and published in October 1997 as *Further Considerations on the EC's Proposal for FPV*. Separate advice on the form and content of the socio-economic component of FPV was published in February 1998 as *Social Science Research in the Fifth Framework Programme*. With the re-structuring of the proposal in January 1998, the ESF commented further to the Council of Ministers on this matter.

An essential key to the success of a Framework Programme must be its efficient management which can bring together the interests of the funders (the Member States and their representatives), the operators (the European Commission), the contractors (researchers in both the public and private sectors) and those responsible for ensuring accountability (the European Parliament). Previous ESF inputs to the FPV debate include comments on management as a key part of the total process. From its perspective, both as a co-ordination manager for its own activities and as a contractor to the Framework Programme, the ESF is able

to provide advice on Framework Programme management practice.

A key principle for the ESF and the Member Organisations at a national level is to optimise the contribution of science in the formulation and implementation of European science and innovation. This is crucial both in the provision of advice on the detailed content of the Work Programmes and in the delivery of research programmes of the highest quality and relevance to FPV goals. The ESF is encouraged by the willingness of the European Commission to examine its current management arrangements, its commitment to build on best practice and its openness in considering new ways of achieving its goals through diversification of existing mechanisms and even a degree of decentralisation.

## Engaging science in the formulation and oversight of work programmes

### – Programme development

ESF believes that it would help the scientific community to respond to FPV Key Actions, if these are clearly described. Such descriptions should include:

- a coherent set of clear objectives;
- an indication of the coverage in terms of the broad, underpinning platform of applied, generic and basic research and technologies;
- a rationale with a strong basis in the Community Treaties, focused on important common problems and challenges where RTD at a European level provides added value to existing national and European strengths.

### – in the External Advisory Groups

The European Commission and Member States have determined that there should be greater involvement of the users of research in managing the FPV programmes, while ensuring there

are fewer programmes and attendant committees than in FPIV. Over-arching regulatory Programme Management Committees (PMCs) are to be complemented at the level of single (or groups of) Key Actions and Generic Technologies by External Advisory Groups (EAGs) to the European Commission. The ESF considers that there is much to be gained by bringing together, in the EAGs, experts from academia, industry and other users, to allow linkage between user-led definition of specific problem areas and science-led consideration of feasibility and research approaches. The concerns of the EAGs should be strategic formulation and monitoring rather than operational issues.

It is important for the European Commission to maintain the confidence of the scientific community in this innovation in management. Thus, the ESF considers that it is important for the efficient operation of the EAGs for them to have:

- a judicious balance of expertise in the EAGs between the various users of research (e.g. various industry sectors, private and public) and scientists representing different approaches and expertise. This balance should reflect the balance and content of Programme and key action objectives and RTD approaches;
- the highest calibre of expert, in terms of breadth of scientific and technical knowledge, or of policy, with active and strong links to the wider scientific and user communities, and a proven capacity to develop and implement research-based strategies;
- a balanced national diversity in EAG membership but without formal national representation, the members acting in a personal capacity while responsive to their wider communities;
- transparency in the appointment of EAG members, with clarity in the role of EAG members and in the lines of accountability between the EAG and the Programme Management Committees. The strategic advice of

EAGs should be transparent to the scientific community, as should be their relationship to other advisory bodies such as ESTA, IRDAC, CREST and the Commission's informal groups. The composition of EAGs should be made public. The ESF welcomes the European Commission's commitment to such transparency.

### **– in Programme management**

The reduction in the number of Programme Management Committees (PMCs) in FPV means each will have a broader range of science and technology to overview than in FPIV. This will produce challenges, especially in evaluating and integrating the strategic advice of the EAGs which could be difficult for the new PMCs directly, given their inevitably thinly spread and heterogeneous expertise. The ESF wishes to point to the advantage of:

- establishing *ad hoc* **PMC subgroups** to provide concentration of expertise in preparing the PMC in its tasks of strategic integration, monitoring and co-ordination in coherent programme areas (e.g. such as health or environment);
- supplementing the core PMC membership of these *ad hoc* subgroups with additional scientific expertise to ensure full breadth and depth of coverage;
- providing transparency by making public the names and institutional affiliations of PMCs and of PMC subgroups.

### **– in formulating concerted groupings of proposals**

There may be greater scope for increased decentralisation, with delegation of the planning and management of specific groupings of projects to the scientific community, in the sense of extending the concept of 'concerted action' from a network of individuals to a grouping of strategically coherent projects as already occurs in several areas. The advantages

would be a greater involvement of the scientific and user communities, added value from a more strategic approach to solving complex research problems, and the engagement of a wider network of expertise – going even beyond the European Union. This could be achieved by working with or through European and national organisations external to the European Commission.

### **Ensuring the confidence of the scientific community**

#### **– in project evaluation and selection**

European research funding should be based on efficient and transparent mechanisms in order to favour competition and enable selection of the very best research proposals.

Peer review by impartial external experts must remain the basis for the selection process. The scientific community needs to be engaged fully in both the submission of proposals and their evaluation. The ESF recognises and appreciates the strengths of the present systems employed by the European Commission, yet the scientific community itself believes that there are still gains to be made. These include the following:

- The ESF appreciates the efforts already made by the Commission to provide transparent and published criteria for assessment together with their relative weightings. In many ways, this compares favourably with the level of transparency achieved at the national level. However, improvements can still be made and the importance of providing adequate project management details (milestones and deliverables) and of plans for dissemination and exploitation should be further emphasised. Such requirements should be explained clearly within published Programme documentation. While the attempt at quantification of the evaluation process is desirable, the European Commission should not put

undue reliance on the numerical results of the process but should use these with discretion and fully explain their use to the PMCs.

- Some increased clarity about the selection criteria and processes is essential for proposers and evaluators alike. In particular, the scientific community is often confused about the relative weightings given to 'added European value' and to objectives such as economic and social cohesion. These should be explained within the published selection criteria.
- In the interests of transparency and of increasing confidence in the quality of the evaluation (e.g. in regards breadth and specificity of expertise) the European Commission should be encouraged to make public a list, by Programme, of evaluators consulted by the Commission. Such a list should be published at the end of each evaluation process following Calls for Proposals.
- Providing detailed feedback from the evaluation process to the proposers in order that there can be a steady increase in the quality of proposals.

### – moderating the volume of demand

This would lift the burden on the scientific community and the European Commission alike. It could be achieved by:

- tightening the **focus** of Calls for Proposals and avoiding calls with broad thematic objectives, while retaining flexibility in relation to the research approaches. Key Actions should be amenable to this approach. The broader nature of the generic technology areas may continue to pose a challenge in this regard but it is important to address the issue of 'over-application'.
- As advocated in our earlier papers, informal **pre-screening** for strategic relevance and eligibility, but not for quality, has been employed effectively both nationally and in some FPIV programmes, to reduce the lengthy preparatory effort currently required in over-subscribed programmes and the

number of proposals made. This approach could be usefully extended throughout FPV.

- In relation to the evaluation process itself, we acknowledge that the bringing together of experts in Brussels has several advantages, especially through the 'consensus' groups, which prepare the written evaluations, in that differences due to scientific background and culture can be ironed out. A useful by-product of this process is in the informal 'networking' that this produces. However, the detailed operation of the process may require further consideration. For example, it may be possible to reduce the time and expense of bringing experts to Brussels, by allowing them access to proposals (or key summary material) 'at home' in advance of meetings. This would also allow access to existing scientific and technical literature and databases. The appointment of independent monitors of the evaluation process, as has already occurred in FPIV, should be continued.

### – from evaluation to funding

It is not always obvious to PMCs, how the scientific evaluations have been transferred into funding proposals. Transparency in this aspect of the process would assist the PMCs in giving their advice to the European Commission and in the feedback to proposers.

### – in the administration of approved projects

The Commission's funding of projects through contracts, and the negotiations involved, are in many aspects unique and therefore may be unfamiliar to proposers. The contractual processes are especially demanding on the resources of the research community, and greater simplicity should be the aim.

Suggestions for improvements include:

- shifting the emphasis from detailed pre-planning of individual steps in a project to one based on defining and monitoring key outputs. This would give participants and the Commission greater flexibility in the routes to be taken;

- shortening the project negotiation period and considering the desirability of using grants as against contracts in some areas of FPV;
- extending the use of devolved management, which has been used with success, for example, in the Biotechnology programme for AMICA. The use of devolved management in areas such as IHP should be actively considered. For example, the ESF initiated and runs a European Research Conference scheme. This was subsequently adopted within the Framework Programme. As all ESF proposals are subject to peer review before submission to the TMR Programme, there is a case of double review. Greater efficiency could be achieved by devolution of the scheme to the ESF.

#### – in the continuity of funding

- While recognising that each Framework Programme is the subject of a separate legal decision by the European Parliament and the Council of Ministers (within the procedures set out in the Treaty of Union and the Treaty of Amsterdam), there is always a danger of significant breaks occurring between the Programmes. There will always be a need for some degree of continuity and such funding gaps may have damaging effects in the break-up of scientific consortia and teams and in creating considerable difficulties for the involvement of SMEs in the Framework Programme.
- Recognising the need for continuity in individual activities is important. Thus, it may be desirable to provide contracts of longer than the normal two or three year period especially with projects of a longer-term nature. For example, projects involving a component of long-term ecological monitoring of environmental change and in the establishment, operation and evaluation of clinical trials demand such an approach. This would allow for continuity of action and of research teams in these specific areas.

## Creating a European scientific community

- The need to develop co-operation with other European scientific and technological co-operation frameworks and organisations has been highlighted in the Commission's proposals. Examples quoted include EUREKA, COST, ESA, EMBL and CERN. Given the need to ensure that FPV has firm roots in the basic research capacity of the Union, the ESF, as the body which is the association of major funding agencies and institutions in the Member and Associated States, is able to provide high level independent scientific advice.
- In relation to COST, we consider that there is scope for a strengthening of links between the ESF and COST to our mutual benefit and with a clear definition of roles, both with the European Commission and with the Council of the European Union secretariats. This process has been initiated and will continue. The COST and ESF scientific co-operation frameworks are complementary and often provide the basis for research proposals to the Framework Calls.

## Conclusions

The success or otherwise of the Fifth Framework Programme relies on the full engagement of the European research community. This relies on a clear and transparent management approach at all levels of the Programme, including overall strategic management; project evaluation and selection; and project administration. Ensuring the highest scientific quality of actions must be the over-riding aim of the Programme, which can then be coupled with efficient administration of the project to ensure it meets its objectives. In addition, it is important that results can be disseminated and exploited fully, in order to meet the overall objectives of the Framework Programme in terms of strengthening the EU's industrial competitiveness and in supporting other EU policy objectives.

## Managing FPV – checklist of ESF recommendations

An essential key to the success of a Framework Programme must be its efficient management which can bring together the interests of the funders (the Member States and their representatives), the operators (the European Commission), the contractors (researchers in both the public and private sectors) and those responsible for ensuring accountability (the European Parliament). Following on from its previous advice on the content of the Fifth Framework Programme (FPV), the ESF considers that it is essential that the scientific community is fully engaged in the formulation, oversight and management of FPV activities.

In the formulation and oversight of workprogrammes, the ESF recommends that:

- Programme Formulation requires coherent sets of clear objectives and an indication of a topic's coverage with its attendant rationale;
- External Advisory Groups (EAGs) should be concerned with strategic formulation and monitoring rather than operational issues. EAGs should have a balance of expertise and national diversity (although not acting as national representatives) with the highest calibre of expert membership acting in a personal capacity;
- given the broad areas of activity in each Programme, ad hoc Programme Management Committee (PMCs) sub-groups are needed in order to concentrate expertise and should be supplemented by additional scientific expertise as necessary;
- transparency is important in establishing confidence within the scientific community and the names of EAGs and PMC sub-groups should be made public;
- the concept of 'concerted actions' could be systematically extended from networks of individual scientists to groupings of strategically coherent projects.

In order to develop the confidence of the scientific community, the ESF advocates:

- the maintenance of an impartial peer review system;
- further explanations of the selection criteria used;
- providing detailed feedback to proposers to provide for a steady increase in the quality of proposals;
- creating transparency by the post-hoc publication of the names of experts used in the evaluation process;
- moderating the volume of demand by having clearly focused Calls for Proposals and by the introduction of a pre-screening process for proposals;
- developing the evaluation process further and monitoring it by the appointment of independent monitors;
- increasing transparency in the process of using evaluations in the preparation of funding proposals;
- that, in the administration of approved projects, emphasis should be moved from the pre-planning of individual steps in a project to defining and monitoring key outputs; shortening the contract negotiation period and considering the desirability of using grants rather than contracts. Further consideration should be given to extending the use of devolved management;
- every effort should be made to avoid funding gaps between Framework Programmes, which may have deleterious effects on both scientific teams and consortia and the involvement of SMEs. In addition, in administering projects allowance should be made for the longer-term nature and continuity of certain projects by the introduction of extended contracts.

In developing a more integrated European scientific community, the ESF considers that the management of FPV should aim to create such a scientific community by co-operation with other European scientific groupings, including ESF, and in the further development of links between the ESF and COST.

**European Science Policy Briefings** are published by the European Science Foundation (ESF). They address selected science policy issues of key concern to the Foundation's member organisations and the wider scientific community. By drawing on the advice and expertise of the ESF's membership, the briefings aim both to provide information and to promote discussion.

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