



Preparing for FP6

Report on the Analysis of Expressions of Interest 2002

Call identifier EOI.FP6.2002

Preparing for FP6

1.1.6.3 Global Change and Ecosystems

Report on the analysis of Expressions of Interest received in response to the invitation published¹ on 20 March 2002 with a deadline of 7 June 2002

¹ OJ C 71/14 20.3.2002

Analysis of Expressions of Interest (EoI)

1.1.6.3 Global Change and Ecosystems

1. Introduction

Only complete EoI, that is those containing the one page of administrative information and the 5-page summary, were analysed by the Commission Services. Independent experts, working as advisers, assisted the Commission with the analysis. Their principal task was to review the analysis prepared by Commission officials and where appropriate examine individual EoI

The information provided below is the Commission's analysis of the EoIs to identify the research actions ready for proposed Integrated Projects and Networks of Excellence which show a high relevance for Specific Programme topics and which may be used as a possible basis for the preparation of the Work Programme and first calls.

It is strongly emphasised that the submission of an EoI was by no means obligatory and gives no preference to any proposal in subsequent calls for proposals. All proposals will be evaluated against the published criteria. No account will be taken of whether or not they had been the subject of an EoI. It should also be noted that the Commission's treatment of the EoI does not oblige the Commission to formulate a call in a particular way.

2. EoIs treated by the Priority Thematic Area 1.1.6.3 Global Change and Ecosystems

Research priority	EoI submitted		
	Total	NoE	IP
Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks (oceans, forests and soil).	13%	31%	69%
Water cycle, including soil-related aspects:.	26%	27%	73%
Biodiversity and ecosystems:	28%	33%	67%
Mechanisms of desertification and natural disasters:	8%	36%	64%
Strategies for sustainable land management, including coastal zones, agricultural land and forests.	16%	27%	73%
Operational forecasting and modelling, including global climate change observation systems:	2%	47%	53%
Complementary research	3%	51%	49%
Cross-cutting research in 1.1.6.3	3%	52%	48%
Total	100%	33%	67%

A very large response resulted in 1412 complete EoI being treated. They were all analysed to establish that they were in the scope of the thematic priority and the extent to which there were indications, based on how they addressed the points set out in Section 3 the Guide for Submitters, of a readiness to prepare a research action for an Integrated Project or Network of Excellence for the first calls for proposals. Only 211 EoI (15% of the total submitted) were considered to be fully ready. These were spread across the different sub-research priorities as indicated in the table below. Of those remaining, some 35% were seen as not yet ready. The remaining 50% were either out of scope, incomplete or of insufficient quality.

It was evident that many submitters may not have understood the new instruments – a number of projects reflected more the philosophy of the FP5 programme and would fit better to other available instruments such as specific targeted projects.

A significant number of EoIs referred to topics not present among the Priority Thematic Area. Several topics - urban development, cultural heritage and environmental technologies - were considered out of scope although they may be included elsewhere in FP6, such as under the heading “Supporting policies and anticipating scientific and technological needs” which was not covered in the invitation to submit EoI.

Regarding the “Ready” EoIs the following observations were made:

- A set of excellent EoIs was submitted, covering a large range of S&T domains, relating directly to Framework Programme 6. Some EoI relating to more than one sub-priority were recognised as being particularly good because of their integrating nature.
- Analysis of the EoIs showed that the expected duration of both IPs and NoEs is 5 years with an average required budget of between 17 and 18 M€ for both instruments, although there are wide variations.
- As the number of topics where there is a readiness to propose a research action is much higher than could be met by the budget expected to be available for the first year the Commission will have to select those topics which are most timely for early inclusion.
- It must be recognised that only a small fraction of those submitting EoI will be funded under FP6, even among those that fully meet the requirements. The challenge will be to nurture the interest expressed into the development of the ERA as well as, where appropriate, other parts of the FP6 Work Programmes.
- This set of excellent EoIs tends to integrate the majority, and even in some cases, the totality of the European S&T potential in the relating thematic priorities.
- There was a strong imbalance in the nationality of the submitting organisation of the EoI as is evident from the table *Annex I* of the Introduction document. This table should not be taken as an indication of a readiness to prepare a research action. It should also be recognised that the co-ordinator of a subsequent proposal may not come from the same organisation or country as the submitter of the EoI.

- A significant number of EoIs came from the associated Eastern European countries. Many were not well integrated and did not provide the necessary requested information, often only addressing local research topics and without other research partners (when there were partners almost all came from Eastern Europe). Further communication efforts with potential participants from the Eastern European research institutions will be necessary. Some consortia submitted from Western European included Eastern European partners but their roles tended to be rather weak.
- The international dimension is particularly relevant in many EoIs, more than 12 non-European countries are to be found among the potential partners. For example with regard to agriculture and forestry production, in addition to the countries requesting accession to the EU, several Developing Countries and other Third Countries were included.
- Similarly in biodiversity, an issue of global concern, includes relevant non-European partners. There was a notable interest for the Mediterranean area followed by central Africa and Latin America. USA, Canada and China are also indicated as direct or potential partners. In addition several international institutions are included among the potential participants.
- As to gender balance, 16% of submitters were female and 84% male.
- There was very little industrial involvement in the EoIs, and SMEs were rarely submitters or identified as partners in EoIs. This is not surprising since overall there are limited commercial opportunities for SMEs in topic 1.1.6.3. Nevertheless considerable effort will have to be made to achieve the target of 15% of the budget for SMEs within the Thematic Priorities which is envisaged within the Framework Programme budget.

3. Detailed analysis of coverage of the Thematic Priority 1.1.6.3 Global Change and Ecosystems

The following information shows where EoI were found to be of high relevance to the Specific Programme Topics of 1.1.6.3 Global Change and Ecosystems and likely to be ready to submit a research action for an NoE or IP in the first calls for proposals

In the detailed breakdown where topics are indicated as being ready for NoE or IP, there is at least one EoI considered ready for the first call using one of the new instruments

Specific Programme Text ²	NoE	IP	Coverage by EoI
<p>– Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks (oceans, forests and soil). The objective is to detect and describe global change processes, associated with greenhouse gas emissions and atmospheric pollutants from all sources, including those resulting from energy supplies, transport and agriculture, to improve prediction and assessment of their global and regional impacts, evaluate mitigation options and improve the access of European researchers to facilities and platforms for global change research.</p> <p><i>Research will focus on:</i></p>			
<p>understanding and quantification of changes in the carbon and nitrogen cycles</p>	<p>✓</p> <p>✓</p>	<p>✓</p> <p>✓</p>	<p>NoE on the global carbon cycle and IP on the marine carbon cycle and the European carbon balance are comprehensive, serving the research needs in the Kyoto perspective. A novel aspect is the link between carbon cycle, biodiversity and economy. The nitrogen cycle is also well addressed by NoE dealing with N₂ fixing micro-organisms. Less developed is coverage of agriculture and forestry.</p> <p>Ocean aspects of carbon cycle covered by IP; and ocean, atmospheric and terrestrial carbon communities linked by NoE</p>

² The text used here is as used in Annex 1 of the Guide for Submitters “Amended proposal for a Council Decision concerning the specific programmes implementing the Sixth Framework Programme of the European Union for research, technological development and demonstration activities. (COM(2002)43 final” It differs in a number of respects from the text expected to be adopted by the Council.

the role of all sources of greenhouse gases and atmospheric pollutants and their sinks in the biosphere;	✓	✓	A common framework of co-ordination and communication of atmospheric research provided by NoE. Aerosol-climate interactions addressed by NoE and IP. Integration of atmospheric pollutants, their impacts and mitigation strategies dealt with by IP. Coverage of air quality forecasting and pollutants behaviour requires further development.
their effects on climate dynamics and variability, ocean and atmospheric chemistry, and their interactions		✓	Climate dynamics and processes in the Mediterranean and the Arctic, understanding inter-annual to centennial climate variability and ocean carbon cycle dynamics and sequestration dealt with by IP. NoEs coverage limited to polar regions and climate impacts on ecosystems.
future stratospheric ozone levels and ultraviolet radiation	✓	✓	Good coverage of ozone-climate interactions, transport (air and land) emissions and impacts on climate and impact of UV radiation.
prediction of global climatic change and impacts; associated phenomena (e.g. El Niño, changes in sea level and ocean circulation)	✓	✓	Earth system modelling and a new generation of integrated climate change studies addressed by NoE. Global and regional climate change and impacts covered by IP. Less advanced is coverage of numerical weather prediction and extreme events.
mitigation and adaptation strategies.		✓	Good coverage for water and carbon cycle in Europe and the issue of greenhouse gases mitigation through optimisation of bio-energy crops. Coverage of adaptation issue focuses on developing countries and is more relevant to specific targeted project.
<p>– Water cycle, including soil-related aspects: the objective is to understand the mechanisms and assess the impact of global change and in particular climate change on the water cycle, water quality and availability, as well as soil functions and quality to provide the bases for management tools for water systems to mitigate the impacts.</p> <p><i>Research will focus on:</i></p>			
impact of climate change on the components of the hydrological cycle – land/ocean/atmosphere interactions;	✓	✓	Climate modelling at catchment scale and regarding climate variability, floods and extreme events covered by both instruments.
groundwater/surface water distribution, freshwater and wetland ecosystems, soil functioning and water quality, assessment of vulnerability of water/soil systems to global change	✓	✓	Modelling ecological impacts of global change on surface water models, development of ecological indicators, and assessment of the river / soil / groundwater system functioning uses both instruments
management strategies and their impacts	✓	✓	Methodologies of integrated water resources management and transboundary issues; integrated management of the water/soil systems; integrated urban water management in Europe and developing countries; new approaches to water scarcity; and monitoring tools and pollution mitigation technologies are all addressed by both instruments.

scenarios of water demand and availability.			Further development needed to address this complex process
<p>– Biodiversity and ecosystems: the objectives are to develop a better understanding of marine and terrestrial biodiversity and of ecosystem functioning, understand and minimise the impacts of human activities on them and ensure sustainable management of natural resources and terrestrial and marine ecosystems and the protection of genetic resources.</p> <p><i>Research will focus on:</i></p>			
assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services with emphasis on marine ecosystems' functioning;	✓	✓	Functioning of marine ecosystems covered by IP, and marine biodiversity at the global scale and monitoring of the Pelagic ecosystem covered by NoE. Coastal systems, and deep-sea ecosystems and biodiversity covered by NoE and IP.
	✓	✓	Understanding of biodiversity and ecosystems functioning as well as assessing and forecasting changes covered.
relationships between society, economy, biodiversity and habitats	✓	✓	Relates to biodiversity and ecosystems, including the understanding and minimizing the impacts of human activities on them.
integrated assessment of drivers affecting ecosystems' functioning and biodiversity, and mitigation options	✓	✓	Relates to biodiversity and ecosystems
risk assessment, management, conservation and rehabilitation options in relation to terrestrial and marine ecosystems.	✓	✓	Covers sustainable management, risk assessment and rehabilitation options regarding biodiversity and ecosystems.
<p>– Mechanisms of desertification and natural disasters: the objective is to understand the mechanisms of desertification and natural disasters, including their links with climatic change so as to improve risk and impact assessment and forecasting, and decision support methodologies.</p> <p><i>Research will focus on:</i></p>			
large scale integrated assessment of land/soil degradation and desertification in Europe and related prevention and mitigation strategies	✓	✓	Assessment, forecasting and monitoring the desertification phenomenon covered by IP. Restoration of Mediterranean ecosystems and the integrated management and prevention of desertification in Europe addressed by NoE.
long term forecasting of hydro-geological hazards	✓	✓	Landslides, avalanches and flood risks covered by NoE. Only coastal defence covered by IP other areas need further development.
natural hazard monitoring, mapping and management strategies	✓	✓	Good coverage of integrated approach to natural disasters management, including forest fires
improved disaster preparedness and mitigation.	✓	✓	Integrated disaster science approaches, multiple disaster management, vulnerability and risk assessment mitigation and data quality covered by

			both instruments.
<p>– Strategies for sustainable land management, including coastal zones, agricultural land and forests. The objective is to contribute to the development of strategies and tools for sustainable use of land, with emphasis on the coastal zones, agricultural lands and forests, including integrated concepts for the multipurpose utilisation of agricultural and forest resources, and the integrated forestry/wood chain in order to ensure sustainable development at economic, social, and at environmental levels.</p> <p><i>Research will focus on:</i></p>			
development of the necessary tools for integrated management of coastal zones (ICZM)	✓	✓	Sustainable regional development: transition towards sustainable systems of regional innovation in Europe (including sensitive areas such as mountains, coastal zones and islands) covered by both instruments. Potential IP for ICZM are not yet ready.
evaluation of positive and negative externalities under different production systems for agriculture and forestry	✓		Agriculture covered, particularly multifunctionality aspects regarding landscapes
development of strategies for sustainable forest management considering regional specificity	✓	✓	Multifunctionality aspects and land-use modelling, including the mountain, island and city context, covered by both instruments
strategies/concepts for sustainable management and multipurpose utilisation of forest and agriculture resources	✓	✓	Agriculture and forestry covered, including tools for assessing agro-system sustainability, sustainable management, the sustainability of organic agriculture, and forest condition.
cost-efficiency of new environmental-friendly processes and recycling technologies within the integrated forestry/wood chain.	✓		Potential IPs need further development
<p>– Operational forecasting and modelling, including global climate change observation systems: the objective is to make systematic observations of atmospheric, terrestrial and oceanic parameters including those of climate so as to improve forecasting of the marine, terrestrial and atmospheric environment, consolidate long-term observations for the modelling and in particular prediction, establish common European data bases and contribute to international programmes.</p> <p><i>Research will focus on:</i></p>			
observations of basic marine, terrestrial and atmospheric parameters necessary for global change research and management strategies, and of extreme events	✓	✓	Both instruments are covered by marine observation and forecasting systems, and data management
large observing/monitoring/surveying/operational forecasting/modelling networks (taking into account the developments of GMES and providing the European dimension to G3OS).	✓	✓	Exploitation and integration of space and non-space data for global change research dealt with by NoE. Many EoI were technology-push lacking capability of exploiting the observations for climate studies on a European dimension. Ocean aspects covered by IP
– Complementary research will focus			

on:			
development of advanced methods for risk assessment	✓	✓	Risk assessment methodologies and risk approaches for individual chemicals; and tools for comparing environmental impacts in the product life cycle covered by IP. Scientific aspects of risk management and risk communication including the implication of the European diversity in the development of risk analysis methodologies; and decision support tools in relation to the product development cycle addressed by NoE
and methods for appraising environmental quality, including relevant prenormative research on measurements and testing for these purposes.	✓	✓	Environmental indicators and predictive models including reliable indicators of population health covered by IP; and integration of experimental and social science covered by NoE. For pre-normative research it is most likely that other instruments will be more suitable
Cross cutting within 1.1.6.3	✓	✓	Sustainable Development - Integrated concepts and assessment methods and tools for Sustainable Development, database development for Environment and Health assessment, modelling for policy appraisal and scenario building for sustainability impact, environmental sustainability thresholds, composite indicators and statistics, covered by both instruments. EoI for “Sustainability Impact Assessment (SIA)”, do not focus on it as a major task to achieve but propose tools and methodologies that will serve SIA purposes
	✓		Marine - Marine genomics and technologies for ecosystem research in marine environment for very shallow to deep water covered by NoE