

WORK PROGRAMME 2010

COOPERATION

THEME 6

ENVIRONMENT (INCLUDING CLIMATE CHANGE)

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THEME 6: ENVIRONMENT (INCLUDING CLIMATE CHANGE)

Objective of the Environment Theme (according to FP7 Specific Programme for 'Cooperation'): To promote sustainable management of the natural and human environment and its resources by advancing our knowledge on the interactions between the biosphere, ecosystems and human activities, and developing new technologies, tools and services, in order to address in an integrated way global environmental issues. Emphasis will be put on prediction of climate, ecological, earth and ocean systems changes, on tools and on technologies for monitoring, prevention and mitigation of environmental pressures and risks including on health and for the sustainability of the natural and man-made environment.

I CONTEXT

Approach for 2010

In 2009, the overarching priority of the Environment Theme was "adaptation to climate and environmental change and related issues such as sustainable cities and coastal zones". In 2010, the aim is to continue supporting the main environmental policy and S&T drivers in the area of climate and environmental change, their consequences and the link to other sectors such as energy, transport, agriculture etc. Furthermore, the goal is to address concretely some new policy drivers such as European Economic Recovery Plan, The Energy-Climate Package as well as the Renewed Lisbon Agenda by taking into account the Strategic Agenda of the Community Lisbon Programme (CLP) (2008-2010) particularly the '10 key objectives' including sustainable consumption and production, renewable energies and low-carbon and resource-efficient products in order to enhance the development and uptake of environment friendly technologies and services.

In the current context of economic insecurity and the **emerging and increasing competition for natural resources and environmental services**, the aim of the WP2010 is to address '**Environmental safety and welfare**' as an overarching theme for all activities across the work programme 2010.

The objective would be, through research, to contribute to **assessing, reducing and preventing tensions and conflicts related to the depletion of natural resources and environmental services** which are arising due to rapid environmental changes and/or natural and man-made hazards. Tensions include the increasing competition at various levels (from regional to global) for natural resources and environmental services, the demographic pressures, the movement of populations searching better environmental conditions etc. These tensions and conflicts are expected to affect directly both developing and developed countries and their relations. Issues such as climate change, water scarcity, (re)-emergence and spread of diseases, depletion of marine resources, loss of biodiversity, increased intensity of natural disasters, and unsustainable urban development will be addressed and solutions be developed making use of all means including technologies, earth observation, modelling and socio-economic research approaches and involvement of policy makers. To provide solutions to tackle these societal issues the

following research priorities, and related socio-economic aspects, would be addressed in a balanced way both using the 'top-down' and 'bottom-up' approaches:

- Lifecycle of scarce resources (optimisation of their use, systems based approach, integration of land use, air, water, energy, sanitation systems in urban and rural context)
- Resource productivity through environmental technologies for reduced use of materials e.g. compatibility for re-use, conservation and recycling of building materials
- Development and integration of environmental models (systems approach to investigate the balance between natural resources and livelihoods, and to disaster prevention, resistance and resilience)
- Environmental impact of consumption: assessment and evaluation of environmental awareness and education, new tools for consumption policy
- Scenario development for resource distribution
- Innovative methods for efficient integrated management and use of resources

- **SME relevant research and 'bottom-up' approaches**

Actions to promote industrial and SME participation will be sought while addressing the priority "Resource productivity through environmental technologies" and participating in the joint and coordinated calls in relation to the European Economic Recovery Plan. This approach will be taken into account in the evaluation and is pursued through the following topics:

ENV.2010.1.3.2-1 Building a culture of risk prevention in Europe

ENV.2010.3.1.1-1 Technologies and systems for urban water cycle services

ENV.2010.3.1.1-2 Innovative system solutions for municipal sludge treatment and management

ENV.2010.3.1.1-3 Decentralised water supply and sanitation technologies and systems for small communities and peri-urban areas

ENV.2010.3.1.3-1 Innovative technologies and eco design recommendations for reuse and recycling of Construction and Demolition (C&D) waste, with a special focus on technologies for onsite solutions

ENV.2010.3.1.3-3 Materials, technologies and processes for sustainable automotive electrochemical storage applications

ENV.2010.3.1.5-1 Resource efficient and urban friendly construction sites

ENV.2010.3.1.5-2 Environmental technologies for brownfield regeneration

ENV.2010.3.2.1-1 Non-destructive diagnosis technologies for the safe conservation of movable cultural assets

ENV.2010.3.2.4-1 Compatible solutions for improving the energy efficiency of historic buildings in urban areas

ENV.2010.3.3.2-1 Boosting Life Cycle Assessment use in SMEs: development of sectoral methods and tools

In addition, "bottom-up" topics have been introduced to further exploring new and innovative approaches and to encourage participation of stakeholders including the SME and industrial participation. The 'bottom-up' approach includes the following topics:

ENV.2010.3.1.3-2 Innovative technologies and system solutions for municipal solid waste management in densely populated cities

ENV.2010.3.1.8-1 Development of technologies for long-term carbon sequestration

ENV.2010.4.2.3-1 Foresight to enhance behavioural and societal changes enabling the transition towards sustainable paths in Europe

ENV.2010.4.2.3-3 Brokerage activities to promote sustainable consumption and production patterns

• **International Cooperation**

Following the EU-AU College conclusions of 1 October 2008, S&T cooperation with Africa is given priority in 2010. A number of topics have already targeted Africa (including the Southern Mediterranean area) in WP2009 and this cooperation will be reinforced in line with the conclusion of the EU-AU college debate and further developed during the EU-Africa Environment research workshop in November 2008 dedicated to identifying common research priorities.

Activities are foreseen with the US in particular in the context of the implementing arrangement with US-NSF:

ENV.2010.2.2.1-1 North Atlantic Ocean and associated shelf-seas protection and management options

International cooperation is supported and encouraged throughout all areas, and all topics are open to cooperation with third countries. There is provision for the financing of the participation of research partners from the International Cooperation Partner Countries (ICPC¹). The Specific International Co-operation Actions (SICA) are targeted to International Cooperation Partner Countries (ICPC), and include the following topics:

ENV.2010.1.2.1-1 The effect of environmental change on the occurrence and distribution of water related vector-borne diseases in Africa

ENV.2010.1.2.3-2 Greenhouse gas emission reduction policies and their impacts on public health and well-being in urban areas

ENV.2010.1.3.3-1 Early warning and forecasting systems to predict climate related drought vulnerability and risks in Africa

ENV.2010.2.1.1-1 Integrated management of water and other natural resources in Africa

ENV.2010.2.1.5-1 Assessing vulnerability of urban systems, populations and goods in relation to natural and man-made disasters in Africa

ENV.2010.2.2.1-2 Global plankton data set building in view of modelling

ENV.2010.3.1.1-3 Decentralised water supply and sanitation technologies and systems for small communities and peri-urban areas

ENV.2010.3.1.1-4 Water harvesting technologies in Africa

¹ The list of ICPC countries is included as an Annex 1 to the Cooperation work programme 2010.

- **Cross-thematic approaches**

- Call 'The ocean of tomorrow: Joining research forces to meet challenges in ocean management': a special attention is to be paid to encourage pluri-disciplinarity in marine sciences and technologies which cuts across themes as mentioned in the Specific programme "Cooperation"² and in the Communication³ on "A European Strategy for Marine and Maritime Research". Such cross-thematic approach is addressed through a call on "The ocean of tomorrow: Joining research forces to meet challenges in ocean management" involving various Cooperation Themes (Theme 2 – Food, Agriculture and Fisheries, and Biotechnologies, Theme 5 - Energy, Theme 6 - Environment (including climate change), Theme 7 - Transport and Theme 8 – Socio-economic sciences and Humanities). The call is implemented through three different topics: topic 1 "Quantification of climate change impacts on economic sectors in the Arctic"; topic 2 "Vectors of changes in marine life, impact on economic sectors" and topic 3 "Sub-seabed carbon storage and the marine environment".
- A key feature of the 2010 work programme is the participation in actions within the European recovery package (see Annex 5 to the Cooperation work programme). This objective will be implemented under the scheme of Public-Private Partnerships (PPPs), namely "Energy-efficient Buildings" and "Green cars". The objective is to promote the convergence of public interests with industrial commitment and leadership to define strategic research activities in key sectors. In 2010 Theme Environment (including climate change) will participate in these two PPPs with an amount of about EUR 10 000 000 through the transfer and adaptation of a number of RTD topics. The following activities are foreseen:

A call⁴ in the context of the Public-Private Partnership 'Green Cars' will be launched involving Theme 4 Nanosciences, nanotechnologies, materials and new production technologies (NMP), Theme 5 Energy, Theme 6 Environment (including climate change) and Theme 7 Transport (including Aeronautics).

In addition, a call⁵ in the context of the Public-Private Partnership 'Energy-efficient Buildings' will be launched involving Theme 3 Information and Communication Technologies (ICT), Theme 4 Nanosciences, nanotechnologies, materials and new production technologies (NMP), Theme 5 Energy, and Theme 6 Environment (including climate change).

² OJ L 400/102 30.12.2006 Council Decision of 19 December 2006 concerning the Specific Programme "Cooperation" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013).

³ Com (2008) 534 final, 3.9.2008 - Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: A European Strategy for Marine and Maritime Research : A coherent European Research Area framework in support of a sustainable use of oceans and seas.

⁴ See topic ENV.2010.3.1.3-3 and Annex 5 to the 2010 Cooperation work programme.

⁵ See topic ENV.2010.3.2.4-1 and Annex 5 to the 2010 Cooperation work programme.

- A call for Africa⁶ is targeted as a priority in 2010 and it will be implemented through cross-thematic collaboration involving Theme 1 Health, Theme 2 Food, Agriculture and Fisheries, and Biotechnologies and Theme 6 Environment (including climate change). The aim of this call is to address some of the Science & Technology objectives of the 'Africa - EU Strategic Partnership' putting emphasis on 'Water and Food Security' and 'Better Health for Africa'.

This call has a multi-disciplinary approach involving various scientific and technological research fields, such as food, agriculture, health, land and water resources, including their interaction with climate change, which have to be considered within an integrated scheme, and, where appropriate at river basin scale, building on existing knowledge and considering demographic changes, globalisation processes and sustainability. Due consideration should also be given to the various geographical, sectoral and cultural differences which exist within Africa. The integrated approach should also take into account broader socio-economic factors including: migration and resettlements, urbanisation, health care systems and programme interventions, destabilisation of national food reserves, variations of food and oil prices, etc.

The call intends principally to strengthen local capacities in the relevant science and technology fields and their applications, also through appropriate training activities and exchange of staff. The final outputs should provide amongst others, innovative management and governance tools and adaptive technologies suitable for the relevant authorities and stakeholders for providing contributions to reduce poverty, increase food security, academic training and health research networks, manage water more efficiently and protect natural ecosystems in Africa. The participation of local stakeholders, and/or regional actors, and the necessary networking, is considered of paramount importance to achieve the expected impact.

Relevant projects selected from each topic should establish synergies between them to enhance complementarities in the implementation phase. Therefore, a dedicated budget for clustering and coordination activities between the relevant selected projects should be foreseen in the overall budget planning of each proposal. The details of these topic-to-topic coordination activities will be defined during the negotiation phase with the Commission. A further coordination action promoted by the International Cooperation activities under the "Capacities" specific programme will also help establishing further synergies with other national, regional or international programmes.

This call is implemented jointly by Theme 1: 'Health', Theme 2: 'Food, Agriculture and fisheries, and Biotechnology' and Theme 6: 'Environment (including climate change)'. The various topics called are indicated in the corresponding work programmes.

The following topics are included in this work programme:

ENV.2010.1.2.1-1 The effect of environmental change on the occurrence and distribution of water related vector-borne diseases in Africa

ENV.2010.1.3.3-1 Early warning and forecasting systems to predict climate related drought vulnerability and risks in Africa

ENV.2010.2.1.1-1 Integrated management of water and other natural resources in Africa

⁶ See the AFRICA call fiche on page 85.

ENV.2010.3.1.1-3 Decentralised water supply and sanitation technologies and systems for small communities and peri-urban areas

ENV.2010.3.1.1-4 Water harvesting technologies in Africa

- **Dissemination actions**

Visibility, effectiveness and uptake of EU research results was the rationale behind cross-cutting 2009 topics on dissemination and brokerage and they will be reconducted and enhanced in 2010 and beyond. Policy relevant syntheses of the state of the art in the various areas of the Environment Theme will be launched, as appropriate as support actions or with expert groups. In addition, to address the particular needs of the enlarged Europe a coordination action would gather knowledge and research results in specific areas responding to the overall aim of the work programme and make these available to the entire Community. Furthermore, each proposal under this Theme should allocate appropriate efforts and resources to dissemination activities in order to promote the use and uptake of the results.

- **Support to ERA including ERA-nets**

Concrete measures promoting the structuring of European research area will include broad ranging ERA-nets which will be called for in the areas of 'Biodiversity' and 'Eco innovation' and 'Water management'. These topics will be subject to a call that will be launched separately (see Annex 4 to the 2010 Cooperation work programme, call FP7-ERANET-2010-RTD) with a requested Community contribution up to EUR 2 000 000 per project.

In addition, a coordinated action will be launched to allow Member States to discuss how to best align their R&D policy with sustainable development. Furthermore, following the recommendations made by the Networks of Excellence (NoE) High Level Group two coordination actions addressing some of the existing FP6 NoEs⁷ are envisaged.

- **Usage of Earth observation data**

Under a specific arrangement with the European Space Agency (ESA), those projects selected for funding will be granted access to ESA data as Category-1, i.e. research and application development, especially on long term Earth science issues, at cost of reproduction, within the scope of the specific proposal. (See detailed terms and conditions at <http://eopi.esa.int>). The usage of ESA data is encouraged for all activities of the Environment Theme under this call for proposals (6.1, 6.2, 6.3, and 6.4). Likewise, when relevant, the usage of data and products generated through the GMES initiative is encouraged in all activities of the Environment Theme, particularly in Sub-activity 6.4.1 Earth observation systems and monitoring methods for the environment and sustainable development.

⁷ See topic ENV.2010.1.1.2-2 and topic ENV.2010.2.2.1-3

- **Theme-specific information**

The budget of the 2010 work programme will be implemented on an annual basis and is divided into sub-activities with separate indicative budgets.

The following funding thresholds will apply to the FP7-ENV-2010 call:

- Collaborative Projects in this work programme are divided into a) small or medium-scale focused research project, and b) large-scale integrating project:
 - For small or medium-scale focused research project, the requested Community contribution shall not exceed EUR 3 500 000, except for topics ENV.2010.3.1.3-2 and ENV.2010.3.1.8-1 where the requested Community contribution shall not exceed EUR 2 500 000, for topic ENV.2010.1.2.3-1, where the requested Community contribution shall not exceed EUR 2 000 000 and topics ENV.2010.4.2.3-1 and ENV.2010.4.2.3-3 for which the requested Community contribution shall not exceed EUR 1 500 000.
 - For large-scale integrating project, the requested Community contribution shall be from EUR 4 000 000 up to EUR 7 000 000
- CSA, the 'Coordination and Support Action' funding scheme, allows for 2 different types of actions to be financed: a) coordinating action or b) supporting action. The requested Community contribution for these coordinating or supporting actions shall not exceed EUR 1 000 000.
- For CSA, ERA-net – coordinating action, the requested Community contribution shall not exceed EUR 2 000 000.

It is important to note that the above mentioned funding thresholds will be applied as eligibility criteria and that the proposals not fulfilling these thresholds are considered as ineligible. Only information provided in part A of the proposal will be used to determine whether the proposal is eligible with respect to budget thresholds and partnership.

All proposals of the call FP7-ENV-2010 including Collaborative Projects (large-scale integrating project) will be evaluated under the one-step procedure. In the case of large-scale integrating Collaborative Projects maximum one proposal will be retained per topic. In the case of small and medium-scale focused Collaborative Projects maximum two proposals will be retained per topic, unless otherwise specified in the topic description. There is no maximum number of proposals for Coordination and Support Action, except for topic ENV.2010.4.2.3-2, for which maximum one proposal will be retained.

At the Panel Review stage of proposal evaluation, a ranked list will be drawn up for every indicative budget shown in the call fiche.

If necessary, the panel will determine a priority order for proposals which have been awarded the same score within a ranked list. The approach described in Annex 2 of the Cooperation work programme will be applied successively for every group of *ex aequo* proposals requiring prioritisation, with the addition that among the proposals that address topics not otherwise covered by more highly-rated proposals, SICA proposals are given first priority.

In case there would be an insufficient number of eligible proposals passing the evaluation thresholds in order to consume the budget of a given Sub-Activity, the remaining indicative budget of that Sub-Activity will be transferred to the other Sub-Activities pro-rata. In case additional funding, such as third country contribution, becomes available or when residual

budgets remain under the Sub-Activities, the previous formula and criteria (in the order indicated) shall be used to establish the list of proposals suggested for funding:

- 1) Maximising coverage of the work programme
- 2) Prioritising SICAs
- 3) Maximising the number of projects funded and ensuring efficient use of the overall call budget

The pursuit of scientific knowledge and its technical application towards society requires the talent, perspectives and insight that can only be assured by increasing diversity in the research workforce. Therefore, all projects are encouraged to have a balanced participation of women and men in their research activities and to raise awareness on combating gender prejudices and stereotypes. When human beings are involved as users, gender differences may exist. These will be addressed as an integral part of the research to ensure the highest level of scientific quality. In addition, specific actions to promote gender equality in research can be financed as part of the proposal, as specified in Appendix 7 of the Negotiation Guidance Notes (ftp://ftp.cordis.europa.eu/pub/fp7/docs/negotiation_en.pdf). Gender aspects will be considered whenever relevant, in particular for the following topic: ENV.1.2.3-1 'Exposure models to assess the risks to operators, workers, residents and bystanders from exposure to plant protection products (PPPs)'.

II CONTENT OF CALLS IN 2010

Activity 6.1 Climate Change, pollution and risks

Sub-Activity 6.1.1 Pressures on environment and climate

Indicative budget: EUR 32 500 000 (includes EUR 3 000 000 contribution to the call "The ocean of tomorrow")

In 2010, focus will be put on assessing the vulnerability of ecosystems and key economic sectors due to climate change and providing cost-effective adaptation and mitigation measures supporting the post-2012 initiatives. Special emphasis will be given to interactions between air composition and climate change, carbon uptake by the oceans under future climate, improving climate information at sub-regional/local scales and quantification of climate mitigation costs through economic and climate model integration. Emphasis will also be given to exploring further mitigation options to climate change in cooperation with key developing countries and emerging economies.

Area 6.1.1.1 The Earth System and Climate: Functioning and abrupt changes

Not open in 2010.

Area 6.1.1.2 Emissions and pressures: Natural and anthropogenic

ENV.2010.1.1.2-1 Atmospheric chemistry and climate change interactions

The aim is to improve the understanding of the feedback mechanisms between the changing climate and the physical, chemical, biological processes that affect emissions of air pollutants, their chemical transformations and concentrations in the atmosphere to support the development of policies that both improves air quality and limits climate change. Research should include causes and effect of regional accumulations of air pollutants, changes of the atmospheric self-cleansing capacity and its links and feed-back with climate. Changes in tropospheric composition and chemistry should be quantified on the background of – and giving feedback to - climate change and processes over the next 50 years or so. Anthropogenic emission scenarios and their interplay with biogenic compounds must be taken into account (e.g. in O₃ and OH chemistry). Interactions and feedbacks should be considered at a range of spatial (e.g. including climatic zone and/or "biome" scales) and time scales including the relationship between local radiative forcing and local temperature response.

Funding scheme: Collaborative project (large scale integrating project)

Expected impact: Better estimates of air pollution and its impact on climate. Support to the EC Thematic Strategy on Air Pollution and Air Quality regulation. Better quantification on regional and global links between air pollution and climate change to underpin mitigation options and other policy initiatives.

ENV.2010.1.1.2-2 Networking activities on atmospheric composition and climate change for research collaboration and policy making

The purpose is to ensure the necessary coordination between European research activities in the field of atmospheric composition within the context of climate change. It builds notably on the efforts undertaken within the existing Network of Excellence (NoE) and other major European research projects strengthening the European dimension of this area in the ERA context. It will also establish links and contribute to research agendas of international atmospheric science programs. Socio-economic quantifications should be introduced on policy relevant issues. Related dissemination activities should include integrated assessment and synthesis of scientific results from recent and ongoing research and to transferring research results into policy/decision making.

Funding scheme: Coordination and Support Action (coordinating action)

Expected impact: Long-lasting co-operation and integration of European research institutions of ongoing FP6 NoE and other research projects in the field of atmospheric composition and climate change is expected. Relevant areas for cooperation should be: research programming, joint development and use of data bases, training and mobility of researchers, joint programming and use of infrastructure etc. The European added value lies in a directed effort towards sustainable integration of atmospheric and climate change research and should help to overcome fragmentation.

Area 6.1.1.3 The Global Carbon Cycle - greenhouse gas budgets

ENV.2010.1.1.3-1 Changes in carbon uptake and emissions by oceans in a changing climate

The main objective is to better understand and quantify the key physical and biogeochemical processes and feedback mechanisms controlling the magnitude and distribution of carbon sources and sinks in the ocean under past, present and future climate conditions. Research should also assess the vulnerability of the ocean sink/source under various climate change scenarios and the implications for climate stabilisation scenarios and relevant policies. Studies should draw on better integration of observations, and state-of-the art models, including a systematic calibration of ocean carbon models and Earth System Models of intermediate complexity, with respect to observations. The project should create synergies with relevant international projects addressing relevant topics (e.g. ocean acidification).

Funding scheme: Collaborative Project (large scale integrating project)

Expected impact: Significant strengthening of the understanding and quantification of the ocean carbon cycle including its impact and vulnerability to climate change, in order to improve future climate projections and provide a solid foundation for policy actions on climate change mitigation. Reinforcement of cooperation and integration of relevant international research programs. Provide input to international assessments including the 5th IPCC report.

Area 6.1.1.4 Future climate

ENV.2010.1.1.4-1 Underpinning work to enable provision of local scale climate information (annual to decadal timescales)

In the context of emerging measured impacts of climate change the demand for climate services is growing. However, the supply of relevant climate information and forecasts at the appropriate spatial and time scale does not currently match with requirements needed on the demand side, notably for the implementation of adaptation measures. Bridging the gap between demand and supply in this field requires better data, improved models based on innovative methodologies and techniques and further studies at global, regional and local level. Research in this area should (1) contribute to the identification of the relevant climate services (from observations and model projections) (2) advance the science underpinning the delivery of climate information and (3) identify, for selected regions known for their climate vulnerability, the spatial and time scales for which climate information serving operational adaptation activities could be provided.

Funding scheme: Collaborative Project (small or medium-scale focused research project)

Expected impact: Improve the accuracy of climate information needed at local scale according to the current demands on adaptation measures.

Area 6.1.1.5 Climate change natural and socio-economic impacts

ENV.2010.1.1.5-1 Impact of ocean acidification in the Mediterranean in a changing climate

The Mediterranean Sea due to its enclosed geographical situation is especially vulnerable to climate change. The research will study the effects of ocean acidification, considering different climate change scenarios on the ecosystem structure/functioning of the Mediterranean Sea. The project should identify the most vulnerable elements of the ecosystem and map the regions which will be most affected by ocean acidification. The research will study the socio-economic implication of ocean acidification and will identify possible adaptation measures. International cooperation is encouraged.

Funding scheme: Collaborative Project (small or medium-scale focused research project)

Expected impact: Quantify the impacts of ocean acidification in the Mediterranean Sea and its socio-economic implications, considering climate change scenarios.

Area 6.1.1.6 Response strategies: adaptation, mitigation and policies

ENV.2010.1.1.6-1 Climate change mitigation options linked to deforestation and agriculture in the context of a post-2012 international agreement on climate change

There is a clear need for better understanding of the complex climate change mitigation options involved in agriculture and land use, land use change and forestry (LULUCF), particularly within the context of a post-2012 agreement on climate change. The project should address methodological issues regarding monitoring, accounting and verification, taking into account the complexity of natural and anthropogenic processes and the uncertainties in the CO₂, CH₄, N₂O measurements. The aim is to support the harmonisation of the accounting approach across countries and identify and assess what type of policies are appropriate for climate change mitigation in terms of reduced deforestation (REDD) and LULUCF in general. Research should also address the costs of such policies and how they relate to the carbon market as well as their interaction with increased demand for biomass. Finally the impact of such policies on agricultural needs and biodiversity should also be assessed. International cooperation is encouraged.

Funding scheme: Collaborative Project (small or medium-scale focused research project)

Expected impact: Improve and facilitate harmonisation of monitoring, accounting and verification aspects related to REDD/LULUCF in view of a post-2012 agreement. Identify and assess the effectiveness of relevant mitigation policies, at international level and contribute to the implementation of a post-2012 international agreement on climate change.

ENV.2010.1.1.6-2 Explore climate policy scenarios for developing countries and/or emerging economies

The international community is striving to set a global post-2012 agreement to be concluded under the United Nations Framework Convention on Climate Change. The implementation of the expected agreement should be ensured on a sound scientific knowledge base. This action should (1) evaluate the available data and information in the light of effective decisions on adaptation and mitigation policies and measures and (2) identify research needs and gaps that need to be addressed in view of establishing country-specific scenarios for socially, economically and environmentally justifiable mix of adaptation, mitigation and development options with regard to a post-2012 agreement. International cooperation is encouraged especially with developing countries and/or emerging economies.

Funding scheme: Coordination and Support Action (supporting action)

Expected impact: Identification of policy portfolios for effective adaptation/mitigation and prioritisation of research needs in EU and international funding programs in support of the implementation of a post-2012 climate change agreement in developing countries and/or emerging economies.

ENV.2010.1.1.6-3 Quantifying the costs of mitigating climate change by means of activities involving joint climate and economic modelling⁸

Policy making on mitigation strategies needs more robust cost figures. Existing models propose many different mitigation costs scenarios and such a situation results in excessively large uncertainties for policy makers. The objective of this activity is to improve knowledge in particular on climate change mitigation costs (including negative costs) by better integrating climate and economic models and in particular by systematically comparing the economic components of these models. The project should establish a common platform dedicated to climate-economics modelling research activities in Europe, so as to permit to reduce the uncertainties in the quantification of climate change mitigation costs. Model development, validation, performance assessments and inter-comparisons should all be taken in consideration. Special emphasis should be given to activities involving joint economic and climate modelling and showing promise of leading to a common understanding of model results as they are brought about by the relevant disciplines at play in the climate modelling community (from climate geophysics to climate economics). In that spirit, the proposal should provide operational information on the interpretation of the model outputs and uncertainties. International collaboration can be considered with countries undertaking similar activities.

Funding scheme: Collaborative Project (small or medium-scale focused research project)

Expected impact: Better quantify the costs of climate change mitigation within an inter-comparison framework; increased consistency in cost-related information for policy making. Provide input to international assessments including the 5th IPCC report.

⁸ The topic has to be considered as a complementary topic to the topic of the Social Sciences and Humanities Programme entitled: 'Assessment of the economic and social impacts of global changes' (SSH-2010-2.1.3).

Sub-Activity 6.1.2 Environment and health

Indicative budget: EUR 16 000 000 (includes EUR 3 500 000 contribution to the call for Africa)

WP 2010 emphasises research on climate change impacts on human health. Proposed research pays special attention to Africa since health impacts of climate change are forecasted to be particularly severe there. Besides health impacts of climate change itself, it is important to examine also the health impacts of various climate change related policies. The ongoing implementation of the Environment and Health Action Plan (2004-2010) will continue to be supported by research. Emphasis will be put on addressing persisting scientific uncertainties related to the health effects of environmental stressors such as indoor air pollution and chemical contamination.

Area 6.1.2.1 Health impacts of climate change

ENV.2010.1.2.1-1 The effect of environmental change on the occurrence and distribution of water related vector-borne diseases in Africa⁹

The aim will be to investigate how environmental change, including changing climatic conditions affect the spatial and temporal distribution and dynamics of water related vectors and vector-borne diseases in Africa. The interaction with socio-economic developments, such as urbanisation or migration, will be taken into account. The project should examine past and current evidence, but produce also predictive emergence and spread models. The proposal shall address at least three different water related vector-borne diseases. Implications resulting for Europe from the changing distribution of water related vector-borne diseases in Africa will be examined. Participation of African partners in the project is essential as is strong stakeholder involvement in order to ensure effective transfer and use of research results. The aim is to achieve a fair level of participation for African countries in collaboration with their European partners. This will be considered in the evaluation.

(Part of the call for Africa)

Funding scheme: Collaborative project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries, up to one project will be retained for this topic.

Expected impact: More accurate and reliable predictions for the distribution of water related vectors and vector-borne diseases in Africa and Europe. Strengthening of the early warning, surveillance and monitoring systems for vector-borne diseases. Support to policies on climate change and health.

⁹ See the AFRICA call fiche on page 85.

Area 6.1.2.2 Health effects of environmental stressors other than climate change

ENV.2010.1.2.2-1 Indoor air pollution and health risks of modern office buildings

The aim is to provide systematic information about indoor air pollutants and potential health risks in modern office buildings across Europe. The project will explore mechanisms linking exposure to indoor air pollution under different conditions and health effects, with special attention to pollutants specific to indoor air environments of modern offices and multiple exposures. The studies can include innovative measurement strategies, sampling techniques, modelling and database building on concentration of indoor air pollutants. In addition, the impact of outdoor sources and concentrations of pollutants, and ventilation on indoor air quality should be addressed. The impact of evolving EU policies such as those concerning energy efficient buildings should be taken into consideration.

Funding scheme: Collaborative project (small or medium-scale focused research project)

Expected impact: Improved knowledge base and tools to estimate indoor air pollution, total exposure and related health impacts. Improved risk assessment data (e.g. validated biomarkers), usable in regulation and biomonitoring communicated to relevant stakeholders (e.g., city planning, construction). Support for policies such as the Thematic Strategy on Air Pollution, the Thematic Strategy on Urban Environment, and the European Environment and Health Action Plan.

ENV.2010.1.2.2-2 Human health and environmental effects of exposure to pharmaceuticals released into the environment

The aim is to improve the knowledge on risks related to human health and ecosystems, due to the exposure to pharmaceuticals and their derivatives, which are released into the environment. The potential short- and long-term human health and environmental impacts should be investigated. The project should integrate the more advanced ecological health risk assessment models and methods into human risk assessment. The studies can include innovative measurement strategies, sampling techniques, modelling and database building. Effects of mixtures should be considered. The project has to consider different kinds of relevant biological effects.

Funding scheme: Collaborative project (small or medium-scale focused research project)

Expected impact: Improved risk assessment for human health and ecosystems for pharmaceuticals. The results should contribute to relevant EU policies.

Area 6.1.2.3 Methods and decision support tools for environmental health risk analysis and policy development

ENV.2010.1.2.3-1 Exposure models to assess the risks to operators, workers, residents and bystanders from exposure to plant protection products (PPPs)

The aim will be to review, improve and extend the models currently used in the risk assessment of PPPs to evaluate the exposure of operators, workers and bystanders. A new model that would also include the evaluation of the exposure for residents of properties adjacent to sites of PPP application should be developed, building on previous work. All relevant stakeholders and end-users should be involved. This will be considered in the evaluation. **Additional eligibility criterion: Requested Community contribution of up to EUR 2 000 000.**

Funding scheme: Collaborative project (small or medium-scale focused research project)

Expected impact: The project will contribute to the implementation of revision of data requirements of the Directive 91/414/EEC and the Thematic Strategy on the Sustainable Use of Pesticides.

ENV.2010.1.2.3-2 Greenhouse gas emission reduction policies and their impacts on public health and well-being in urban areas

Policies to reduce greenhouse gas (GHG) emissions may affect public health in various ways, for instance through the choices made regarding the selection of fuels and means for space heating and transport, building codes to improve thermal efficiency, or urban development and zoning. The aim of the project is to model and, as much as possible, quantify the positive and negative impacts on human health and well-being resulting from the implementation of alternative GHG emission reduction policies at urban scale. The distribution of the impacts across different socio-economic groups will be addressed. The human health and well-being impacts considered could include, but are not limited to, those brought about by changes in exposure patterns to environmental contaminants such as ambient and indoor air pollution as well as changes in housing, urban green spaces, workplaces, transport and lifestyles. The project should take advantage of differences in urban-scale pollution and emission mitigation measures in selected area(s) in China and Europe.

Funding scheme: Collaborative project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries

Expected impact: Development of a methodological framework for the assessment of the overall risks and benefits of alternative GHG emission reduction policies for health and well-being in urban areas. Identification of the policies with the greatest co-benefits in terms of impacts on human health and well-being.

Sub-Activity 6.1.3 Natural Hazards

Indicative budget: EUR 11 500 000 (includes EUR 3 500 000 contribution to the call for Africa)

In 2010, emphasis will be put on improving our knowledge and capacity related to prevention of hazards, a necessary component to mitigate damage and human losses. Multi-hazards and multi-risks methods need to be developed and assessed in order to help sensitive regions to make strategic choices and decisions to better mitigate and adapt. Better forecasting and warning of emerging risks influenced by climate change like drought need to be tackled in a strategic concept and a collaborative frame focusing on Africa. Improved integration of social sciences into disaster risk reduction research will be initiated.

Area 6.1.3.1 Hazard assessment, triggering factors and forecasting

Not open in 2010.

Area 6.1.3.2 Vulnerability assessment and societal impacts

ENV.2010.1.3.2-1 Building a culture of risk prevention in Europe

The notion of prevention can often cover broad and different approaches in Europe. Research should therefore clarify and contribute on the basis of well chosen and justified case studies related to key hazards affecting Europe, to evaluate and demonstrate the economic and social benefits of disaster prevention and risk transfer strategies related to key hazards affecting Europe. The proposal should demonstrate to which extent it can represent a more efficient approach and investment than measures focusing on post-disaster impacts such as disaster mitigation, recovery and assistance. Taking into account the recent EU policy development in the field of prevention, the project should also focus on disasters with potential cross-border impacts, and disasters for which the cost of recovery measures appear to be disproportionate when compared to that of preventive measures. Research should initiate and develop methodological studies using up-to-date knowledge and relevant data sets in the field of risk, impact and damage cost assessment and consider possible driving factors such as inappropriate land-use practices, spatial planning and climate change impacts. Research should help stakeholders to better consider prevention measures in their risk management options. Active dialogue with and between public and private (e.g. insurance sector) stakeholders is strongly encouraged within this project. This will be considered in the evaluation.

Funding scheme: Collaborative project (small or medium-scale focused research project)

Expected impacts: Contribute to the EC Communication 'A Community approach on the prevention of natural and man-made disasters'. Provide a strong conceptual and methodological framework on prevention for risk assessment and management.

Area 6.1.3.3 Risk assessment and management

ENV.2010.1.3.3-1 Early warning and forecasting systems to predict climate related drought vulnerability and risks in Africa¹⁰

Several regions of Europe and Africa are projected to increasingly suffer from climate related meteorological hazards, in particular increased risks of drought and related impacts on water sources. Research should assess existing monitoring capacities, drought observation networks at various scales in view of improving early warning and forecasting of climate related drought (extreme) events (e.g. frequency, severity, distribution) in relevant prone areas of Africa. The work should perform global, regional and local scale studies in accordance with their respective relevance, and capitalise on previous and ongoing EU research effort done in Europe and Africa on drought/climate vulnerability and risks. Contributions to improvement of forecasting methods, thresholds identification and drought indicators should be proposed and developed. This should increase the performance of early warning and seasonal forecasting systems in order to provide credible and timely information for better decision making and preparedness of affected regions and population. The aim is to achieve a fair level of participation for African countries in collaboration with their European partners. This will be considered in the evaluation.

(Part of the call for Africa)

Funding scheme: Collaborative project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries, up to one project will be retained for this topic.

Expected impact: Increase our knowledge on the relation between drought and climate change and provide contribution to improved early warning and forecasting systems. Help to better identify vulnerable regions and to further strengthen preparedness and planning capacities in Africa. Contribute to capacity building.

Area 6.1.3.4 Multi-risk evaluation and mitigation strategies

ENV.2010.1.3.4-1 New methodologies for multi-hazard and multi-risk assessment

The objective is to develop methods and approaches to tackle multiple natural hazards in a common framework in the scope to optimise the risk assessment process and to rationalise data management for hazards and vulnerability. Based on state-of-the-art expertise on probabilistic single risk analysis and quantitative approaches on multi-risk comparison and cascade effect analysis, an integrated multi-risk/vulnerability method should be elaborated with the aim to assess the impact of the most relevant combinations of conjoint and cascading hazards. It should be based on a multi-disciplinary approach involving natural and anthropogenic hazards experts, spatial planning and socio-economic experts to enable a sound understanding of the complete process and various triggering mechanisms. The cost-effectiveness of for example structural and non-structural mitigation/adaptation measures should be studied in a multi-hazard perspective and compared with a single hazard approach. In the development of the methodology, considerations need to be given to spatial and time related scale differences in hazards,

¹⁰ See the AFRICA call fiche on page 85.

compounding uncertainty in multi-hazard situations and the application of proper visualisation and presentation tools of the results.

Funding scheme: collaborative project (small or medium-scale focused research project)

Expected impact: To better support management of natural hazards in Europe through presenting relevant multi hazard scenarios. Provide new risk assessment methodologies and tools for identifying risk areas and prioritising between mitigation/adaptation measures in a multi hazard situation.

ENV.2010.1.3.4-2 Social science research, natural hazards and decision making process

In order to enable better governance, improve the resilience capacity in societies, and to enable a more effective use of scientific information into public policies and decision making it is important to build a robust, integrative and interdisciplinary frame where social science and natural sciences will collaborate around hazard-vulnerability and risks. The project should work towards the development of research agenda that will:

-assess the barriers (as political, cultural, historical, social, institutional/legal, economic) and possible improvement to enable a better use of science into quality decision-making process and practice.

-better consider the uncertainties and data/information issues related to risk communication.

-evaluate the role and interaction of relevant actors (e.g. public sectors, citizen, private sector)

-produce clear recommendations of key research needs and gaps in social science related issues.

Work should be based on past experiences and foresee emerging situation (e.g. megacities), launch key studies that will produce synthetic assessments, organise prospective meetings with relevant actors and take into account ongoing effort in disaster reduction in Europe and at international level as the ISDR Hyogo plan for action or the ICSU science plan for integrated research on disaster risk.

Funding scheme: Coordination and Support Action (coordinating action)

Expected impacts: Identification of barriers in decision making process related to risks, identify clear social science contribution towards disaster risk reduction research agenda, and contribute to the European and international effort in this field.

Activity 6.2 Sustainable management of resources

Sub-Activity 6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity

Indicative budget: EUR 32 000 000 (includes EUR 3 500 000 contribution to the call for Africa)

The main objective of the research in this domain is to contribute to developing methods for managing natural and man-made resources (e.g. soil, water, biodiversity, forests, urban environments) based on an integrated ecosystem approach and taking into account environmental changes acting as major drivers, in particular climate change. It is expected that EU level research supported in this domain should contribute to developing methods that would allow human activities affecting the ecosystems and the environment to be managed in an integrated manner promoting conservation (long-term objective) and sustainable use in an equitable way of resources, thus assuring sustainability, the provision of services and the protection of the ecosystems capacity to deliver resources and services, and minimizing risks for society and ecosystems in an environment particularly impacted by climate change.

The ecosystem approach requires a unifying multidisciplinary holistic framework at various scales to address system-related issues ("from observation and understanding to adaptive management"). The WP 2010 will address both rural and urban environments. Activities are foreseen in relation to water resource management, biodiversity urban systems and forest. The activities aim essentially at building-up innovative methods for protecting and managing resources in a changing environment, mitigating risks and developing new balances between the availability of resources and the livelihoods and between the protection of the ecosystems and economic and social needs. There are also activities (forest research) aiming at developing research platforms for longer-term provision of data of use for resource management. Most of these activities are of high relevance to international cooperation.

Area 6.2.1.1 Integrated resource management

ENV.2010.2.1.1-1 Integrated management of water and other natural resources in Africa¹¹

Integrated management of natural resources is a way to maintain ecosystems capacity to produce a broad range of goods and services considering African socio-economic conditions and institutional frames. The project should focus on building long-term lasting human and social capacity for integrated natural resource management. In this perspective the project is for developing new or adapting existent, concepts and operational framework for integrated and sustainable resources management in Africa, taking into account long-lasting changes, in particular climate changes. It should address biodiversity, water, soil, forest, landscapes and ecosystems integrity. Environmental externalities, as well as human use of the environment

¹¹ See the AFRICA call fiche on page 85.

through settlements, agriculture and other uses, and consequent livelihoods have to be taken into account. These resource management tools should be applicable in a broad range of African environments in different geographical areas, landscapes or river basins. To this end, case studies for inter-comparisons among different situations should be made. The comparison entails the identification, exchange and transfer of information, local best expertise and practices, experience and technologies and innovative approaches, between African situations and between Africa and Europe where applicable. The local traditions, cultural norms and specific acceptance structures have to be fully taken into consideration. The work should complement and possibly build upon related activities carried out by actors with experience in Africa and it should also have a potential for application outside Africa. Any imported technology/practice should carefully be assessed for its environmental and micro-economic impacts and its potential for sustainable use by the local African communities. The project should also identify obstacles to local development modes based on local best practices and local resources also taking into account the African socio-economic and political context. It should also make some recommendations on how these obstacles could be removed. This requires a solid dissemination strategy. The aim is to achieve a fair level of participation for African countries in collaboration with their European partners. This will be considered in the evaluation.

(Part of the call for Africa)

Funding scheme: Collaborative Project (small- or medium scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries, up to one project will be retained for this topic.

Expected Impact: Since the outcome of the project should be a tool-box for both integrated natural resources management that could be used in a variety of environmental and socio-economic conditions in Africa and assess potential future scenarios as well as proposed policies and programmes, the expected impact is a long-term integrated management of natural resources in line with sustainable development principles and a better capacity for assuring the economic and social well being at local and regional levels.

ENV.2010.2.1.1-2 Integrated resource management based on land and land-use management

There is a need for a better understanding of natural resources management systems for sustainable development in the context of European land systems change and of mechanisms responsible for feedbacks, synergies and cascades of change in European land systems. New knowledge in this field would allow to understand crucial linkages between different policy fields (agriculture, forestry, energy, spatial planning and environment), which in their individual capacity impact on land use prioritization and development and hence impact on ecosystem and biodiversity services. Recent advancements in land systems science and policy attention on the ecosystem approach stress the need to improve the understanding of complex human-environment interactions, which can enable and constrain sustainable land use transitions and also offer a tool for integrated resource management. The dynamics of land systems in a changing environment appear to be non-linear, uncertain and prone to sudden, unexpected changes. This poses challenges to management and policy. Hence, it indicates a need to develop capacity to detect, cope with and intervene into land systems change in a sustainable way. The research will develop and as far as possible, test in real world situations, novel approaches aimed at understanding, assessing and forecasting socio-economic and ecological interdependencies and feedbacks within coupled human-environment systems. The project calls for critical pathways and hot spots of land transformation to be identified in a variety of environmental conditions and

management regimes representative of Europe (and associated countries). It requires understanding of the policy context and decision making processes, including public participation at the relevant scales. Understanding effective pathways and critical feedbacks, and decision-making processes are essential to reconstruct, analyze and predict land system dynamics over longer time periods (decades to centuries) and for integrating natural resource management into spatial planning. Connections between local, regional and global dynamics are to be elucidated in different temporal scales. Approaches can include: Cross-sectoral analysis of natural resources policies and management systems in the frame of the sustainability paradigm, development of integrative models of human and environmental systems; development of a conceptual platform pointing to sustainable pathways of land system change that can assist to synthesize existing knowledge and extrapolate to multiple spatial and temporal levels of inquiry; as well as advancements in measuring and assessing human use of terrestrial ecosystems and the corresponding ecosystem and biodiversity services, including biodiversity conservation.

Funding scheme: Collaborative Project (large scale integrating project)

Expected impact: Generic methodologies and models for analyzing human-environmental synergies and feedbacks. Insight into critical feed backs in land systems can inform policies promoting multifunctional and sustainable land use and point to effective pathways of land change. Provision of an interdisciplinary scientific basis to inform land use and natural resource management policies and decision-making, e.g. through setting dynamic targets for ecosystem and resource management.

Area 6.2.1.2 Water resources

ENV.2010.2.1.2-1 Evaluation of effectiveness of economic instruments in integrated water policy

In the context of the integrated water policy, it is essential to evaluate the effectiveness of economic instruments that could enable the objectives of water policy (water quality and quantity management, flood risk management etc.) to be met in a cost effective way. The purpose is to assess the effectiveness and the efficiency of economic instruments (or combination of instruments) including instruments such as incentive water pricing policies, permit trading, and other fiscal, financial or market-based instruments. Research will support the current and future EU water legislation. This project should also consider the water accounting methodology as developed by the Environmental Accounts (e.g. in the statistical standards SEEAW endorsed by the UN statistical Committee in 2008).

Funding scheme: Collaborative Project (small or medium-scale focused research project)

Expected impact: The recommendations on the set of economic instruments that will come out of the project(s) should be used to achieve EU water policy objectives, in a representative set of European environmental and cultural situations.

ENV.2010.2.1.2-2 ERA-net on water management¹²

Major challenges are raised by EU and national water public policies, including the need to reach good ecological status of water bodies, the management of extreme events, the adaptation to climate change and the need to develop integrated multiple-use management options for water resources. European water policy has ambitious goals and calls for the strengthening and further integrating European research in the field of water, developing new knowledge, as well as reinforcing mechanisms for knowledge and technology transfer to end-users. This topic calls for an ERA-net on water management which will allow to strengthening coordination/integration of research and knowledge transfer in Europe. The project should involve the main research funding bodies involved in water management research areas and soil related aspects, and link with the relevant scientific communities and the stakeholders to progressively develop coherent European water management strategy and programmes able to address the needs of EU and national water policies and fill the gaps in research needs. Scientific and technological challenges to be addressed inter alia are water management in the context of climate change, water cycle, water technologies, water scarcity and droughts, water and agriculture, floods, sanitation, water and energy, water governance, management and financing. A clear link and coordination with the Water Technology Platform must be established. The development of a platform to strengthen the science-policy interface is essential. Thus the project will also achieve significant progress on the path towards an ERA in the field of water management.

Funding scheme: Coordination and Support Action (coordinating action)

Expected impacts: Integrated/coordinated research strategy and programme enabling to deliver underpinning knowledge for relevant European Directives (Water Framework Directive 2000/60/EC and sisters Directives, EU Directive 2007/60/EC on the assessment and management of flood risks, the Soil Thematic Strategy (COM(2006) 231), the Directive 2003/87/EC on greenhouse gas emission allowance trading etc.). European and National policy-responsive research funding network, building spatial coherence at the range of scales in relation to water management and related soils issues. Greater efficiency through common infrastructure and administration.

Area 6.2.1.3 Soil research and desertification

Not open in 2010.

Area 6.2.1.4 Biodiversity

ENV.2010.2.1.4-1 Functional significance of forest biodiversity

Forest ecosystems managed according to sustainable development principles provide a broad range of goods and services. Biodiversity is a key factor allowing or limiting the provision of these goods and services and the loss of biodiversity due to human and environmental factors is potentially threatening the ecosystem functioning and its capacity to provide goods and services. Biodiversity associated to trees in particular determine the ecological and socio-economic

¹² This topic is part of the FP7-ERANET-2010-RTD Call, see Annex 4 to the 2010 Cooperation work programme.

importance of forest ecosystems. A very large range of ecosystem functions are concerned, including hydrological functions, carbon balance, wood production and biodiversity dynamic and conservation itself. The biodiversity processes at stake are also influenced by human and environmental drivers, including forest management and climate changes. The issue is of global, European, regional and local relevance and it relates also to landscape management. It has also to be addressed in the context of climate change. The project is to explore and quantify the functional significance of forest biodiversity towards the provision of goods and services in a changing environment, e.g. through a range of observations and experimental approaches addressing the main European eco-regions. Since forest ecosystem biodiversity is influenced by factors acting at regional/local scales including soil type and climatic conditions, the diversity of soils and their biodiversity should be addressed together. Such a project should allow comparison between a range of sites, ecological situations, and forest management regimes representative of the EU and associated countries, including areas characterised by small relicts of forests in agricultural landscapes because these landscape elements are providing a large array of services. The development of this project would benefit from mid-to-long-term commitments from the national funding agencies in order to assure its long-term development and sustainability. It should take advantage of similar scientific networks developed in US and also take into account the project under Life+ ENV/D/000218 'Further development and implementation of an EU-level forest monitoring system' (FutMon) in order to seek complementarities.

Funding scheme: Collaborative Project (large scale integrating project)

Expected impacts: Provide improved scientific information on forest biodiversity in a changing environment which could be used for the management and sustainable use of forest ecosystems. It should become a pilot project in the EU and associated countries and contribute to the development of the Long-Term Ecosystem Research Network offering a platform for knowledge and technology transfer. Forest owners and forestry organisations will benefit from this knowledge.

ENV.2010.2.1.4-2 ERA-net on Biodiversity: Towards integrated European biodiversity research strategy and programmes¹³

There is a need for strengthening research co-operation in the field of biodiversity research in Europe. Efficient research cooperation needs to be based on a continuously-developed European biodiversity research strategy that takes into account, inter alia, the projects funded under FP6/FP7 and the GEOSS, that further integrates all Member States, Associated and Candidate Countries into the ERA for biodiversity, and that helps to underpin sub-global assessments including any follow-up to the Millenium Ecosystem Assessment. This call is for an ERA-net for further developing cooperation between biodiversity research funding agencies, and to develop shared biodiversity research strategies, thereby developing a stable European cooperation structure for biodiversity research. This ERA-net should help to identify and develop important biodiversity research. It will further develop a coherent vision of research planning and use of research infrastructures, in line with the actions undertaken within the Capacity Programme (ESFRI opportunity list will be inserted in the final version). The project could build on the existing BiodivERsA ERA-net and it should take into account lessons learnt through BiodivERsA. The current partnership of BiodivERsA should however be enlarged, in particular towards Member States and Associated Countries not members of the BiodivERsA ERA-net. Experience gained by EPBRS should also be valorised. This ERA-net should take into account the topic ENV.2010.2.1.4.3.

¹³ This topic is part of the FP7-ERANET-2010-RTD Call, see Annex 4 to the 2010 Cooperation work programme.

Funding scheme: Coordination and Support Action (coordinating action)

Expected impact: The sustained process of integration will enable an integrated European biodiversity research strategy, research programmes and research infrastructures in Europe and associates states. The whole process will also enhance knowledge transfer and contribute to informing policy making processes at national, EU and global scale.

ENV.2010.2.1.4-3 Developing a European scientific biodiversity Network to inform policy-making and economic actors

The task is to establish a prototype network of knowledge on biodiversity and ecosystem services. The network will be a flexible grouping of organisations from a wide range of relevant disciplines and perspectives whose principal function is to provide knowledge about biodiversity and ecosystem services to reinforce the biodiversity science-policy interface. It will provide a pathway of communication, consultation and cooperation between scientists and policy makers. The "knowledge providers" that constitute the network should belong to a wide range of scientific disciplines and should also include relevant actors from the policy domain and from the science-policy interface as well as stakeholders or civil society organisations, or to combine these characteristics in various proportions. The network will provide a channel through which clients - public or private decision-makers and other stakeholders whose decisions affect European, and in some cases, regional or national biodiversity governance and management - can pose questions and request assessments. It will also provide a structure in which knowledge providers can work with one another to gather information from where it resides and derive integrated answers from existing knowledge, or construct analyses of emerging issues, synthesise the results of assessments, and formulate and disseminate reports for easy use by the clients. It is crucial that this network is open and transparent, equally accessible to all knowledge holders, and provides an independent, scientifically robust evaluation of evidence. It should benefit from experience gained by EPBRS. This network should take into account topic ENV.2010.2.1.4.2. and avoid any duplication with this topic.

Funding scheme: Coordination and Support Action (coordinating action)

Expected impacts: The expected impact of the envisaged network in its final form is a better communication, consulting and cooperation between scientists and policy makers to improve humanity's capacity to make intelligent, efficient, effective and timely use of reliable information than can be used to manage its relation to the ecosystems that support the diversity of life on Earth. Therefore the deliverables will include a functional prototype network, an analysis of the issues involved in establishing it and how difficulties were overcome or why they remain, a discussion of plausible mechanisms for sustainable operations of the network, including issues of governance, finance, reward for work done by knowledge-holders, legal status, and functional independence of the network, and a discussion of the relationship between the network and GEOSS. The Network could become a prototype for a global biodiversity information mechanism.

ENV.2010.2.1.4-4 Increasing the understanding of the role of soil biodiversity in ecosystem functioning

In its Communication on the Soil Thematic Strategy (COM(2006)231), the Commission states that not enough is known about soil biodiversity and calls for gaining a better understanding of the function that it plays as an environmental service. Soil functions depend largely on soil biodiversity, thus an adequate understanding of soil biodiversity plays a key role in ensuring a sustainable use of soil. The objective is therefore to deepen the understanding of soil biodiversity and of its interactions and links with the soil functions (as defined in the proposal for a Soil Framework Directive (COM(2006)232). The proposals shall entail the development of comparable, compatible and, to the extent possible, standardised methods for the characterisation of soil biodiversity, both in terms of variety and structure. The proposals will also require establishing policy-relevant and cost-effective indicator(s) for biological diversity and activity in soil trophic nets (micro, meso and macro net). On the basis of the knowledge developed, the proposals will then explore soil biodiversity interaction with and contribution to soil functions as well as quantify the economic value of the ecosystem services provided. The proposals will need to bring together the relevant specialised scientific communities (including economists) and harness their knowledge and expertise, so that the relationship among different soil biodiversity (trophic) levels, below and above ground biodiversity, soil functions, and economic value of the ecosystem services provided can be better understood and quantified. This will be considered in the evaluation.

Funding scheme: Collaborative Project (large scale integrating project)

Expected impact: The outcome will contribute to the achievement of the objectives outlined in the EU Soil Thematic Strategy, in particular concerning a better understanding of the function of soil biodiversity as an environmental service. The outcome of this research, including the development of policy-relevant and cost-effective indicator(s) and monetary values, will be used by the Commission to elaborate, implement and monitor soil management strategies leading to a sustainable use of soil.

Area 6.2.1.5 Urban development

ENV.2010.2.1.5-1 Assessing vulnerability of urban systems, populations and goods in relation to climate-induced natural disasters in Africa

This research shall conduct prospective studies to assess risks and vulnerabilities of different major urban areas (including the urban-rural interface) and their respective populations, infrastructures, assets, goods and services, with the overall aim to develop innovative approaches to enhance the resilience of cities against climate-change-induced risks under locally adapted IPCC scenarios of climate-change, and also considering possible changes in urban population as a result of climate-change induced environmental refugees. It will focus on assessing the environmental, social and economic impacts and of climate induced risks likely to affect urban areas at various time frames, including floods, sea-level rise and storm surges, droughts, urban heat waves, desertification, storms and fires, using a fully integrated multi-risk assessment approach compatible with the UN-ISDR framework. It will propose innovative land use and spatial planning that will seek synergies between the adaptation to climate change and need to solve social problems. This includes urban green spaces, rehabilitation of ecosystem services, urban biodiversity, and the benefits that could be gained from urban forestry and agriculture. The proposals shall assess the current role of land use and related policies and governance in coping

with climate-induced risks in urban areas, and will demonstrate the degree to which disaster reduction is integrated in existing urban planning and related policies in Africa. It will provide a method to adapt the six IPCC scenarios to local urban (and urban-rural) areas and simulate likely hypothetical climate impacts and hazard occurrences, upon which to perform vulnerability and disaster risk assessments, with the overall aim to propose innovative climate change mitigation and adaptation strategies to render cities more resilient to possible future climate-induced hazards and risks. The research should draw upon and be linked to the activities of UN-HABITAT. It will focus on Africa, and should ensure a well-balanced representation of EU and African partners, with relevant case studies geographically distributed throughout the African-continent to ensure a representative coverage of urban environments at risk of climate change induced risks.

Funding scheme: Collaborative Project (small- or medium scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries

Expected Impacts: The expected impact is to bring together the following scientific and operational disciplines, to build and strengthen African research capacity: land use, urban management and spatial planning, disaster risk reduction, socio-economics, climate change modelling, and international cooperation, with a view of addressing urban vulnerability in an integrated manner and in respect to the principles of sustainable development and equity.

Area 6.2.1.6 Integrated forest research

Not open in 2010.

Sub-Activity 6.2.2 Management of marine environments

Indicative budget: EUR 19 000 000 (includes EUR 7 500 000 contribution to the call "The ocean of tomorrow")

Within the context of emerging and increasing competition for natural resources and environmental services, it is necessary to enhance the development of marine ecosystems approaches, through the development of scientific ecosystem monitoring, management options and models, thus contributing to the protection of marine ecosystems and of their capacity to provide expected goods and services, addressing also major hazards e.g. coastal hazards and hazards linked to Co2 storage emerging technologies. The actions will be in relation to the recent communication of Marine and Maritime Research and take into account other EU initiatives such as NATURA 2000 and related marine protected areas as well as the establishment of the European Marine Observation and Data Network (EMODNET). The WP 2010 will also boost international research in strategic areas such as the North Atlantic Ocean and the Southern Ocean. It is suggested to develop a call for proposals involving also other Themes. The ecosystem-based approach enshrined in the Marine Strategy Framework Directive (MSFD) is emphasized, whereby activities affecting the marine environment will be managed in an integrated manner promoting conservation (long-term objective) and sustainable use in an equitable way of oceans and seas resource. A knowledge-based and evidence-based approach, in order to achieve informed policy-making is also promoted.

Area 6.2.2.1 Marine resources

ENV.2010.2.2.1-1 North Atlantic Ocean and associated shelf-seas protection and management options

There is a need to improve the understanding of the variability, potential impacts, and feedbacks of global change and anthropogenic forcing on the structure, function and dynamics of the ecosystems of the North Atlantic Ocean and associated shelf seas and on their capacity to provide services. The project should provide new data, analyses and the models necessary to: (1) understand and simulate the population structure and dynamics of broadly distributed, and biogeochemically and trophically important plankton and fish species; to resolve the impacts of climate variability on marine ecosystems and the feedbacks to the earth system; (2) develop understanding and strategies that will contribute to improve and advance ocean management (ecosystem approach). The project should develop methods to consolidate and integrate long-term observations from EU and international databases for modelling and prediction of the Atlantic Ocean ecosystem and related services. This work will be achieved in close collaboration with similar initiatives in the US and Canada. The coordination and complementarities of these EU and US/Canada initiatives must be described in the proposal. This will be considered in the evaluation. The participation of scientific institutions from US and Canada is welcomed.

Funding scheme: Collaborative Project (large scale integrating project)

Expected impacts: It is expected to reinforce the knowledge base of the impact of global changes on the North Atlantic marine ecosystems and its regions, in particular, in the European perspective, the North Atlantic marine region, and thereby contribute to a better ocean management. Given the scale of influence of global change and the added value of co-ordinating the scientific activities of the EU and North American the project is expected to

reinforce cooperation and coordination of research programmes between the two sides of the Atlantic. The project should also contribute to informing policy makers at national, EU and global level.

ENV.2010.2.2.1-2 Global plankton data set building in view of modelling

Plankton monitoring and the observation of changes in plankton ecology have become very important indicators of the effects of climate change on the oceans. There is a need to build a global plankton and plankton ecology data set, which builds upon and expands existing data sets to include marine areas where these data are missing, or insufficiently developed more particularly in the Southern Ocean. The research should therefore expand plankton monitoring into new marine areas to expand the global dataset. The plankton data should be complemented with additional biological, environmental and climatic indicators. Based upon the use of this data, modelling applications should be developed to address environmental management issues such as climate change, fisheries, pollution and harmful algal blooms. The data, including the historical data, and applications should be made freely available to marine scientists, with the results being reported to policy makers. The research should seek to make use of cooperative links with other plankton monitoring and analysis surveys around the globe.

Funding scheme: Collaborative Project (small- or medium scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries

Expected impact: The research should contribute to the development of global plankton and plankton ecology datasets. The modelling applications developed using the expanded datasets will deliver new insights in key environmental domains such as climate change and fisheries, with the results being introduced into the relevant policy making processes.

ENV.2010.2.2.1-3 Coordination actions to support FP6 NoEs durable integration

The objective is to further support the work towards durable integration in and between the marine related Networks of Excellence (NoEs) funded as a result of their selection in calls 1 and 2 of Thematic Priority 6 of FP6, after the end of the initial EC funding period of these NoEs. The proposals should be based on a convincing concept for integration with clearly defined European added value. A common structure may need to be established between the NoEs to coordinate/integrate their actions. The work of the NoEs should focus on activities related to shaping the integration process, training, communication and use of shared tools like databases. The integrated initiative could comprise a revised number of beneficiaries as compared to the original NoEs but any newcoming beneficiary should be strongly justified and should comply with the rules and procedures put in place for co-operation, either within one of the initial NoE or within the common structure. The proposal must prove a high-level institutional commitment and ongoing progress. An additional requirement is a business plan to attract funding also from other sources than the FP for funding research activities. Only those NoEs from Thematic Priority 6 of FP6 (marine area) can be involved. The duration should be limited to two years.

Funding scheme: Coordination and Support Action (coordinating action)

Expected impact: A long-lasting co-operation between research institutions of FP6 marine NoEs towards further integration of marine research in Europe is expected. Relevant areas for cooperation should be: research programming, joint development and use of data bases, training

and mobility of researchers, joint programming and use of research infrastructures etc. The European Added Value lies in a directed effort towards a sustainable integration of marine research hereby contributing to structure the ERA, and help to overcome fragmentation.

Area 6.2.2.2 'The ocean of tomorrow' call

The ocean of tomorrow: Joining research forces to meet challenges in ocean management

Oceans offer opportunities for sustainable economic development. However, human activities are exerting increasing environmental pressure on the oceans, which is threatening marine ecosystems and sustainable maritime activities. In particular, the growing demand for maritime transport, offshore energy, tourism, coastal development, fisheries and aquaculture, security and surveillance pose a major threat to the marine environment.

The European Union has taken up this challenge and established a new integrated maritime policy, of which the "European Strategy for Marine and Maritime research"¹⁴ is a fundamental part. The strategy highlights the importance of integration between established marine and maritime research disciplines in order to reinforce excellence in science and to reconcile the growth of sea-based activities with environmental sustainability as highlighted in the European Marine Framework Directive 2008/56/C. In particular, the Commission announced the launch of a joint call under FP7 on major research topics requiring a cross-thematic approach.

The aim of the call 'The ocean of tomorrow: Joining research forces to meet challenges in ocean management' is to improve our understanding and the predictive capacity concerning how marine ecosystems respond to a combination of natural and anthropogenic factors. Also how rapid environmental changes will affect the full range of goods and services provided by the oceans and the measures that could be developed to mitigate or adapt to these changes. Research addressed in the call will be of cross-thematic nature, integrating in a coherent way marine and maritime research domains in order to reach an impact that a single Theme of the Cooperation programme could not attain on its own.

The call will be implemented through three different topics: topic 1 "Quantification of climate change impacts on economic sectors in the Arctic"; topic 2 "Vectors of changes in ocean and seas marine life, impact on economic sectors" and topic 3 "Sub-seabed carbon storage and the marine environment".

A multi-disciplinary approach and a multi-sectoral partnership are considered essential to achieving the expected impacts.

¹⁴ Com (2008) 534 final, 3.9.2008 - Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: A European Strategy for Marine and Maritime Research : A coherent European Research Area framework in support of a sustainable use of oceans and seas.

OCEAN.2010-1 Quantification of climate change impacts on economic sectors in the Arctic (Call: FP7-OCEAN-2010)

Changing climatic conditions in the Arctic have far reaching consequences both economically and environmentally, in particular considering the specificity and vulnerability of the region and its local populations. On the one hand there may be opportunities due to enhanced accessibility; on the other hand changes in the future use of the Arctic region would involve potentially increased anthropogenic environmental pressures, such as: noise affecting marine mammals, fisheries, shipping, accident risk and consequence, soot, pollution etc. The research is to be seen in the context of policies, such as the Communication of the Commission 'The European Union and the Arctic Region' (COM(2008) 763 final) and relevant actions in the Communication should be noted.

The project will focus on assessing and quantifying Climate change impacts on both macro and meso-economic level for key sectors (maritime transport, fisheries, tourism and resource extraction) and on how these sectors could affect the Arctic environment, including climate feedbacks.

Research concerning these sectors, in particular maritime transport and fisheries, should draw upon environmental and economic modelling and explore the potential scale, benefits and issues of these activities within the Arctic environment (e.g. protection of sensitive habitats, accident response, infrastructure, noise, ship types). The project should also discuss policy and governance options including marine spatial planning, for sustainable development, whilst protecting and preserving the Arctic environment. Governance including geopolitical aspects in relation to these activities and climate change has also to be addressed, including foresight and assessment of economic impacts. A multi-disciplinary approach and a multi-sectoral partnership are considered essential to achieving the expected impacts.

Additional eligibility criteria: The requested EC contribution shall not exceed EUR 11 000 000

Funding scheme: Collaborative project (large-scale integrating project)

Expected Impact:

- *Providing a foundation for the sustainable development of human activities, with a minimal impact on the sensitive Arctic environment (e.g. noise affecting marine mammals, fisheries, shipping, accident risk and consequence, soot, pollution),*
- *Quantifying climate change impacts at macro and meso-economic levels and in key economic sectors in the Arctic, using an integrated and trans-sectoral approach,*
- *Understanding the economic and social impact of climate changes in the Arctic region, and assess the risks and opportunities in relation to climate change,*
- *Providing a scientific foundation to support governance, geopolitics, ecosystem conservation, and socio-economic issues necessary for sustainability in relation to the expected increase in human activities in the Arctic region including with a forward-looking perspective an assessment of the state and evolution of the Arctic environment in relation to economic activities to contribute to formulation of appropriate EU policies.*

OCEAN.2010-2 Vectors of changes in marine life, impact on economic sectors (Call: FP7-OCEAN-2010)

Marine environments are under major threats and subject to many changes. However, the mechanisms inducing these changes in particular changes in marine life are poorly understood and quantified. It is crucial to better understand and assess, in an integrated way, the interaction between changes in marine life and in European marine and maritime economic sectors. Research shall contribute to formulating feasible adaptive management strategies for the EU.

The project will include consideration of human induced changes on marine life, including impact from transport, energy devices, exploitation of living resources, discharges, together with environmental changes (including climate changes). The focus will be on outbreaks of invasive or indigenous species, changes in distribution of population of marine organisms such as fish populations, on the vectors of changes, and the impacts of these changes on biodiversity and related maritime economic sectors. Research should consider the present situation and investigate future scenarios for adaptation and mitigation considering the introduction of new technologies and structures, such as new ballast water practices, ocean and off-shore wind energy devices, new fishing strategies and new policy needs.

The project will improve the understanding of the mechanisms causing outbreaks of indigenous species e.g. jellyfish; the spread of invasive species caused by transport or via other transfer vectors; changes in fish distribution and productivity (including exploited species) at population and community level, caused by environmental and human-induced changes. It will quantify the impact of these changes on the ecosystem and identify the trends on ecosystem structures (e.g. biodiversity) and function (e.g. food chain). It will also provide data and tools to relevant stakeholders within the environmental, policy and economic spheres e.g. for exploitation of offshore devices, transport and fisheries.

Moreover, the project will evaluate the social and economic consequences of changes in the marine ecosystems, market and non-market impacts including public perception and engagement, risk and vulnerability for related sectors (public health, tourism, transport, fisheries and aquaculture, ocean and off-shore wind energy devices, etc). When appropriate, the project should consider forthcoming strategies such as the IMO Convention on ballast water management. It will also investigate feasibility of additional management measures if necessary to address changes in the marine environment in cooperation with stakeholders, aiming to contribute information and knowledge that is vital for addressing forthcoming requirements, policies and regulations such as the EU Maritime Policy and Marine Strategy Framework Directive 2008/56/EC, Common Fisheries Policy, IMO conventions.

The project should maximise its impact by addressing several ocean and sea areas bordering the EU and when appropriate building upon existing work. A multi-disciplinary approach and a multi-sectoral partnership are considered essential to achieving the expected impacts.

Additional eligibility criteria: The requested EC contribution shall not exceed EUR 12 500 000

Funding scheme: Collaborative project (large-scale integrating project)

Expected impact:

- *Improved knowledge on the impact of human induced and environmental changes on marine life and economic activities in several ocean sea areas bordering the EU;*
- *Quantification of the impact of changes in marine life (invasive species, outbreak, changes in marine organisms populations such as fish populations) on biodiversity and related economic sectors (tourism, fisheries and aquaculture, transport, energy) including public perception;*
- *Providing scientific foundation for feasible, sustainable management measures supporting policies and possible related technologies;*
- *Contributing to sustainable management of marine ecosystems and activities.*

**OCEAN.2010-3 Sub-seabed carbon storage and the marine environment
(Call: FP7-OCEAN-2010)**

The EU Climate-Energy package contains a directive on Geological Storage of Carbon Dioxide which allows sub-seabed storage of CO₂. Moreover, in order to prepare for the large-scale use of Carbon Capture and Storage technology, the European Commission proposes to launch a European Industrial Initiative on CO₂ capture, transport and storage, to stimulate, coordinate and support a series of large-scale demonstration plants that should be operational by 2015. Several of these demonstration projects could rely on sub-seabed storage sites. Confidence in the technology will be further enhanced by increased knowledge and assessment ability, in particular with respect to the environmental impact of CO₂ on the marine seafloor. So far, few studies specifically address possible effects on marine ecosystems in case of CO₂ seepage from sub-seabed geological storage.

The project will address the potential impact of sub-seabed CO₂ storage on marine ecosystems: during the deployment of the CO₂ injection equipment, during the injection of CO₂ into the storage site, and after the end of the storage operations. It should identify and focus on those aspects likely to be novel as compared with related activities such as hydrocarbon extraction. The project should encompass modelling as well as field studies in at least one existing European off-shore storage site. It should establish a framework of best environmental practices in the management of off-shore CO₂ injection and storage, tested in situ at least at small scale. This shall include procedures for establishing an environmental baseline for a prospective storage site (including a quantitative assessment of the vulnerability of surrounding ecosystems), and for assessment of the actual environmental impact of the sites. The development of innovative monitoring techniques able to detect episodic events and/or prolonged low-flux seepage is a key element of the project. Possible environmental impacts on long time scales (several decades to centuries), and associated risk management needs, will also need to be investigated. The scope of the project should be ambitious but realistic; the investigations should be extended to water depths with expected relevance to CO₂ storage including the continental margins. Economic issues such as the cost of long term monitoring or the cost of intervention if leakage were to happen should be considered, taking account of general site characteristics such as storage type, water depth etc. Public perception of sub-seabed carbon storage should also be assessed.

The project shall take account of knowledge accumulated in ongoing CO₂ storage experiments in Europe. A multi-disciplinary approach and a multi-sectoral partnership are considered essential to achieving the expected impacts.

Additional eligibility criteria: The requested EC contribution shall not exceed EUR 10 500 000

Additional Information: The participation industrial partners operating - or planning to operate – sub-seabed CO₂ storage sites is crucial to the implementation of the project. Because sub-seabed carbon storage is a global issue, the participation of one or several partners (funded under their national budget) from either Japan, Australia or the US would maximise the impact of the project. This will be considered in the evaluation.

Funding scheme: Collaborative project (large-scale integrating project)

Expected impact:

- *A better understanding of the potential impact of the whole life cycle of sub-seabed carbon storage on marine ecosystems in accordance with the precautionary principle of the EU marine strategy,*
- *Development and use of innovative monitoring techniques able to detect episodic events and/or prolonged low-flux seepage,*
- *Improved economic assessment of monitoring costs and possible mitigation costs,*
- *Assessment of public perception of sub-seabed carbon storage,*
- *Enhanced international collaboration.*

Activity 6.3 Environmental technologies

Sub-Activity 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

Indicative budget: EUR 51 500 000 (includes EUR 5 000 000 contribution to the Public-Private Partnership 'Green Cars' and EUR 7 000 000 contribution to the call for Africa)

This sub-activity deals with environmental technologies at span a very broad range of application areas, such as the protection and rehabilitation of water, soil, air and marine resources, waste treatment and management, the built environment and clean technologies. Within WP2010, research is dedicated to ensuring long-term 'Environmental safety and welfare' and the efficient use of resources is considered a key prerequisite aspect in order to achieve this goal. Research is also aimed at supporting the Environmental Technologies Action Plan (ETAP) and the recently adopted European Economic Recovery Plan initiatives, which aim to boost research on environmental technologies, with the double objective of developing marketable technological solutions for addressing the growing environmental problems, and to support the growth and the world leadership of European industries producing or managing environmental technologies. The development of environmental services such as energy-efficient technologies for urban water services and sludge treatment that guarantee high environmental quality standards and reliable continuity of operation will be considered. Tackling key obstacles, to issues like brownfield regeneration, construction and demolition waste recycling and resource efficient and urban-friendly construction sites, environmental sustainability assessments of innovative materials and technologies for batteries will also be addressed. Prevention of pollution through clean processes, air pollution monitoring technologies and long-term carbon sequestration technologies will be fostered. International cooperation activities will relate mainly to Africa. Within this call there are a variety of specific international collaboration actions (SICA) on technological areas, including sustainable sanitation, drinking water technologies, water re-use technologies for irrigation purposes, and water harvesting techniques.

Area 6.3.1.1 Water

ENV.2010.3.1.1-1 Technologies and systems for urban water cycle services

The recent EU initiatives for improving energy efficiency and creating a post-carbon economy poses additional challenges to the current models of urban water cycle systems, and their corresponding infrastructure, in terms of cost effectiveness, performance, safety and sustainability. It is therefore, urgent to expand those activities, to address the development of new techniques in the area of reliability and risk assessment of urban water system, especially in the context of water scarcity conditions and irregular supply conditions, enhance leakage control and improve technologies for advanced asset management, increase water utilities' energy self-sufficiency, facilitate the appraisal of climate change adaptation and mitigation options across

multiple water-dependent sectors, improve water use efficiency and water demand/water supply management, and assess the sustainability of alternative water resources in cities. Proposals should consider the complete urban water cycle system including waste water treatment and reuse options. Proposed solutions should be supported by appropriate life cycle assessments addressing the environmental, economic and social impacts. Elements of benchmarking of the sustainability of urban water systems may also be developed. Attention should be paid to socio-economic dimensions, in particular social acceptance of new modes of water management, social behaviour, and regulatory/governance barriers/enablers. A relevant participation of industrial partners as well as of SMEs is requested and this will be considered in the evaluation.

Funding scheme: Collaborative Project (large scale integrating project)

Expected impact: Assist water authorities and utilities in formulating appropriate urban water policies and levels of service criteria and their subsequent implementation. Increase understanding of urban water-energy relationship and develop tools and techniques to implement urban integrated water and energy resource management.

ENV.2010.3.1.1-2 Innovative system solutions for municipal sludge treatment and management

Sludge management has become one of the most critical issues for the wastewater industry worldwide, due to rapid increase of wastewater treatment plants and the very fast increase in sludge production. Sludge management covers a broad range of challenges, including source control of pollutants, material reuse or disposal, environmental and health impacts, regulations, and public perception. Moreover, in the context of EU climate change mitigation and energy policies, the impact of different sludge management systems in terms of greenhouse gas emission/saving have to be carefully addressed. The objective of this action is to improve current sludge treatment technologies and sludge management practices, and develop more integrated approaches for sustainable sludge management. Emphasis should be given to innovative system solutions that may not be limited to the sludge treatment/management step, but may extend to the whole sewerage-wastewater treatment system, based on life cycle assessment, including the assessment and management of benefits and risks of sludge disposal. A relevant participation of industrial partners as well as of SMEs is requested and this will be considered in the evaluation.

Funding scheme: Collaborative Project (small or medium-scale focused research project)

Expected impact: Fostering eco-innovation in the European water industry. Support related EU policies, strategies and plans. Reduce the overall environmental impact of wastewater treatment systems.

ENV.2010.3.1.1-3 Decentralised water supply and sanitation technologies and systems for small communities and peri-urban areas¹⁵

The objective of this topic is to assess the potential of decentralised low cost drinking water, wastewater treatment, water reuse, recycling and conservation technologies (including natural systems, like constructed wetlands, soil aquifer treatment, bank filtration, etc.) for a wide range of African countries that are technically simple and cheaper to operate and maintain. Emphasis should be given to the development of innovative decentralised water supply and sanitation systems that may allow reducing the risk of wastewater reuse for irrigation purposes and foster

¹⁵ See the AFRICA call fiche on page 85.

the multiple use of water. This action should also comprise the assessment of various technical and socio-economic constraints which prevent sustainable water and sanitation services and should ensure, through a transdisciplinary approach, the involvement of local participants in order to understand the various cultural differences and underlying attitudes towards water and sanitation. This topic is relevant for micro-enterprises and SMEs. The aim is to achieve a fair level of participation for African countries in collaboration with their European partners. This will be considered in the evaluation.

(Part of the call for Africa)

Additional eligibility criterion: Requested Community contribution of up to EUR 2 000 000

Funding scheme: Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries

Expected impact: Development of criteria with regard to the adoption of particular technological approaches/solutions. Bridging the water and sanitation gaps, thus supporting the achievement of Millennium Development Goals. To tailor water resources management to local conditions, capacities and institutional settings and help African countries to cope with water adaptation to climate changes.

ENV.2010.3.1.1-4 Water harvesting technologies in Africa¹⁶

The objective of this topic is to develop appropriate water harvesting techniques aiming to ensure food and water security in the context of a range of dynamic global and regional pressures (climate change, population growth and urbanisation, etc.). Emphasis should be given to the improvement of systems design, synergies with appropriate farming systems, and the study of upstream/downstream interactions between water harvesting and large scale irrigation at the catchment/river basin scale. Attention should be given to the development of guidelines and criteria to transfer the various water harvesting technologies in different hydrological, biological and socio-economic conditions and to ensure integration of those technologies in the context of local and regional economical development. Sustainability aspects and assessment of environmental services/impacts should also be included. The aim is to achieve a fair level of participation for African countries in collaboration with their European partners. This will be considered in the evaluation.

(Part of the call for Africa)

Additional eligibility criterion: Requested Community contribution of up to EUR 2 000 000

Funding scheme: Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries

Expected impact: Strengthening the potential and sustainability of rainfed agriculture in Africa and increasing food production and security. Improving the livelihoods of rural communities, using innovative appropriate water management techniques.

Area 6.3.1.2 Soil

Not open in 2010.

¹⁶ See the call fiche on page 85.

Area 6.3.1.3 Waste

ENV.2010.3.1.3-1 Innovative technologies and eco design recommendations for reuse and recycling of Construction and Demolition (C&D) waste, with a special focus on technologies for onsite solutions

The aim is to develop and promote innovative technologies and system solutions for high grade construction materials manufactured from high-volume C&D waste. Onsite processing and/or reuse will be a plus. The economic and environmental efficiency of the proposed approach should be practically demonstrated in a representative number of on-site case-studies of significant size geared to draw maximum benefits from the early-stage cooperation of clients, designers, construction engineering companies and demolition/waste processing enterprises in the course of construction projects. Thus, proposals should convincingly address the technological and long term safety/durability aspects of the solutions to be applied, their economic analysis, a thorough analysis of environmental impact and external cost reductions as well as an elaboration of resulting eco-design recommendations for easy dismantling and material reuse, applicable in new construction undertakings. Significant participation of industrial partners, and especially of SMEs, is required and it will be considered in the evaluation.

Funding scheme: Collaborative Project (small or medium-scale focused research project)

Expected impact: Increase of the recycling/reuse rate of high-volume C&D waste streams. Policy recommendations at European, national and local level.

ENV.2010.3.1.3-2 Innovative technologies and system solutions for municipal solid waste management in densely populated cities

The objective is to develop innovative technologies and system solutions tailored for municipal waste treatment and management in densely populated cities. Appropriate considerations of cost and safety issues as well as proof of concept in terms of product and/or process (convincingly proving the scalability), must be included. The environmental sustainability of each developed solution shall be assessed via life cycle assessment studies carried out according to the most up-to-date version of the International Reference Life Cycle Data System (ILCD) Handbook (http://lca.jrc.ec.europa.eu/EPLCA/Deliverables/ILCD_handbook.htm). Consortia should include a high share of industrial participants, including SMEs, and at least one densely populated municipality. Construction and demolition waste as well as landfill treatment should not be addressed in this topic.

Funding scheme: Collaborative Project (small or medium-scale focused research project) – (bottom-up topic area, up to 3 projects of maximum EC contribution of EUR 2 500 000)

Expected impact: The developed solutions should represent a break-through compared to current state-of-the-art municipal solid waste treatment and management in densely populated cities. The outcomes of the selected projects should also contribute to the achievements of the environmental and economic objectives set up in some relevant EU policies, like the Lead Market Initiative, the Waste Framework Directive, the Sustainable Consumption and Production Action Plan.

Public-Private Partnership 'Green Cars': Cross-Thematic cooperation between NMP, Energy, Environment (including Climate Change) and Transport (including Aeronautics)

Call title: Sustainable automotive electrochemical storage

For further details regarding the 'Green Cars' Initiative please see the Annex 5 to the Cooperation work programme.

GC.ENV.2010.3.1.3-3 Materials, technologies and processes for sustainable automotive electrochemical storage applications¹⁷

Contents/scope: Research projects are called for, addressing innovative materials and technologies for battery components, material architectures and systems for automotive electrochemical storage within a responsible, sustainable and environmental-friendly approach looking at the entire life cycle.

Projects for batteries and/or electrochemical capacitors are eligible. For batteries, research should focus on innovative developments for lithium-based energy storage technologies improving on safety and energy density. Alternatively projects can be looking at completely different technologies, architectures and chemistries, such as open cells for higher energy densities.

For existing or near-to-market types of lithium-based batteries, projects dealing with the recycling, recovering and re-use of materials are eligible, as well as projects on the comprehension, modelling and management of degradation drivers and processes with the aim to extend the calendar and operational life of the cells.

The environmental sustainability of each developed solution shall be assessed via life cycle assessment studies carried out according to the International Reference Life Cycle Data System (ILCD) Handbook¹⁸.

Cost, recyclability and safety issues should be prominently emphasized in all projects, as well as proof of concept in terms of product and/or process (not necessarily reaching the industrial scale but convincingly proving scalability towards industrial needs), thereby exploring their standardisation potential. The effect of bidirectional flow at charge stations should be taken in due account, as well as the potential for fast charging (at least 5C) without significant life reduction.

Participation from the manufacturing industrial sector is requested in each project. Aspects like characterisation, standardisation and synergies with other applications, availability of concerned materials, eco-design, manufacturing, can be covered.

At the same level of quality resulting from the evaluation by independent experts, priority for funding should be given to proposals that allow covering this topic as completely as possible. Work on fuel cells is excluded since it is already covered in the related JTI, but synergies of storage chemistries and architectures with fuel cell vehicle applications showing performance beyond the Call targets, can be covered.

Funding scheme: Collaborative Projects

Expected impact: Establishing the basis for a world level European automotive battery and electrochemical capacitors industry, with significant contributions to lead the market in the area

¹⁷ Please see the call fiche on page 78.

¹⁸ http://lca.jrc.ec.europa.eu/EPLCA/Deliverables/ILCD_handbook.htm

of recycling¹⁹. Fostering the constitution of interdisciplinary consortia The expected impact has to be credibly motivated in terms of performance, cost, recyclability and life-cycle sustainability. Quantitative targets for lithium-based energy storage technologies include cost reduction down to a system level target value²⁰ of maximum 150€/kWh for mass production, and improvement of safety and energy density up to at least 200 Wh/kg. For electrochemical capacitors the corresponding target are respectively a cost reduction down to a maximum of 10 €/kW and a specific power of at least 25 kW/kg, with an energy density of at least 10 Wh/kg. Advanced chemistries should target energy densities of at least 300 Wh/kg.

Area 6.3.1.4 Clean technologies

ENV.2010.3.1.4-1 Integrated Pollution Prevention and Control of industrial emissions in the Mediterranean region

Industrial activities contribute significantly to the pollution of the Mediterranean basin. The aim of this research is to assess the possibility and the impact of diffusing the EU Integrated Pollution Prevention and Control approach to other Mediterranean partner countries in order to ensure a higher level of environmental protection.

This coordination action will have the following objectives/steps:

- (1) Assessment of the scope for preventive and abatement technologies based on best available techniques in key industrial sectors with significant local or regional negative impacts on human health and the environment in the Mediterranean region. The most promising industry sectors with the highest environmental benefit potential will be identified for further study.
- (2) Adaptation of the relevant information of the European Best Available (BAT) reference documents, to document and support the implementation of the techniques and sectors previously identified, taking particular account of the regional and local conditions to guarantee the effective prevention and reduction of industrial emissions.
- (3) Production of communication material to disseminate information on those techniques among public authorities and industrial operators.

This action addresses Mediterranean partner countries.

Funding Scheme: Coordination and Support Action (coordinating action)

Additional eligibility criterion: A minimum of two participants from the Mediterranean partner countries is required. This requirement will be applied as eligibility criterion.

Expected impact: This project will prepare the ground for the implementation of BAT techniques to respond to particular health and environmental impacts from industrial emissions in the Mediterranean region with the objective to reduce the "pollution leakage" due to the displacement of polluting industries.

ENV.2010.3.1.4-2 ERA-net on Eco-innovation²¹

The primary objective of the ERA-net project will be to pool Europe's most relevant research and innovation programmes on eco-innovation in order to reduce the fragmentation of the European research landscape in this field. Eco-Innovation is understood in a broad sense,

¹⁹ Lead market initiative for Europe on recycling, <http://ec.europa.eu/enterprise/leadmarket/recycling.htm>.

²⁰ All targets are at the end of life, cell level for mass produced elements unless otherwise specified.

²¹ This topic is part of the FP7-ERANET-2010-RTD Call, see Annex 4 to the 2010 Cooperation work programme.

including technologies, goods and services. To achieve this and to generate added value, the ERA-net has the following specific objectives:

- strengthening the development and adoption of eco-innovations;
- systematic exchange of information and best practice, discussion forum for (common) strategy and programme development in the field of eco-innovation;
- identification of interfaces of existing research lines and better synchronisation of national programmes;
- definition, preparation, implementation and evaluation of joint activities and funding of joint trans-national research.

The development of common metrics for eco-innovation performance measurement, the definition of appropriate research funding schemes for incremental and radical eco-innovation, the different approaches towards eco-innovation in emerging economies, eco-innovation sustainability impact assessment, the issue of harmonisation of standards, are - among others - aspects related to eco-innovation that should be properly taken into account.

Funding Scheme: Coordination and Support Action (coordinating action)

Expected impact: This ERA-net should contribute to meet the Lisbon objective, help to implement the European Technologies Action Plan (ETAP), and accompany the deployment of the European Economic Recovery Plan and of the Lead Market Initiative through actions that can help modernising Europe's economy and unlock potential worldwide markets. It will build synergies with other EU complementary initiatives and tools on eco-innovation, in particular the Innovation Platform on eco-innovation, Eco-Innovation Observatory and Championing initiative under ETAP, funded by the Competitiveness and Innovation Programme.

Area 6.3.1.5 Built environment

ENV.2010.3.1.5-1 Resource efficient and urban friendly construction sites

The construction, maintenance and renewal of our built environment and urban infrastructure consume vast quantities of materials and resources and these processes have significant consequences for health, safety and the economy due to disruption and disturbance (transport of materials, waste, noise, vibration, dust, delays, traffic jams, air pollution, etc). There is a need to develop new or improved technologies, tools and concepts to reduce these negative impacts of the construction and renovation processes particularly in densely populated areas in relation to nuisance, pollution, delays and resource consumption (both direct and indirect). The whole life cycle from design to construction, refurbishments dismantling and recycling at the end of life should be considered for better use of space, resource efficiency and impact reduction. Focus should be on solutions that have the potential to deliver the most substantial improvement both economically and environmentally, with particular consideration given to building or infrastructure/utilities projects of a significant size or highly repetitive character. Projects should also consider tackling adaptation to new technologies. Proposals should include benchmarking and/or lead to demonstration to improve awareness and quicken the deployment of innovative products and technologies. The involvement of industry and SMEs is essential and participation of local authorities strongly encouraged. This will be considered in the evaluation.

Funding scheme: Collaborative Project (small or medium-scale focused research project)

Expected impact: Reduced resource consumption, external costs and environmental disruption of construction activities especially in densely populated areas. Should lead to improvements in tackling adaptation to new technologies, such as internal flexibility for changes in use without

need for major construction works, extensions without major interference to the existing structure or improved ease of dismantling, re-use of elements, closed-loop industrial cycles of materials reducing downcycling and landfill to a minimum in an urban environment. Help achieve better cooperation and coordination between different departments of local authorities in this aim. Support the Lead Market Initiative on sustainable construction and supports the economic recovery plan. It is also in line with the SRA of the Construction Technology Platform.

ENV.2010.3.1.5-2 Environmental technologies for brownfield regeneration

Brownfield regeneration is a key to tackling urban sprawl and in ensuring a more sustainable built environment. Each brownfield has a unique set of characteristics in terms of land use, environment, biodiversity, historical and social context and the cost and time for redeveloping such sites remains too high especially with respect to greenfield developments. Innovative and widely applicable strategies, technologies and solutions are needed to develop more integrated, cost effective and rational processes and decision making tools that consider environmental (especially energy saving, risks, soil, and subsurface use as well as remediation efficiency monitoring), economic and social (including health) costs and benefits in a holistic context, while taking into account stakeholders' and neighbouring communities interests. Strong preference must be given to on-site and in situ soil remediation technologies and solutions – where soil contamination is a significant issue – and strategies that consider innovative reuse of existing structures and bulk materials. Proposals should ensure the effective participation of problem owners, public authorities and industrial construction companies, and should include concrete business/ industrialization plans for the up-take of the technology and strategies developed including, in the short term, the demonstration of their efficiency through pilot projects or case studies. The topic is relevant for SMEs.

Funding scheme: Collaborative Project (small or medium-scale focused research project)

Expected impact: Reduced costs and short and long-term risks of brownfield reuse, enhanced energy and resource efficiency and reduced off-site impacts through prevention of external land filling practices when redeveloping contaminated brownfields. This research topic supports the following European initiatives: European Economic Recovery Plan, Thematic Strategy on the Urban Environment, Landfill directive; Liability directive; Soil Thematic strategy, Water framework directive; Groundwater daughter directive. It is also in line with the Strategic Research Agenda of the Construction Technology Platform.

Area 6.3.1.6 Marine environment

Not open in 2010.

Area 6.3.1.7 Air technologies

ENV.2010.3.1.7-1 Technologies for automated monitoring of air pollution in cities

The aim of this activity is to review the state-of-the-art and assess opportunities and limitations of recent and new generations of in-situ technologies for urban air pollution monitoring. Particular

focus is on automatic analysers for the continuous routine monitoring of harmful substances, especially particulate matters (e.g. PM_{2,5}) and emerging pollutants, also using proxy indicators. Aspects to be investigated under this activity shall include equipment evaluation and selection, operation, maintenance and calibration, data quality, protocols, and processing, as well as aspects of cost efficiency and equivalence to reference monitoring methods. The activity shall bring together the researchers and technology providers together with the stakeholders involved in routine monitoring of urban air pollution. This will be considered in the evaluation. It shall establish strong links to relevant national and international programmes and networks²² in view of triggering synergies, and shall deliver a technological research roadmap and consolidated recommendations for the development or implementation of Community environmental legislation.

Funding Scheme: Coordination and Support Action (supporting action)

Expected impact: Harmonised air pollution monitoring in Europe. Improved implementation of EU environmental policies and strategies on ambient air quality and cleaner air for Europe. Better coordination of relevant national research activities.

Area 6.3.1.8 Technologies for climate

ENV.2010.3.1.8-1 Development of technologies for long-term carbon sequestration

The objective is to develop and demonstrate - at least at pilot scale - technologies that will contribute effectively and on a large-scale to remove greenhouse gases (GHG) from the atmosphere in a long-term perspective (over 100 years).

The technologies covered under this topic include biomass transformation into long-term carbon storage. Carbon Capture and Sequestration (CCS) technologies from fossil-fuel power and steam generation plants and biofuels production processes are not eligible under this topic. The overall objective shall be achieved avoiding any shift of burdens (in terms of environmental impacts, time and space or rebound effects). In order to assess that, the demonstration of the technologies shall be accompanied by Life Cycle Assessment studies carried out according to the International Reference Life Cycle Data System (ILCD) Handbook on LCA (<http://lca.jrc.ec.europa.eu/EPLCA/overview.htm>).

Funding scheme: Collaborative Project (small or medium-scale focused research project) (bottom-up topic area, up to 3 projects of maximum EC contribution of EUR 2 500 000)

Expected impact: Contribution to the achievement of EU 2020 and 2050 targets for GHG reduction.

²² Including the monitoring strategy and measurement programme of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), the existing or pilot Certification and Verification schemes, the AQUILA network of national reference laboratories and relevant standardisation bodies including CENTC 264.

Sub-Activity 6.3.2 Protection, conservation and enhancement of cultural heritage, including human habitat

Indicative budget: EUR 8 500 000 (includes EUR 5 000 000 contribution to the Public-Private Partnership 'Energy-efficient Buildings')

This sub-activity addresses multidisciplinary research contributing to the conservation and safeguarding of cultural heritage and includes the need to respond to the challenges resulting from the changes of our natural environment as well as from man-made activities and focussing on damage assessment and preventive conservation of the cultural heritage. Within the overall objective of improving environmental safety and welfare, in 2010 this sub-activity will focus on the protection and rehabilitation of historic buildings in urban areas, especially contributing to energy saving in the context of the European Economic Recovery Plan. In complement, the development of assessment tools for the safe conservation and sustainable management of movable assets is also addressed.

Area 6.3.2.1 Assessment and conservation in cultural heritage

ENV.2010.3.2.1-1 Non-destructive diagnosis technologies for the safe conservation of movable cultural assets

Building on the most recent knowledge and state-of-the-art, including results from FP5-FP6 projects, the proposal should develop and validate innovative methods and non-destructive diagnosis technologies aiming to assess and monitor the state of preservation as well as the impact of environmental changes on a wide range of movable cultural heritage objects in order to ensure their safe conservation and sustainable management. Proposals should offer more applicable solutions and operational tools showing clear advantages in terms of reliability, time and cost, in comparison with existing equipment for the analysis and monitoring of movable assets. A significant participation of SMEs is requested and it will be considered in the evaluation. Priority will be given to proposals that clearly demonstrate the market potential of new technologies and may present credible business plans towards commercial exploitation.

**Funding scheme: Collaborative Project (small or medium-scale focused research project)
Targeted for SMEs**

Expected impact: The proposals should contribute to an overall preventive strategy to maintain and secure the conservation and management of movable assets in public and private cultural heritage collections, regarding "natural" deterioration processes and human interventions. It should support policy recommendations at international and EU level for non-destructive diagnosis. It can also be useful for quicker authentication and traceability of cultural assets. Consequently the proposal may contribute to make the mobility of collections in Europe easier, as one of the EU action plan's priorities in this field.

Area 6.3.2.2 Networking, knowledge transfer and optimisation of results in cultural heritage

Not open in 2010.

Area 6.3.2.3 Environment technologies for archaeology and landscapes

Not open in 2010.

Area 6.3.2.4 Fostering the integration of cultural heritage in urban and rural settings

Public-Private Partnership 'Energy efficient Buildings' –Cross-thematic cooperation between NMP, ICT, Energy and Environment (including climate change)

Call title: Cross-Thematic cooperation: 'Energy-efficient Buildings' - 2010

For further details regarding the Energy Efficient Buildings Initiative please see the Annex 5 to the Cooperation work programme.

EeB.ENV.2010.3.2.4-1 Compatible solutions for improving the energy efficiency of historic buildings in urban areas²³

The objective is to develop new technologies and systems as well as compatible materials for improved energy efficiency of historic buildings while ensuring their sustainable protection and integration in urban areas. Proposals will target rehabilitation or adaptation of historic buildings to make them highly resource and energy efficient by improving architectural components, thermal insulation, air conditioning and ventilation, heating, lighting, and other appropriate solutions. Developments should also promote innovative methods and materials for the monitoring and control of energy consumption and of indoor climate including air pollution and possibly be applicable to cultural heritage collections located in historic buildings. Solutions for the rehabilitation and/or retrofitting of historic buildings must respect the integrity, authenticity and compatibility between the old and new materials and techniques, and be economically viable to enable a widespread application to a vast majority of urban historic buildings, whether they are or not protected by legislation. Protocols and tools for the planning and implementation of heritage rehabilitation works should be adapted to consider the specific cultural value and priorities required of heritage building interventions and to ensure their effective transferability to other historic buildings located in other urban centres or their surroundings across Europe.

A significant participation of industrial partners including SMEs is required. The participation of local authorities or agencies in charge of the rehabilitation and adaptation of ancient and historic buildings in rehabilitated urban areas is encouraged. This will be considered in the evaluation.

Funding scheme: Collaborative Project (large scale integrating project, upper financial contribution EUR 5 000 000)²⁴

²³ Please see the call fiche on page 81.

²⁴ No more than one project will be supported.

Expected impact: Proposals should contribute to the European Economic Recovery Plan and lead to widespread improvement of energy saving in historic buildings, sustainable renovation of ancient infrastructure and improved living conditions within historic urban areas. Research should contribute to improved quality management of historic cities and cultural tourism, and also help implement the EU Environmental Impact Assessment Directives when applied to historic buildings²⁵. Proposals should contribute to the EU Energy Performance of Buildings and other relevant policy regulations. Proposals will also support the Strategic Research Agenda of the European Construction Technology Platform and its Focus Area in Cultural heritage.

²⁵ See the guidelines resulting from the EC project SUIT at <http://www.suitproject.net>

Sub-Activity 6.3.3 Technology assessment, verification and testing

Indicative budget: EUR 4 500 000

This sub-activity addresses a variety of actions, most of which related to the development of methodologies and tools, related to the need of assessing – within a Life Cycle approach - the sustainability and the risks of technologies, and the need of testing their performance. In 2010 research will address the development of simplified LCA methodologies and tools for different industrial sectors (e.g. those included in the Lead Market Initiative) and the development of methodologies for expressing the somewhat complex results of LCA studies into easily understandable terms for public and private decision makers. The risk-assessment component of WP 2010 will focus on the creation of a network of main European stakeholders in order to accelerate the validation of new eco-toxicological testing methods for the implementation of EU and national regulations which comply with the need to reduce the use of animals for testing.

Area 6.3.3.1 Risk assessment of chemicals and alternative strategies for testing

ENV.2010.3.3.1-1 Reduction of the use of animals in eco-toxicological safety testing

The implementation of EU regulations on chemicals (REACH) and their transformation products will require an intensification of eco-toxicological testing which could result in an increase in the use of animals. Therefore a coordination action on the reduction of the use of animals is necessary that will create a network of the main European stakeholders: national authorities, laboratories and industries developing testing methods. The objective is to share knowledge and data gained with alternative methods, e.g. in vitro, in silico, microbiological methods²⁶, that could reduce or replace the use of animals in eco-toxicological testing. The action should support the identification and validation of promising alternative methods. Appropriate attention should also be given to screening methods and high-throughput technologies. Proposals should liaise and consider on-going networking activities in other relevant European (such as OSIRIS²⁷ and ORCHESTRA²⁸) and OECD projects.

Funding Scheme: Coordination and Support Action (coordinating action)

Expected impact: The coordination action will accelerate the validation of new eco-toxicological testing methods for the implementation of EU and national regulations which comply with the need to reduce the use of animals for testing.

²⁶ Or on non-vertebrate species that may not raise ethical concerns.

²⁷ Optimized Strategies for Risk Assessment of Industrial Chemicals through the Integration of Non-test and Test Information (<http://www.osiris.ufz.de/>).

²⁸ Organising dissemination on Results of projects on Chemical Evaluation, Spreading Techniques for Risk Assessment.

Area 6.3.3.2 Technology assessment

ENV.2010.3.3.2-1 Boosting Life Cycle Assessment use in SMEs: development of sectoral methods and tools

Life Cycle Assessment (LCA) is considered as the most advanced tools for improving the environmental performance of products. There are however barriers that reduce its implementation, especially in SMEs (high data intensity, costs, expertise required to run the LCA studies, etc). Sector-specific eco-design approaches, working with key environmental performance indicators (KEPI) that do not require the designer to have LCA knowledge, could be a way forward. The objective of this research topic is to contribute overcoming some of these barriers through the development of simplified operative methods and tools to be used by SMEs working in a number of industrial sectors.

To ensure consistency and compatibility with related tools in policy and industry context, the methods and tools developed will have to build upon the International Reference Life Cycle Data System (ILCD) Handbook on LCA (<http://lca.jrc.ec.europa.eu/EPLCA/overview.htm>). Web-based training courses on their application should also be developed by the project

A computer open source tool with a simple interface could facilitate cheap and quick LCAs, and increase the use of LCA significantly. It should be designed in a way that it could use already existing databases in a flexible and cost efficient way. Innovative technologies (e.g. semantic web) could be explored and implemented if feasible.

The sectorial methods and tools developed shall be demonstrated in real case studies (at least one for each industrial sector tackled), involving SMEs acting at different levels of the value chain.

The Life Cycle Inventory (LCI) data sets resulting from the case studies implemented within the funded project(s) will have to be made available for free by the applicants as one component of the ILCD Data Network database. This topic is relevant for SMEs.

Funding scheme: Collaborative Project (small or medium-scale focused research project)

Expected impact: Development of easy to use and cost-efficient yet precise instruments for European SMEs in-house use. It will boost Business-to-Business communication, improving also the environmental performance of SMEs' products and contributing to European SMEs' competitiveness. An easier way of implementing LCA for SMEs will also contribute to the implementation of EU initiatives such as the Recovery Package, the Sustainable and Consumption Action Plan, the Lead Market Initiative, the Waste Framework Directive, the Climate and Energy package, etc.

Area 6.3.3.3 Environmental technologies verification and testing

Not open in 2010.

Activity 6.4 Earth observation and assessment tools for sustainable development

Sub-Activity 6.4.1 Earth and ocean observation systems and monitoring methods for the environment and sustainable development

Indicative budget: EUR 17 000 000

The research in this domain is to support the actions and tasks linked to the GEOSS 10-year Implementation Plan. It is expected that EU level research should contribute to this process, before 2015, by ensuring the full interaction and engagement of relevant science and technology communities into GEOSS implementation so that state of the art technology and latest Earth science knowledge is continuously applied in its development and operation. The use of GEOSS integrated observations, models and data sets will also be strongly promoted in support of scientific research and technological development. The 2010 suggested activities will address the Integration of European activities within GEO, the cross-cutting research relevant to GEO, the Earth observation activities in emerging areas and capacity building activities in the domain of Earth observation, in the new EU countries and the developing countries. The 2010 WP takes stock of the progress made at international level to build GEOSS. More specifically it integrates two main directions given by the GEO ministers in the GEO Cape Town Declaration: (1) The Continued research and development activities necessary for future observation systems, and (2) The Upgrading and expanding Earth observations and building the capacity of individuals, institutions and systems, particularly in developing countries.

Area 6.4.1.1 Integration of European activities within GEO

ENV.2010.4.1.1-1 Supporting the integration of European and international R&D programmes in GEO

Support to strategic GEO related S&T activities: 1) Promote awareness and benefits of GEO in the S&T Community 2) Promote active engagement at national level to include collaboration with GEOSS tasks in national and international R&D programs The objective is to support the European Members of GEO and the EC in their effort to structure an effective coordination process between the various EU potential contributors of GEO, with the aim to take advantage of the European Scientific and Technological strengths in building the GEOSS and to facilitate access to global information and knowledge to the benefit of European stakeholders. It is expected that the project will contribute to promoting synergies between European projects and between European Research Programmes (including projects from the EC FP7 programme, National projects, pan-European and Regional programmes). It is also expected that efforts will be oriented towards facilitating the registration of data in the GEOSS, including existing data bases; data being developed; research data; operational data, (whether generated or owned by entities in the public or by private sector). The view should be to prepare a sustainable process to support the interaction between the GEOSS and the European Science and Technology stakeholders for all Societal Benefit Areas and for the Transverse activities areas.

Funding scheme: Coordination and Support Action (coordinating action)

Expected impact: Full interaction and engagement of relevant European and International science and technology communities into GEOSS implementation such that GEOSS is strongly supportive of scientific and technological development while integrating advances in technology and latest Earth observation science in its development and operation. Important impacts are expected in the following domains:

- *Improved and new instrumentation and system*
- *Life-cycle data management, data integration and information fusion, data mining*
- *Models, data assimilation modules and other algorithms for a better understanding of the Earth Systems*
- *Involvement of developing countries in the transfer of science and technology;*
- *Improving interoperability between global observing systems, modelling systems, and information systems.*

Area 6.4.1.2 Cross-cutting research activities relevant to GEO

ENV.2010.4.1.2-1 Building observational datasets for the predictability of global atmospheric, oceanic and terrestrial processes using reanalysis techniques

The research should contribute to building atmospheric oceanic and terrestrial observational datasets which are crucial resources for the study of processes and predictability, through the reanalysis of multi-decadal series of past observations. The data sets in question should primarily encompass the past 100 years but a low resolution reanalysis encompassing older data sets and the paleo-record down to 1 My, for which accurate proxies are already available would provide added-value to the project. The focus of the project should be on the discovery and recovery of *in-situ* data and their integration with remote-sensing data. A pilot case reanalysis should be performed by the project. In this respect the research should take into account geo-information produced by GMES service projects, and should be implemented closely with relevant projects funded through the FP7 Space Cooperation Theme, and the ongoing ESA initiative 'Earthwatch Element for Global Monitoring of Essential Climate Variables'. The research to be conducted should also address (i) the lack of consistent time series to better understand atmospheric oceanic and terrestrial processes on long time scales; (ii) the continuity of the data base, (iii) the access to and digitalization of data sets; (iv) data quality of the observational data sets; (v) access to the observational data sets, in particular taking into account of the GEOSS data sharing principles. The activities should rely on the work of the recently created joint GCOS/WCRP working group and contribute to strengthen European reanalysis capability. The activities should ensure European compatibility with the GEOSS and should be implemented closely with GEO task *CL-06-01: A Climate Record for Assessing Variability and Change*

Funding scheme: Collaborative Project (small or medium-scale focused research project)

Expected impact: Improved gridded weather and climate time series that will be made available to the research community as well as for societal applications envisaged in the GEO initiative. Identification of gaps in the available record that could be partially filled by new proxy data.

ENV.2010.4.1.2-2 Integrating new data visualisation approaches of earth Systems into GEOSS development

2D and 3D visualisation web services of the Planet Earth released on-line over recent years by both commercial companies and academic communities are nowadays broadly used by the science community when dealing with the representation and modelling of Earth Systems. However, the quality control of the observation data made available through these different portals has not yet been properly addressed, in particular with regard to their use in science applications, or operational products, derived from Earth Observation (EO) data. Proposals should therefore help in developing mechanisms and protocols enabling the mining, screening and quality-control of EO data from various sources registered in the GEOSS and used in such data visualisation applications by the science community and operational users. Proposals should contribute to the development of a GEO S&T label that is broadly acknowledged in the Science Community. These research activities should be conducted in particular through a sound interaction between GEOSS and initiatives providing up to date visualising technologies of earth observation data. The R&D activities to be conducted within the project will also consist of developing data quality control tools and software to be interfaced with smart visualisation data portals used by individuals including making information available to users in a format that is easy to use and which may be accessed using low bandwidth and mobile devices. The project should establish a partnership enabling those engaged in the relevant Architecture and Data tasks of GEOSS, the existing earth observation data providers, and the science community involved in the modelling of the earth system, to collaborate through up-to date visualisation systems using recognised and emerging standards. Pilot case studies, dealing with specific Societal Benefit areas of GEO, and capacity building issues should be conducted in order to test the validity of the approach pursued.

Funding scheme: Collaborative Project (small- or medium scale focused research project)

Expected impact: The adoption of mechanisms and protocols enabling the mining, screening and quality-control of EO data used in visualisation web services. The establishment of a partnership to develop the benefits arising from new data visualisation approaches, including enabling the use of visualisation systems by the Earth Observation science community involved in the modelling of the earth system. An increase in the up-take of user-oriented Earth Observation applications. The development of a strategy for the implementation of a GEO S&T label.

Area 6.4.1.3 Earth Observation activities in emerging areas

ENV.2010.4.1.3-1 Exploring GNSS (global navigation satellite systems) applications for Global Environmental Earth Observation and GEOSS (Global Earth Observation Systems of Systems)

All GEOSS Societal Benefit areas require access to geo-referenced data. There is a need, therefore, to better assess the value of GNSS data and constellations for GEOSS in general and more specifically the value of European systems such as the EGNOS constellation which is the GALILEO precursor. The activities should explore other potential applications derived from those systems in particular in the research sectors relating to GEO Societal Benefit areas in addition to the classical positioning services provided by EGNOS and GALILEO. More specifically the potential of EGNOS should be investigated for use in domain requiring a high-accuracy of signals like in atmospheric research and wildlife studies. The activities should be

implemented closely with the complementary GMES and ESA projects and with the relevant GEO tasks. The other GNSS available or under development internationally should also be included.

Funding scheme: Coordination and Support Action (coordinating action)

Expected impact: European GNSS promotion and use within the GEO community. GNSS support of GEO activities. This coordinating action will clearly identify the perspectives for technological developments relevant to the needs of this programme and the GEOSS Societal Benefit areas and thus provide a strategic support to Earth Observation operational methodologies and measurements.

ENV.2010.4.1.3-2 Global Observation Systems for Mercury

The objectives of the topic is to contribute developing a global monitoring system able to predict the spatial distribution of atmospheric mercury deposition loads to and fluxes from terrestrial and aquatic receptors for current and projected scenarios of economic development strategies on the environment. The proposed activity would benefit from the outcome of ongoing activities carried out by several partners in the framework of the UNEP Global Partnership on Atmospheric Mercury Transport and Fate Research (UNEP F&T) (www.chem.unep.ch) and Task Force on Hemispheric Transport of Air Pollutants (TF HTAP) of the UNECE-LRTAP convention (www.htap.org). The research should identify and explain observed long-term trends by filling gaps in the observing system, developing reliable emission trends and improving model descriptions. The current observational system has limited coverage and resolution in most regions of the world, specifically in developing countries, and provides limited information about the vertical distribution of pollutants. Better observational information is essential for improving the ability to detect and explain long-term changes, which should be achieved through the participation of ICPC country organisations in the project. The results obtained in past EU research projects (i.e., MAMCS, MOE, MERCYMS) will provide a solid basis of knowledge in terms of state-of-the-art atmospheric models, monitoring methodologies and environmental policy analysis instruments. To be implemented with task *HE-09-02: Monitoring and Prediction Systems for Health - d) Global Monitoring Plan for Atmospheric Mercury*.

Funding scheme: Collaborative Project (large scale integrating project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries

Expected impact: Comparable and long-term data set from different locations, and improved mercury monitoring and observing system, necessary to understand temporal and spatial patterns of mercury transport and deposition to, and evasion from, terrestrial and aquatic ecosystems and validation of regional and global atmospheric mercury models for use in evaluations of different policy options for reducing mercury pollution impacts on human health and ecosystems.

Area 6.4.1.4 Developing capacity building activities in the domain of Earth Observation in the new EU countries and in the developing countries

ENV.2010.4.1.4-1 Identification and Networking of EO activities in the Balkan area

The main objective of this action is to assess the status of earth observation facilities and related research in the broad Balkan region and to develop and strengthen collaboration between the relevant organisations. It should also contribute to better assessing the needs, potential and prospective contribution of the whole geographic area to environmental monitoring in the context of the GEO societal benefit areas. The activity should address not only the subjects related to data collection, but also those related to data archiving and availability, working to promote free, open and timely access to Earth observation data and information. The efforts should be oriented towards government and public awareness, by undertaking proper dissemination activities. The actions should take into consideration the outcome of the FP6 SEE-ERA-NET/ERA-NET (Southeast European ERA-NET/ERA-NET) and similar (regional) initiatives. The participation of legal entities from the Balkan Region is particularly encouraged in proposals submitted to this topic. This will be considered in the evaluation.

Funding scheme: Coordination and Support Action (coordinating action)

Expected impact: Comprehensive review and gap analysis of the needs, potential and prospective contribution of the Southeast European region to GEO. Contribution to relevant GEO 2009-2011 Work Plan tasks including CB-09-03 b.

Sub-Activity 6.4.2 Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation

Indicative budget: EUR 16 500 000

In 2010 the sub-activity is taking a forward-looking approach with a focus on engaging research in transformation processes leading to acceleration towards sustainable development. This will be done by paying special attention to the connection of research with policy making and social dynamics. Foresight activities will be launched, with the objective to provide tools to move, collectively and individually, towards a more sustainable Europe. Member States will be given the opportunity to discuss how to best align their R&D policy with sustainable development. The sub-activity will continue the science-policy brokerage activities launched in previous work-programmes. In the field of indicators, new research will be undertaken to improve the set of environmental accounts by focussing on under-studied sectors such as water, waste, and forest. The sub-activity will also call for increased integration of and interconnectivity between models, focussing on sustainable development challenges.

Area 6.4.2.1 Tools for impact assessment

ENV.2010.4.2.1-1 Enhancing model integration for the assessment of global environmental change

European scientists have been in the forefront of integrated assessment to establish sound insights on problems with an impact on different socio-economic and environmental systems. This included the development and application of shared modelling interfaces that supports two-way links and smooth data exchange, thus enabling to use those models that are best suited to a particular issue. This topic calls for an improved integration of and/or interconnectivity between different models used for global or sub-global assessments of environmental change and related policies. Transparency of the integration modes and methodologies should be ensured and public access to allow for linking up of further models is strongly encouraged. The research should build on previous experience but with a clear focus on new areas linked to the sustainable development challenges. In this context interaction with policy makers will be sought to ensure policy relevance of the results to be achieved through this enhanced integration.

Funding scheme: Collaborative Project (small- or medium-scale focused research project)

Expected impact: Improved linkage between models. Improved capacity of policy makers to define options for sustainable policy interventions.

Area 6.4.2.2 Sustainable development indicators

ENV.2010.4.2.2-1 Development of integrated economic and environmental accounts

Concepts and methods in environmental-economic accounting need to be further harmonized. Additional research could focus on key accounts, such as water, waste, and forest accounts. Regarding water, the main issues to be dealt with are water classification and valuation and water quality accounts. In terms of waste, issues that could be further researched include: harmonization of the terminology and classification of waste and waste products across countries. Standardized waste tables could also be developed, taking into account already existing research. A link between waste accounts and Material Flows Accounts (MFA) could be created. Also, some forest values have been incorporated in environmental accounts, but much of this work has not yet been systematically incorporated in the integrated economic and environmental accounts. Finally, the link between integrated economic and environmental accounts and Kyoto protocol inventories and other climate change policy relevant concepts could also be investigated.

Funding scheme: Collaborative Project (small- or medium-scale focused research project)

Expected impact: Contribution to the development of the system of Integrated Environmental and Economic Accounting 2012 (SEEA 2012). In relation to the waste component, the project is expected to improve the comparison of waste stocks and the monitoring of international waste flows through the harmonisation of the classification used for the Waste Statistics Regulation with other classifications for waste generation and treatment operations.

Area 6.4.2.3 Interplay between social, economic and ecological systems

ENV.2010.4.2.3-1 Foresight to enhance behavioural and societal changes enabling the transition towards sustainable paths in Europe

The topic is calling for bottom-up approaches addressing the question of how to overcome the gap between awareness of the issues at stake and the concrete engagement in sustainability-driven action, as individuals and as a society. As a first step, the project shall conduct an analysis of barriers and drivers for engaging on a sustainable, low-carbon paths, individually (taking into account the diversity of lifestyles), on the level of individual organisations, and collectively (organisation of the society and the economy). Attention should be paid to the interaction between structural factors, such as social institutions, and agent-based factors, such as incentives and vested interests. In particular, the roles of actors on different levels shall be analysed (policy-makers, opinion-makers, business, civil society), with an emphasis on linking initiatives, and finding potential agents for change.

The results of the analysis shall then be used as a background for scenario development and a back-casting exercise in order to identify potential paths to engaging on an integrated effort to support the transition to a sustainable Europe. The exercise shall address issues such as how to engage individuals and collectives on sustainable paths; what is needed in order to address the barriers and make the most of the drivers for sustainable development in terms of a) new policy-

mixes and b) new and innovative mechanisms for cooperation and partnerships between actors in public, private sector and the civil society.

Funding scheme: Collaborative project (small or medium-scale focused research project) or research for the benefit of specific groups – civil society organisations. Requested Community contribution of up to EUR 1 500 000. Bottom-up topic, up to three projects will be retained for this topic.

Expected impact: Better understanding of what it takes to transform the challenge of sustainable development into practice in Europe, and increased ability to develop responses on the ways in which individuals and organisations can advance towards sustainability.

ENV.2010.4.2.3-2 Producing a shared vision on how to harness R&D to sustainability

Through this coordinated action, national research policy makers from Member States and Associated Countries are invited to exchange views and develop a shared vision on how best to harness R&D to sustainable development. This requires an analysis of the ways by which research systems (i.e. organisations, programmes and policies) are responsive to sustainability requirements, and how this can be monitored and increased. For this purpose, it is expected to organise a joint informed dialogue between R&D policy makers, with the scientific support of sustainable development sciences. This coordinated action should build on the results of the preliminary exercise entitled "Research for Sustainable Development" (R&D4SD), and its ensuring Report²⁹. It should produce mutual understanding of the different approaches, support learning processes, and develop common actions, where relevant.

Funding scheme: Coordination and support action (coordinating action). Up to one project will be retained for this topic.

Expected impact: Contribute to the realisation of the ERA Vision, for which the European Research Area should be responsive to its needs and ambitions in pursuit of sustainable development"³⁰, and provide recommendations for ensuring that FP8 also contributes to this end.

ENV.2010.4.2.3-3 Brokerage activities to promote sustainable consumption and production patterns

The aim of this activity is to experiment and develop new integrative modalities of linking research results to policy-making through 'secondary exploitation' of existing research. The topic calls for applying "knowledge brokerage" between scientists and policy makers on policy issues related to sustainable consumption and production, such as promoting sustainable consumption patterns, developing sustainable tourism, managing potential economic, political and social contradictions between economic growth re-launch and sustainable consumption. This policy issue should be clearly and convincingly presented in the proposal. The chosen issue should be one for which there is a significant body of research, which could be exploited in novel and innovative ways in cooperation between researchers, potentially including those of CSOs, and policy makers. This "research reservoir" shall be made explicit in the proposal. To ensure the uptake of project results, the consortium shall necessarily include policy makers and/or the work

²⁹ For more information and access to the report see the following link:

http://ec.europa.eu/research/sd/index_en.cfm?pg=rd4sd

³⁰ 2891st Competitiveness Council (1-2 December 2008). Conclusions on the definition of a "2020 Vision for the European Research Area".

plan shall be designed so as to guarantee their active involvement, ideally on an equal basis with the researchers. Due to the experimental nature of the project, and the importance of the learning process, the design should also include an in-built evaluation process that documents and critically analyses successes and difficulties with the chosen approach.

Funding scheme: Collaborative Project (small- or medium-scale focused research project). Requested Community contribution of up to EUR 1 500 000. Bottom-up topic, up to three projects will be retained for this topic.

Expected impact: Increased use of research in Sustainable Development policy-making, in line with one of the policy guiding principles of the renewed EU SDS, i.e. the use of best available knowledge. Short to medium-term impact.

Activity 6.5 Horizontal activities

Main emphasis will be on promoting better communication strategies and innovative approaches for dissemination and uptake of research results in certain areas, and specific efforts to enhance impacts of environmental research activities in an enlarged Europe will be deployed.

Sub-Activity 6.5.1 Dissemination and horizontal activities

Indicative budget: EUR 4 000 000

ENV.2010.5.1.0-1 Dissemination and uptake of FP environmental research results with tangible impact on economic growth and social welfare

The aim of this activity is to promote the use of FP environmental research results in the definition of national, EU and international policies, in order to support economic growth and social welfare. One of the following areas should be covered: impacts of natural hazards, marine and maritime policies or environmental technologies focusing on water. The consortium will identify FP funded environmental research projects and results with high EU added value. On this basis, innovative dissemination activities (e-learning, summer schools, seminars) will be carried out to share the results with stakeholders at national and/or international level including policy makers. The consortium will also identify research priorities and environmental policy gaps to cope with future societal needs while contributing to sustainable growth. The outcomes of the activities will be disseminated in different user-friendly media (including interactive audiovisuals) for targeted audiences of policy makers, PhD students, researchers, Small and Medium size Enterprises and industries. The consortium will be asked to collaborate with the project(s) selected under topic ENV.2010.5.1.0-2.

Funding scheme: Coordination and Support Action (supporting action)

Expected impact: Increased access to and use of EU research results for economic growth and social welfare by policy makers, PhD students, researchers, Small and Medium Enterprises and industries.

ENV.2010.5.1.0-2 Dissemination and exploitation of research results to enhance impacts of environment research activities in an enlarged Europe

The aim is to promote innovative environmental research practices and results originating in the region of the Central and Eastern Europe, particularly Member States with the lowest participation rates in the FP7 Environment Theme, in order to broaden opportunities for S&T collaboration. The project should identify strengths and weaknesses in the current communication of research results towards policy makers, academia and industry on national, regional and EU-wide level and propose novel solutions in this field. Attention should be given to the following specific areas of research: air pollution, chemical pollution and environmental technologies. A methodology for the various phases of the project, including the rationale for selecting research practices/results, and for identifying improved dissemination activities, should be clearly described. The consortium will be asked to collaborate with project(s) selected under topic ENV.2010.5.1.0-1.

Funding scheme: Coordination and Support Action (coordinating action)

Expected impact: Increased collaboration on, access to, and use of environmental research results in an enlarged Europe. Improved dissemination and use of tailor-made tools for communication and dissemination activities for the environment.

III IMPLEMENTATION OF CALLS

- **Call identifier:** FP7-ENV-2010
- **Date of publication**³¹: 30 July 2009
- **Deadline**³²: 5 January 2010 at 17.00.00, Brussels local time
- **Indicative budget**³³³⁴: EUR 175 000 000

All budgetary figures for this call are indicative. Following the evaluation of proposals, the final budget awarded to actions implemented through this call for proposals may vary:

- by up to 10% of the total value of the indicated budget for each call; and
- any repartition of the call budget may also vary by up to 10% of the value of the indicated budget for the call.

The final budgets for evaluation, monitoring and review may vary by up to 20% of the indicated budgets for these actions. The final budget for actions not implemented through this call for proposals may vary by up to 10% of the indicated budgets for these actions.

- **Topics called:**

ACTIVITY/ AREA	TOPICS CALLED	FUNDING SCHEMES
ACTIVITY 6.1. CLIMATE CHANGE, POLLUTION AND RISKS		
Sub-activity 6.1.1. Pressures on environment and climate (EUR 29 500 000)		
<i>1.1.1.</i>	<i>Not open in 2010.</i>	
<i>1.1.2.</i>	<i>ENV.2010.1.1.2-1 Atmospheric chemistry and climate change interactions</i>	<i>Collaborative Project (large scale integrating project)</i>
	<i>ENV.2010.1.1.2-2 Networking activities on atmospheric composition and climate change for research collaboration and policy making</i>	<i>Coordination and Support Action (coordinating action)</i>
<i>1.1.3.</i>	<i>ENV.2010.1.1.3-1 Changes in carbon uptake and emissions by oceans in a changing climate</i>	<i>Collaborative Project (large scale integrating project)</i>

³¹ The Director General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

³² The Director-General responsible may delay this deadline by up to two months.

³³ Under the condition that the preliminary draft budget for 2010 is adopted without modifications by the budgetary authority.

³⁴ A reserve list will be constituted if there is a sufficient number of good quality proposals. It will be used if extra budget becomes available.

1.1.4.	<i>ENV.2010.1.1.4-1 Underpinning work to enable provision of local scale climate information (annual to decadal timescales)</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
1.1.5.	<i>ENV.2010.1.1.5-1 Impact of ocean acidification in the Mediterranean in a changing climate</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
1.1.6.	<i>ENV.2010.1.1.6-1 Climate change mitigation options linked to deforestation and agriculture in the context of a post-2012 international agreement on climate change</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
	<i>ENV.2010.1.1.6-2 Explore climate policy scenarios for developing countries and/or emerging economies</i>	<i>Coordination and Support Action (supporting action)</i>
	<i>ENV.2010.1.1.6-3 Quantifying the costs of mitigating climate change by means of activities involving joint climate and economic modelling</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
Sub-activity 6.1.2. Environment and Health (EUR 12 500 000)		
1.2.2.	<i>ENV.2010.1.2.2-1 Indoor air pollution and health risks of modern office buildings</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
	<i>ENV.2010.1.2.2-2 Human health and environmental effects of exposure to pharmaceuticals released into the environment</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
1.2.3.	<i>ENV.2010.1.2.3-1 Exposure models to assess the risks to operators, workers, residents and bystanders from exposure to plant protection products (PPPs)</i>	<i>Collaborative Project (small or medium-scale focused research project). Maximum EC contribution of EUR 2 000 000</i>
	<i>ENV.2010.1.2.3-2 Greenhouse gas emission reduction policies and their impacts on public health and welfare in urban areas</i>	<i>Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries</i>

Sub-activity 6.1.3. Natural hazards (EUR 8 000 000)		
1.3.1.	<i>Not open in 2010.</i>	
1.3.2.	<i>ENV.2010.1.3.2-1 Building a culture of risk prevention in Europe</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
1.3.4.	<i>ENV.2010.1.3.4-1 New methodologies for multi-hazard and multi-risk assessment</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
	<i>ENV.2010.1.3.4-2 Social science research, natural hazards and decision making process</i>	<i>Coordination and Support Action (coordinating action)</i>

ACTIVITY/ AREA	TOPICS CALLED	FUNDING SCHEMES
ACTIVITY 6.2. SUSTAINABLE MANAGEMENT OF RESOURCES		
Sub-activity 6.2.1. Conservation and sustainable management of natural and man-made resources and biodiversity (EUR 28 500 000)		
2.1.1.	<i>ENV.2010.2.1.1-2 Integrated resource management based on land and land-use management</i>	<i>Collaborative Project (large scale integrating project)</i>
2.1.2.	<i>ENV.2010.2.1.2-1 Evaluation of effectiveness of economic instruments in integrated water policy</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
2.1.3.	<i>Not open in 2010.</i>	
2.1.4.	<i>ENV.2010.2.1.4-1 Functional significance of forest biodiversity</i>	<i>Collaborative Project (large scale integrating project)</i>
	<i>ENV.2010.2.1.4-3 Developing a European scientific biodiversity Network to inform policy-making and economic actors</i>	<i>Coordination and Support Action (coordinating action)</i>
	<i>ENV.2010.2.1.4-4 Increasing the understanding of the role of soil biodiversity in ecosystem functioning</i>	<i>Collaborative Project (large scale integrating project)</i>
2.1.5.	<i>ENV.2010.2.1.5-1 Assessing vulnerability of urban systems, populations and goods in relation to natural and man-made disasters in Africa</i>	<i>Collaborative Project (small- or medium scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner</i>

		<i>countries</i>
2.1.6.	No open in 2010.	
Sub-activity 6.2.2. Management of marine environments (EUR 11 500 000)		
2.2.1.	<i>ENV.2010.2.2.1-1 North Atlantic Ocean and associated shelf-seas protection and management options – collaboration with US & Canada</i>	<i>Collaborative Project (large scale integrating project)</i>
	<i>ENV.2010.2.2.1-2 Global plankton data set building in view of modelling</i>	<i>Collaborative Project (small- or medium scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries</i>
	<i>ENV.2010.2.2.1-3 Coordination actions to support FP6 NoEs durable integration</i>	<i>Coordination and Support Action (coordinating action)</i>

ACTIVITY/ AREA	TOPICS CALLED	FUNDING SCHEMES
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ACTIVITY 6.3. ENVIRONMENTAL TECHNOLOGIES		
Sub-activity 6.3.1. Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment (EUR 39 500 000)		
3.1.1.	<i>ENV.2010.3.1.1-1 Technologies and systems for urban water cycle services</i>	<i>Collaborative Project (large scale integrating project)</i>
	<i>ENV.2010.3.1.1-2 Innovative system solutions for municipal sludge treatment and management</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
3.1.2.	<i>Not open in 2010.</i>	
3.1.3.	<i>ENV.2010.3.1.3-1 Innovative technologies and eco design recommendations for reuse and recycling of Construction and Demolition (C&D) waste, with a special focus on technologies for onsite solutions</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
	<i>ENV.2010.3.1.3-2 Innovative technologies and system solutions for municipal solid waste management in densely populated</i>	<i>Collaborative Project (small or medium-scale focused research project) – (bottom-</i>

	<i>cities</i>	<i>up topic area, up to 3 projects of maximum EC contribution of EUR 2 500 000)</i>
3.1.4.	<i>ENV.2010.3.1.4-1 Integrated Pollution Prevention and Control of industrial emissions in the Mediterranean region</i>	<i>Coordination and Support Action (coordinating action) Additional eligibility criterion: A minimum of two participants from the Mediterranean partner countries is required. This requirement will be applied as eligibility criterion.</i>
3.1.5.	<i>ENV.2010.3.1.5-1 Resource efficient and urban friendly construction sites</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
	<i>ENV.2010.3.1.5-2 Environmental technologies for brownfield regeneration</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
3.1.6.	<i>Not open in 2010.</i>	
3.1.7	<i>ENV.2010.3.1.7-1 Technologies for automated monitoring of air pollution in cities</i>	<i>Coordination and Support Action (supporting action)</i>
3.1.8.	<i>ENV.2010.3.1.8-1 Development of technologies for long-term carbon sequestration</i>	<i>Collaborative Project (small or medium-scale focused research project) (bottom-up topic area, up to 3 projects of maximum EC contribution of EUR 2 500 000)</i>
Sub-activity 6.3.2. Protection, conservation and enhancement of cultural heritage, including human habitat (EUR 3 500 000)		
3.2.1.	<i>ENV.2010.3.2.1-1 Non-destructive diagnosis technologies for the safe conservation of movable cultural assets</i>	<i>Collaborative Project (small or medium-scale focused research project) Targeted for SMEs</i>
3.2.2.	<i>Not open in 2010.</i>	
3.2.3.	<i>Not open in 2010.</i>	

3.2.4.		
Sub-activity 6.3.3. Technology assessment, verification and testing (EUR 4 500 000)		
3.3.1.	<i>ENV.2010.3.3.1-1 Reduction of the use of animals in eco-toxicological safety testing</i>	<i>Coordination and Support Action (coordinating action)</i>
3.3.2.	<i>ENV.2010.3.3.2-1 Boosting Life Cycle Assessment use in SMEs: development of sectoral methods and tools</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
3.3.3.	<i>Not open in 2010.</i>	

ACTIVITY/ AREA	TOPICS CALLED	FUNDING SCHEMES
ACTIVITY 6.4. EARTH OBSERVATION AND ASSESSMENT TOOLS FOR SUSTAINABLE DEVELOPMENT		
Sub-activity 6.4.1. Earth and ocean observation systems and monitoring methods for the environment and sustainable development (EUR 17 000 000)		
4.1.1.	<i>ENV.2010.4.1.1-1 Supporting the integration of European and international R&D programmes in GEO</i>	<i>Coordination and Support Action (coordinating action)</i>
4.1.2.	<i>ENV.2010.4.1.2-1 Building observational datasets for the predictability of global atmospheric, oceanic and terrestrial processes using reanalysis techniques</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
	<i>ENV.2010.4.1.2-2 Integrating new data visualisation approaches of earth Systems into GEOSS development</i>	<i>Collaborative Project (small or medium-scale focused research project)</i>
4.1.3.	<i>ENV.2010.4.1.3-1 Exploring GNSS (global navigation satellite systems) applications for Global Environmental Earth Observation and GEOSS (Global Earth Observation Systems of Systems)</i>	<i>Coordination and Support Action (coordinating action)</i>
	<i>ENV.2010.4.1.3-2 Global Observation Systems for Mercury</i>	<i>Collaborative Project (large-scale integrating project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries</i>

4.1.4.	<i>ENV.2010.4.1.4-1 Identification and Networking of EO activities in the Balkan area</i>	<i>Coordination and Support Action (coordinating action)</i>
Sub-activity 6.4.2. Forecasting methods and assessment tools for sustainable development taking into account different scales of observation (EUR 16 500 000)		
4.2.1.	<i>ENV.2010.4.2.1-1 Enhancing model integration for the assessment of global environmental change</i>	<i>Collaborative Project (small- or medium-scale focused research project)</i>
4.2.2.	<i>ENV.2010.4.2.2-1 Development of integrated economic and environmental accounts</i>	<i>Collaborative Project (small- or medium-scale focused research project)</i>
4.2.3	<i>ENV.2010.4.2.3-1 Foresight to enhance behavioural and societal changes enabling the transition towards sustainable paths in Europe</i>	<i>Collaborative Project (small- or medium-scale focused research project) or research for the benefit of specific groups – civil society organisations. Requested Community contribution of up to EUR 1 500 000. Bottom-up topic, up to three projects will be retained for this topic.</i>
	<i>ENV.2010.4.2.3-2 Producing a shared vision on how to harness R&D to sustainability</i>	<i>Coordination and support action (coordinating action) Up to one project will be retained for this topic.</i>
	<i>ENV.2010.4.2.3-3 Brokerage activities to promote sustainable consumption and production patterns</i>	<i>Collaborative Project (small- or medium-scale focused research project). Requested Community contribution of up to EUR 1 500 000. Bottom-up topic, up to three projects will be retained for this topic.</i>

ACTIVITY/ AREA	TOPICS CALLED	FUNDING SCHEMES
ACTIVITY 6.5. HORIZONTAL ACTIONS		
Sub-activity 6.5.1. Dissemination and horizontal activities (EUR 4 000 000)		
5.1.0.	<i>ENV.2010.5.1.0-1 Dissemination and uptake of FP environmental research results with tangible impact on economic growth and social welfare</i>	<i>Coordination and Support Action (supporting action)</i>
	<i>ENV.2010.5.1.0-2 Dissemination and exploitation of research results to enhance impacts of environment research activities in an enlarged Europe</i>	<i>Coordination and Support Action (coordinating action)</i>

- **Eligibility conditions:**

The evaluation criteria, together with the eligibility, selection and award criteria, for the funding scheme are set out in Annex 2 of this work programme, and in the guide for applicants.

Only information provided in part A will be used to determine whether the proposal is eligible with respect to budget thresholds and partnership. Please note that the completeness criterion also includes that part B of the proposal shall be readable, accessible and printable.

Particular requirements for participation, evaluation and implementation: The minimum number of participating legal entities for all funding schemes is set out in the Rules for Participation and presented in the relevant parts below.

Funding scheme	Minimum conditions
Collaborative project	At least 3 independent legal entities, each of which is established in a MS or AC, and no 2 of which are established in the same MS or AC
Collaborative project for specific cooperation actions (SICA) dedicated to international cooperation partner countries	At least 4 independent legal entities. Of these, 2 must be established in different MS or AC. The other 2 must be established in different international cooperation partner countries (ICPC)
Coordination and support action (coordinating action)	At least 3 independent legal entities, each of which is established in a MS or AC, and no 2 of which are established in the same MS or AC
Coordination and support action (supporting action)	At least 1 independent legal entity.
Research for the benefit of specific groups	At least 3 independent legal entities, each of which is established in a MS or AC, and no 2 of which are established in the same MS or AC. At least 1 of the legal entities has to be a civil society organisation (CSO).

The following funding thresholds will apply to the FP7-ENV-2010 call:

- Collaborative Projects in this work programme are divided into a) small or medium-scale focused research project, and b) large-scale integrating project:
 - For small or medium-scale focused research project, the requested Community contribution shall not exceed EUR 3 500 000, except for topics ENV.2010.3.1.3-2 and ENV.2010.3.1.8-1, where the requested Community contribution shall not exceed EUR 500 000, for topic ENV.2010.1.2.3-1, where the requested Community contribution shall not exceed EUR 2 000 000 and topics ENV.2010.4.2.3-1 and ENV.2010.4.2.3-3 for which the requested Community contribution shall not exceed EUR 1 500 000.
 - For large-scale integrating project, the requested Community contribution shall be from EUR 4 000 000 up to EUR 7 000 000 CSA, the 'Coordination and Support Action' funding scheme, allows for 2 different types of actions to be financed: a) coordinating action or b) supporting action. The requested Community contribution for these coordinating or supporting actions shall not exceed EUR 1 000 000,
- For CSA, ERA-net – coordinating action, the requested Community contribution shall not exceed EUR 2 000 000.

It is important to note that the above mentioned funding thresholds will be applied as eligibility criteria and that the proposals not fulfilling these thresholds are considered as ineligible. Only information provided in part A of the proposal will be used to determine whether the proposal is eligible with respect to budget thresholds and partnership.

- **Evaluation procedure:**

- A one-stage submission procedure will be followed.
- Proposals may be evaluated remotely.
- A reserve lists may be established for the sub-activities³⁵

The evaluation criteria (including weights and thresholds) and sub-criteria together with the eligibility, selection and award criteria for the different funding schemes are set out in annex 2 to the work programme. In the case of large-scale integrating Collaborative Projects, maximum one project will be retained per topic. In the case of small and medium-scale focused Collaborative Projects, maximum two proposals will be retained per topic, except for topics ENV.2010.3.1.3-2, ENV.2010.3.1.8-1, ENV.2010.4.2.3-1 and ENV.2010.4.2.3-3 for which maximum three proposals will be retained. There is no maximum number of proposals for Coordination and Support Action, except for topic ENV.2010.4.2.3-2, for which maximum one proposal will be retained.
- The evaluation criteria and scoring scheme are set out in annex 2 of the work programme. Proposal page limits: Applicants must ensure that proposals conform to the page limits and layout given in the Guide for Applicants, and in the proposal part B template available through the EPSS.

The Commission will instruct the experts to disregard any pages exceeding these limits.

The minimum font size allowed is 11 points. The page size is A4, and all margins (top, bottom, left, right) should be at least 15 mm (not including any footers or headers).

³⁵ A reserve list will be constituted if there is a sufficient number of good quality proposals. It will be used according to the rules of submission of proposals.

- The evaluation shall follow a single stage evaluation procedure. Proposals are evaluated on the basis of the following three criteria: 1. S/T quality; 2. Implementation; 3. Impact. For each criterion marks will be given, with the possibility of 0.5 point scores. Successful proposals must pass the minimum thresholds as follows:
 - If necessary, the panel will determine a priority order for proposals which have been awarded the same score within a ranked list. The approach described in Annex 2 of the Cooperation work programme will be applied successively for every group of *ex aequo* proposals requiring prioritisation, with the addition that among the proposals that address topics not otherwise covered by more highly-rated proposals, SICA proposals are given first priority.
 -
 - In case there would be an insufficient number of eligible proposals passing the evaluation thresholds in order to consume the budget of a given Sub-Activity, the remaining indicative budget of that Sub-Activity will be transferred to the other Sub-Activities pro-rata. In case additional funding, such as third country contribution, becomes available or when residual budgets remain under the Sub-Activities, the following formula and criteria (in the order indicated) shall be used to establish the list of proposals suggested for funding:
 -
 - 1) Maximising coverage of the work programme
 - 2) Prioritising SICAs
 - 3) Maximising the number of projects funded and ensuring efficient use of the overall call budget
- **Indicative evaluation and contractual timetable:**

Evaluations are expected to be carried out during the months of February-March 2010. It is expected that the grant agreement negotiations for the shortlisted proposals will be opened in May 2010.
- **Consortia agreements**

Participants in collaborative projects (large-scale integrating projects) are required to conclude consortia agreements.
- **The forms of grant and maximum reimbursement rates** which will be offered are specified in Annex 3 to the Cooperation work programme. In accordance with Annex 3 of this work programme, this call provides for the possibility to use flat rates to cover subsistence costs incurred by beneficiaries during travel carried out within grants for indirect actions. For further information, see the relevant Guides for Applicants for this call. The applicable flat rates are available at the following website: http://cordis.europa.eu/fp7/find-doc_en.html under 'Guidance documents/Flat rates for daily allowances'.

Call title: 'The ocean of tomorrow'

- **Call identifier:** FP7-OCEAN-2010
- **Date of publication:** 30 July 2009³⁶
- **Deadline:** 14 January 2010 at 17.00.00, Brussels local time³⁷
- **Indicative budget³⁸:** EUR 34 000 000 from the 2010 budget of which:
 - EUR 9 000 000 from Theme 2 – Food, Agriculture and Fisheries, and Biotechnology (KBBE)
 - EUR 6 000 000 from Theme 5 – Energy
 - EUR 10 500 000 from Theme 6 – Environment (including climate change)
 - EUR 7 500 000 from Theme 7 – Transport (including Aeronautics)
 - EUR 1 000 000 from Theme 8 – Socio-economic Sciences and Humanities

The budget for this call is indicative. The final budget awarded to actions implemented through this call for proposals may vary:

- The final budget of the call may vary by up to 10% of the total value of the call; and
- Any repartition of the call budget may also vary by up to 10% of the total value of the indicated budget for the call.

- **Topics called**

The three topics of 'the Ocean for tomorrow' call are implemented jointly by the Themes 2, 5, 6, 7 and 8 mentioned above and have identical descriptions under each Theme.

³⁶ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

³⁷ The Director-General responsible may delay this deadline by up to two months.

³⁸ Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority.

<p align="center">Theme / Activity / Area implementing jointly 'The ocean of tomorrow' Location of the call and topics descriptions</p>	<p align="center">Topics called</p>	<p align="center">Funding Scheme</p>
<p>Theme 2 – Food, Agriculture and Fisheries, and Biotechnology Area 2.1.5 Call "The ocean of tomorrow" – Joining research forces to meet challenges in ocean management</p>	<p>OCEAN.2010-1 Quantification of climate change impacts on economic sectors in the Arctic</p>	<p>Collaborative Project (large scale integrating project)</p>
<p>Theme 5 – Energy Area ENERGY.10.1 Call "The ocean of tomorrow" – Joining research forces to meet challenges in ocean management</p>	<p>OCEAN.2010-2 Vectors of changes in marine life, impact on economic sectors</p>	<p>Collaborative Project (large scale integrating project)</p>
<p>Theme 6 – Environment (including climate change) Area 6.2.2.2 Call "The ocean of tomorrow" – Joining research forces to meet challenges in ocean management</p>	<p>OCEAN.2010-3 Sub-seabed carbon storage and the marine environment</p>	<p>Collaborative Project (large scale integrating project)</p>
<p>Theme 7 – Transport (including Aeronautics) Activity 7.2.8 Call "The ocean of tomorrow" - Joining research forces to meet challenges in ocean management</p>		
<p>Theme 8 – Socio-economic Sciences and Humanities Activity 8.8 Horizontal Actions Call "The ocean of tomorrow" - Joining research forces to meet challenges in ocean management</p>		

Indicative budget per topic

Topic code	Topic title	Indicative budget ³⁹
OCEAN.2010-1	Quantification of climate change impacts on economic sectors in the Arctic	EUR 11 000 000
OCEAN.2010-2	Vectors of change in ocean and seas marine life, impact on economic sectors	EUR 12 500 000
OCEAN.2010-3	Sub-seabed carbon storage and the marine environment	EUR 10 500 000

A maximum of one project per topic will be funded.

- **Eligibility conditions**

- The general eligibility criteria are set out in Annex 2 of this work programme, and in the Guide for Applicants. Please note that the completeness criterion also includes that part B of the proposal shall be readable, accessible and printable.

- The minimum number of participating legal entities required for this funding scheme is set out in the Rules for Participation. They are summarised in the table below⁴⁰:

Funding scheme	Minimum conditions
Collaborative Project (large scale integrating project)	At least 3 independent legal entities, each of which is established in a MS or AC, and no 2 of which are established in the same MS or AC.

- The following additional eligibility criteria apply in this call:

- The requested EC contribution shall not exceed the indicative budget for the topic chosen (see table displayed above).

- Only information provided in part A of the proposal will be used to determine whether the proposal is eligible with respect to budget thresholds and/or minimum number of eligible participants.

- **Evaluation procedure**

– The evaluation criteria and scoring scheme are set out in annex 2 of the work programme.

³⁹ In case the budget can not be consumed (totally or partially), the remaining budget will be returned to each FP7 theme according to its respective contribution.

⁴⁰ MS = Member States of the EU; AC = Associated country.

- Proposal page limits: applicants must ensure that proposals conform to the page limits and layout given in the Guide for Applicants, and in the proposal part B template available through the EPSS.

The minimum font size allowed is 11 points. The page size is A4, and all margins (top, bottom, left, right) should be at least 15 mm (not including any footers or headers).

The Commission will instruct the experts to disregard any pages exceeding these limits.

- The evaluation shall follow a single stage evaluation procedure. Proposals will be evaluated remotely with the consensus session being held in Brussels..
- The result of the evaluation will be one ranked list per topic. Only the most highly ranked proposal above the minimum threshold per topic will be recommended for support. A reserve list of projects will be established to be used in case the negotiation for entering into a grant agreement fails. Up to one project per topic may be funded.

Evaluation criteria and threshold:

Proposals are evaluated on the basis of the following three criteria: 1. S/T quality; 2. Implementation; 3. Impact. For each criterion marks will be given, with the possibility of 0.5 point scores. Successful proposals must pass the minimum thresholds as follows:

	Minimum threshold
S/T quality	3/5
Implementation	3/5
Impact	3/5
Overall threshold required	10/15

Proposals with equal overall scores will be prioritised according to their scores for the S/T quality criterion. If they are still tied, they will be prioritised according to their scores for the Impact criterion.

The following points will be reflected in the evaluation:

A multi-disciplinary approach and a multi-sectoral partnership are considered essential to achieving the expected impacts.

In addition, the following point will be reflected in the evaluation of the topic OCEAN.2010-3 "Sub-seabed carbon storage and the marine environment":

The participation of industrial partners operating – or planning to operate – sub-seabed CO₂ storage sites is crucial to the implementation of the project. Because sub-seabed carbon storage is a global issue, the participation of one or several partners (funded under their national budget) from Japan, Australia and the US would maximise the impact of the project.

- **Indicative evaluation and contractual timetable**

- Evaluation results: four months after the relevant deadline mentioned above.

- Grant agreements signature: it is estimated that the first grant agreements related to this call will come into force at the end of 2010.

- **Consortia agreements**

Participants are required to conclude a consortium agreement prior to grant agreement.

- **The forms of grant and maximum reimbursement rates** which will be offered are specified in Annex 3 to the Cooperation work programme. In accordance with Annex 3 of this work programme, this call provides for the possibility to use flat rates to cover subsistence costs incurred by beneficiaries during travel carried out within grants for indirect actions. For further information, see the relevant Guides for Applicants for this call. The applicable flat rates are available at the following website: http://cordis.europa.eu/fp7/find-doc_en.html under 'Guidance documents/Flat rates for daily allowances'.

Public-Private Partnership "Green Cars": Cross-Thematic cooperation between NMP, ENERGY, ENVIRONMENT (including Climate Change), TRANSPORT (including Aeronautics)

Call title: Sustainable automotive electrochemical storage

Call identifier: FP7-2010-GC-ELECTROCHEMICAL-STORAGE

Date of publication: 30 July 2009⁴¹

Deadline: 14 January 2010 at 17.00.00 (Brussels local time)⁴².

Indicative budget ^{43, 44}: EUR 25 million from the 2010 budget of which:

- EUR 10 million from Theme 4 – Nanosciences, nanotechnologies, materials and new production technologies (NMP)
- EUR 5 million from Theme 5 – Energy
- EUR 5 million from Theme 6 – Environment (including Climate Change)
- EUR 5 million from Theme 7 – Transport (including Aeronautics).

The budget for this call is indicative. The final budget of the call may vary by up to 10% of the total value of the indicated budget for the call.

In case the budget can not be consumed (totally or partially), the remaining budget will be returned to each FP7 theme according to its respective contribution.

Topics called

The topic on Sustainable Automotive Electrochemical Storage is evaluated and implemented jointly by the Themes 4, 5, 6, and 7. It is identical in each theme. When applying for this call please use one of the activity codes below. Each proposal must be submitted only once.

Activity/ Area	Topics called	Funding Schemes
GC.NMP.2010-1	Materials, technologies and processes for sustainable automotive electrochemical storage applications	Collaborative Project
GC.ENERGY.2010.10.2-2		
GC.ENV.2010.3.1.3-3		
GC.SST.2010.7-9		

An overview of all PPP-related topics is provided in Annex 5.

⁴¹ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

⁴² The Director-General responsible may delay this deadline by up to two months.

⁴³ A single reserve list will be constituted if there are a sufficient number of good quality proposals. It will be used if extra budget becomes available.

⁴⁴ Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority.

Eligibility Conditions

The general eligibility criteria are set out in Annex 2 of this work programme, and in the guide for applicants. Please note that the completeness criterion also includes that part B of the proposal shall be readable, accessible and printable.

The minimum number of participating entities required, for all funding schemes, is set out in the Rules for Participation: For Collaborative projects, the minimum condition shall be the participation of 3 independent legal entities, each of which is established in a Member State or Associated Country and no two of which are established in the same Member State or Associated Country.

Under this topic, the requested Community contribution must not exceed EUR 4 million.

Only information provided in part A of the proposal will be used to determine whether the proposal is eligible with respect to budget thresholds and/or minimum number of eligible participants.

Evaluation procedure

- For this call the evaluation shall follow a single-stage evaluation procedure.
- Proposals will not be evaluated anonymously.
- Proposals will be evaluated remotely with the consensus session being held in Brussels.
- The page limits that apply to proposals submitted under this call are given in the Guide for Applicants and in the proposal part B template available through the EPSS. The Commission will instruct the experts to disregard any pages in excess of these limits.
- At the Panel stage, proposals with equal overall scores will be prioritised according to their scores for the S/T Quality criterion. If they are still tied, they will be prioritised according to their scores for the Impact criterion.
- Proposals are evaluated on the basis of the following three criteria: **1. S/T quality; 2. Implementation; 3. Impact.** For each criterion marks from 0 to 5 will be given, with the possibility of 0.5 point scores. Successful proposals must pass the minimum thresholds as follows:

	Minimum threshold
S/T quality	3/5
Implementation	3/5
Impact	3/5
Overall threshold required	10/15

Particular requirements for participation, evaluation and implementation

The forms of grants and maximum reimbursement rates which will be offered are specified in Annex 3 to the Cooperation work programme.

Indicative Evaluation and contractual timetable

Evaluation: remote phase January 2010, consensus phase February 2010. Evaluation results: estimated to be available by April 2010. A single reserve list of projects might be established, for which the results are estimated to be available by the second semester of 2010.

Consortia agreements

Participants in Collaborative Projects are required to conclude a consortium agreement prior to grant agreement.

Use of flat rates for subsistence costs:

In accordance with Annex 3 of this work programme, this call provides for the possibility to use flat rates to cover subsistence costs incurred by beneficiaries during travel carried out within grants for indirect actions. For further information, see the relevant Guides for Applicants for this call. The applicable flat rates are available at the following website: http://cordis.europa.eu/fp7/find-doc_en.html under 'Guidance documents/Flat rates for daily allowances'.

Public-Private Partnership 'Energy-efficient Buildings' – Cross thematic cooperation between NMP, ICT, ENERGY, ENVIRONMENT (including climate change)

Call title: 'Energy-Efficient Buildings' -2010

- Call identifier: FP7-2010-NMP-ENV-ENERGY-ICT-EeB
- Date of publication: 30 July 2009⁴⁵
- Deadline: 3 November 2009⁴⁶ at 17.00.00 (Brussels local time).
- Indicative budget^{47 48}: EUR 65 million from the 2010 budget of which:
 - EUR 30 million from Theme 4 – Nanosciences, Nanotechnologies, Materials & New Production Technologies
 - EUR 15 million from Theme 3 – Information and Communication Technologies (ICT)
 - EUR 15 million from Theme 5 – Energy
 - EUR 5 million from Theme 6 – Environment (including Climate Change)
- **Topics called:**

Each Theme will remain responsible for its own budget and for the implementation. of the respective call topics. This includes drawing up ranking lists and subsequent negotiation and follow-up of the grant agreements resulting from proposals selected under the respective call topics.

Activity/ Area	Topics called	Funding Schemes	Budget
NMP – Nanosciences, nanotechnologies, Materials and new Production			
EeB.NMP.2010-1	New nanotechnology-based high performance insulation systems for energy efficiency	<i>Collaborative projects</i>	30
EeB.NMP.2010-2	New technologies for energy efficiency at district level		
Environment (including Climate Change)			
EeB.ENV.2010-.3.2.4-1	Compatible solutions for improving the energy efficiency of historic buildings in urban areas	<i>Collaborative projects</i> ⁴⁹	5

⁴⁵ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication

⁴⁶ The Director-General responsible may delay this deadline by up to two months

⁴⁷ The budget for this call is indicative. The final budget awarded to actions implemented through calls for proposals may vary:

- The final budget of the call may vary by up to 10% of the total value of the indicated budget for each call; and
- Any repartition of the call budget may also vary by up to 10% of the total value of the indicated budget for the call.

⁴⁸ Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority

⁴⁹ Up to one project will be supported.

Energy			
EeB.ENERGY.2010.8.1-2	Demonstration of Energy Efficiency through Retrofitting of Buildings	<i>Collaborative projects</i> ⁵⁰	15
ICT – Information and Communication Technologies			
EeB-ICT-2010-10.2	ICT for energy-efficient buildings and spaces of public use - a) targeted outcomes	<i>Collaborative projects (STREP only)</i>	14
EeB-ICT-2010-10.2	ICT for energy-efficient buildings and spaces of public use - b) targeted outcomes	<i>Coordination and support actions (CSA)</i>	1

An overview of all PPP-related topics is provided in Annex 5.

- **Eligibility conditions**

The general eligibility criteria are set out in Annex 2 of this work programme, and in the guide for applicants. Please note that the completeness criterion also includes that part B of the proposal shall be readable, accessible and printable.

Only information provided in part A of the proposal will be used to determine whether the proposal is eligible with respect to budget thresholds and/or minimum number of eligible participants.

The minimum number of participating entities required, for all funding schemes, is set out in the Rules for Participation: For Collaborative projects, the minimum condition shall be the participation of 3 independent legal entities, each of which is established in a Member State or Associated Country and no two of which are established in the same Member State or Associated Country and no two of which are established in the same Member State or Associated Country.

For Coordination and support actions, the minimum conditions shall be:

- Coordination and support actions - **coordinating actions**: at least 3 independent legal entities, each of which is established in a MS or AC, and no 2 of which are established in the same MS or AC;
- Coordination and support actions – **supporting actions**: at least 1 independent legal entity.

For topic EeB.ENV.2010.3.2.4-1, the requested Community contribution must not be greater than EUR 5 000 000.

For topic EeB-ICT-2010-10.2, each proposal must indicate the type of funding scheme used (IP or STREP for Collaborative Projects, where applicable; CA or SA for Coordination and support actions). See Appendix 2 of the ICT chapter of the Cooperation work programme for further details.

⁵⁰ Up to 4 projects will be supported.

- **Evaluation procedure**

A one-stage submission procedure will be followed.

Proposals will be evaluated in a single-step procedure. Proposals could be evaluated remotely with the consensus sessions being held in Brussels.

For this call the following criteria and thresholds are applied: **1. S/T quality; 2. Implementation; 3. Impact.** For each criterion marks from 0 to 5 will be given, with the possibility of half-point scores. Successful proposals must pass the minimum thresholds as follows:

	Minimum threshold
S/T quality	3/5
Implementation	3/5
Impact	3/5
Overall threshold required	10/15

See also Annex 2: Eligibility and evaluation criteria for proposals and priority order for proposals with the same score⁵¹.

In order to ensure industrial relevance and impact of the research effort, the active participation of industrial partners represents an added value to the activities and this will be reflected in the evaluation.

Applicants must ensure that proposals conform to the page limits and layout given in the Guide for Applicants, and in the proposal part B template available through the EPSS.

- **Indicative evaluation and contractual timetable:**

Evaluation of proposals: December 2009. It is expected that the grant agreement negotiations for the shortlisted proposals will start as of January/February 2010.

- **Consortia agreements**

Consortia agreements are required for *all* actions.

- **Particular requirements for participation, evaluation and implementation:**

As a result of the evaluation, a ranked list of proposals retained for funding will be drawn up by each Theme as well as a reserve list of proposals that may be funded in case budget becomes available during negotiations.

The forms of grants and maximum reimbursement rates which will be offered are specified in Annex 3 to the Cooperation work programme.

For topic EeB.ENERGY.2010.8.1-2, the following applies:

- Successful proposals will be asked to follow a common monitoring data structure, using a common methodology, in order to feed the relevant Commission data bases (e.g. CONCERTO data base).

⁵¹ For the NMP Programme, and in contrast with Annex 2, at Panel stage, the priority order of the proposals with equal overall scores will be established in accordance with their scores for the S/T Quality criterion. If they are still tied, they will be prioritised according to their scores for the Impact criterion. If proposals are still tied, they will be prioritised on the basis of the work programme coverage.

- The form of grant applied in area 8.1.2. 'Energy efficiency in Buildings' is based on additional energy efficiency measures in buildings. The grant will be composed of a combination of:
 - the typical reimbursement of eligible costs, and
 - flat rate financing determined on the basis of scale of unit costs only for the demonstration part of the buildings.
 - The scale of unit cost of Community financial contribution is fixed to EUR 100 /m² eligible costs and thus EUR 50 /m² Community contribution.
 - The eligible costs per building used in the projects are fixed costs.
 - The total of Community financial contribution based on scale of unit costs may not exceed EUR 6 million for one demonstration site.
 - The evaluation of the proposals will also take into account the degree of excellence and innovation of the technology used and the most cost effective practices (euros/efficiency gain; euros/CO₂ reduction, kWh/m²/year saved). For this reason, the above figures should be indicated in the proposal.
- **Use of flat rates for subsistence costs:**

For topics EeB.NMP.2010-1, EeB.NMP.2010-2, EeB.ENV.2010.3.2.4-1, EeB.ENERGY.2010.8.1-2 and in accordance with Annex 3 of this work programme, this call provides for the possibility to use flat rates to cover subsistence costs incurred by beneficiaries during travel carried out within grants for indirect actions. For further information, see the relevant Guides for Applicants for this call. The applicable flat rates are available at the following website: http://cordis.europa.eu/fp7/find-doc_en.html under 'Guidance documents/Flat rates for daily allowances'.

Call title: Call for AFRICA

- **Call identifier:** FP7-AFRICA-2010
- **Date of publication:** 30 July 2009⁵²
- **Deadline:** 14 January 2010 at 17.00.00, Brussels local time⁵³
- **Indicative budget**⁵⁴ : Total call budget EUR 63 000 000, of which:
 - EUR 39 000 000 from Theme 1 - Health
 - EUR 6 500 000 from Theme 2 - Food, Agriculture and fisheries, and Biotechnology
 - EUR 17 500 000 from Theme 6 - Environment (including climate change)
 - The budget for this call is indicative.
 - The final budget of the call may vary by up to 10% of the total value of the indicative budget for the call;
 - Any repartition of the call budget may also vary by up to 10% of the total value of the indicated budget for the call.
- **Topics called**

The aim of this Call is to address some of the Science & Technology objectives of the "Africa - EU Strategic Partnership" putting emphasis on 'Water and Food Security' and 'Better Health for Africa '.

The topics of this call are implemented jointly by Theme 1, 2 and 6 mentioned above. When applying for this call, please choose the relevant topic codes below.

Theme/Activity	Topics called	Funding Schemes
Theme 1: HEALTH		
Activity 1.2 Translating research for human health	HEALTH.2010.2.3.2-4: Controlling malaria by hitting the vector: New or Improved – Vector Control Tools	Collaborative Project (large scale integrating project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries. <i>Min. EC contribution/proposal: EUR 6 000 000</i> <i>Max. EC contribution/proposal: EUR 12 000 000</i> <i>Only up to one proposal can be</i>

⁵² The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

⁵³ The Director-General responsible may delay this deadline by up to two months.

⁵⁴ Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority.

		<i>selected for this topic</i>
Activity 1.2 Translating research for human health	HEALTH.2010.2.4.1-4: Infectious agents and cancer in Africa	Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries. <i>Max. EC contribution/proposal: EUR 3 000 000</i> <i>One or more proposals can be selected for this topic</i>
Activity 1.3 International public health and health systems	HEALTH.2010.3.4-1: Develop and assess key interventions and policies to address the human resource crisis in the health sector	Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries <i>Max. EC contribution/proposal: EUR 3 000 000</i> <i>One or more proposals can be selected for this topic</i>
Activity 1.3 International public health and health systems	HEALTH.2010.3.4-2: Feasibility and community effectiveness of innovative intervention packages for maternal and newborn health in Africa	Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries <i>Max. EC contribution/proposal: EUR 3 000 000</i> <i>One or more proposals can be selected for this topic</i>
Activity 1.3 International public health and health systems	HEALTH.2010.3.4-3: Building sustainable capacity for research for health in Africa	Coordination and Support Action (coordinating action) <i>Max. EC contribution/proposal: EUR 2 000 000</i> <i>One or more proposals can be selected for this topic</i>
Activity 1.3 International public health and health systems	HEALTH.2010.3.4-4: Assessment of migrants' health, disease patterns and impact on health systems	Coordination and Support Action (coordinating action) <i>Max. EC contribution/proposal: EUR 2 000 000</i> <i>Only up to one proposal can be selected for this topic</i>

Theme 2: FOOD, AGRICULTURE, AND FISHERIES, AND BIOTECHNOLOGY		
Activity 2.1: Sustainable production and management of biological resources from land, forest and aquatic environment	<i>KBBE.-2010.1.-2-03: Sustainable water resources management (WRM) and Soil fertility conservation for food production in Africa - SICA (Africa)</i>	Collaborative Project (large scale integrating project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries <i>Max. EC contribution/proposal: EUR 4 000 000</i> <i>Maximum one proposal can be selected for this topic</i>
Activity 2.2 Fork to farm: Food (including seafood), health and well being	<i>KBBE.2010.2.2-03: Identifying research needs on malnutrition in Africa – (Mandatory Africa)</i>	Coordination and Support Action (supporting action) <i>Max. EC contribution/proposal: EUR 1 000 000</i> <i>Maximum one proposal can be selected for this topic</i>
Activity 2.3 Life sciences, biotechnology and biochemistry for sustainable non-food products and processes	<i>KBBE.2010.3.5-02: Coping with water scarcity in developing countries: Role of biotechnology in water treatment – Mandatory ICPC (Africa)</i>	Coordination and Support Action (coordinating action) <i>Max. EC contribution/proposal: EUR 1 000 000</i> <i>Maximum one proposal can be selected for this topic</i>
Activity 2.4 Other Activities	<i>KBBE.2010.4-02: Networking of non-governmental organisations involved in agricultural research for development</i>	Coordination and Support Action (coordinating action) <i>Max. EC contribution/proposal: EUR 500 000</i> <i>Maximum one proposal can be selected for this topic</i>
Theme 6: ENVIRONMENT (INCLUDING CLIMATE CHANGE)		
Activity 6.1 Climate Change, pollution and risks	<i>ENV.2010.1.2.1-1: The effect of environmental change on the occurrence and distribution of water related vector-borne diseases in Africa</i>	Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries <i>Max. EC contribution/proposal: EUR 3 500 000</i> <i>Maximum one proposal can be selected for this topic</i>

<p>Activity 6.1 Climate Change, pollution and risks</p>	<p>ENV.2010.1.3.3-1: Early warning and forecasting systems to predict climate related drought vulnerability and risks in Africa</p>	<p>Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries <i>Max. EC contribution/proposal: EUR 3 500 000</i> <i>Maximum one proposal can be selected for this topic</i></p>
<p>Activity 6.2 Sustainable management of resources</p>	<p>ENV.2010.2.1.1-1: Integrated management of water and natural resources in Africa</p>	<p>Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries <i>Max. EC contribution/proposal: EUR 3 500 000</i> <i>Maximum one proposal can be selected for this topic</i></p>
<p>Activity 6.3 Environmental technologies</p>	<p>ENV.2010.3.1.1-3: Decentralised water supply and sanitation technologies and systems for small communities and peri-urban areas</p>	<p>Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries <i>Max. EC contribution/proposal: EUR 2 000 000</i> <i>Maximum two proposals can be selected for this topic</i></p>
<p>6.3 Environmental technologies</p>	<p>ENV.2010.3.1.1-4: Water harvesting technologies in Africa</p>	<p>Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries <i>Max. EC contribution/proposal: EUR 2 000 000</i> <i>Maximum two proposals can be selected for this topic</i></p>

- **Eligibility conditions**

- The general eligibility criteria are set out in Annex 2 of this work programme, and in the guide for applicants. Please note that the completeness criterion also includes that part B of the proposal shall be readable, accessible and printable.
- The following additional eligibility criteria apply to the following funding schemes in this call⁵⁵:

Funding scheme	Minimum conditions
Collaborative Project for specific cooperation actions (SICA) dedicated to international cooperation partner countries	At least 4 independent legal entities, of which, 2 must be established in different MS or AC and the other 2 must be established in different international cooperation partner countries (ICPC) from African ACP and the following Mediterranean Partner Countries (African MPC): Algeria, Egypt, Libya, Morocco, and Tunisia.
Coordination and Support Action (coordinating action) and Coordination and Support Action (supporting action)	At least 6 independent legal entities, of which, 3 must be established different MS or AC, 2 of which are not established in the same MS or AC, and the other 3 must be established in different international cooperation partner countries (ICPC) from African ACP and the following Mediterranean Partner Countries (African MPC): Algeria, Egypt, Libya, Morocco, and Tunisia.

The budget limits shown in the above table are eligibility criteria.

- Only information provided in part A of the proposal will be used to determine whether the proposal is eligible with respect to budget thresholds and/or minimum number of eligible participants.

- **Evaluation procedure**

- The evaluation criteria and scoring scheme are set out in annex 2 of the work programme.

Proposal page limits: Applicants must ensure that proposals conform to the page limits and layout given in the Guide for Applicants, and in the proposal part B template available through the EPSS.

The Commission will instruct the experts to disregard any pages exceeding these limits.

⁵⁵ MS = Member States of the EU; AC = Associated country; ACP = African Caribbean and Pacific Countries; MPC = Mediterranean Partner Countries, African MPC countries = Algeria, Egypt, Libya, Morocco, Tunisia.

The minimum font size allowed is 11 points. The page size is A4, and all margins (top, bottom, left, right) should be at least 15 mm (not including any footers or headers).

- The evaluation shall follow a single stage evaluation procedure. Proposals are evaluated on the basis of the following three criteria: 1. S/T quality; 2. Implementation; 3. Impact. For each criterion marks will be given, with the possibility of 0.5 point scores. Successful proposals must pass the minimum thresholds as follows:

	Minimum threshold
S/T quality	3/5
Implementation	3/5
Impact	3/5
Overall threshold required	10/15

The result of the evaluation will be one ranked list per Theme. Only the most highly ranked proposal(s) above the minimum threshold per topic will be recommended for funding. Reserve lists of projects will be established per Theme to be used in case the negotiation for entering into a grant agreement fails.

The following points will be reflected in the evaluation: A multi-disciplinary and integrated approach, taking into consideration broader socio-economic factors, and the participation of appropriate stakeholders and local and/or regional actors are considered essential to achieving the expected impacts. The aim is to achieve a fair level of participation for African countries in collaboration with their European partners. The evaluators will take into account the various geographical, sectoral and cultural differences which exist within Africa. A dedicated budget for clustering and coordination should be foreseen in the overall budget planning of each proposal.

- Experts will carry out the individual evaluation of proposals remotely with the consensus meetings being held in Brussels.
- The procedure for prioritising proposals with equal scores is described below:
At the Panel stage, according to Annex 2 to the Cooperation work programme, proposals with equal overall scores will be prioritised according to their scores for the S/T quality criterion. If they are still tied, they will be prioritised according to their scores for the Impact criterion.
- The number of proposals that can be funded per topic is indicated in the above 'Topics called' table.

- **Indicative timetable**

Evaluations are expected to be carried out during the months of February-March 2010. The evaluation results will be available within four months after the call deadline mentioned above. The grant agreement negotiations for the shortlisted proposals are expected to be opened in June 2010. It is estimated that the first grants related to this call will come into force at the end of 2010.

- **Consortia agreements**

Participants are encouraged to conclude a consortium agreement prior to grant agreement.

- **The forms of grant and maximum reimbursement rates which will be offered are specified in Annex 3 to the Cooperation work programme.** In accordance with Annex 3 of this work programme, this call provides for the possibility to use flat rates to cover subsistence costs incurred by beneficiaries during travel carried out within grants for indirect actions. For further information, see the relevant Guides for Applicants for this call. The applicable flat rates are available at the following website: http://cordis.europa.eu/fp7/find-doc_en.html under 'Guidance documents/Flat rates for daily allowances'.

- **Additional Information**

In addition to this call, the International Cooperation activities of the Capacities Programme publish an INCO-NET - call (call identifier FP7-INCO-2010-1) aimed at expanding the geographical coverage and deepening the coordination and structuring activities of the CAAST-NET project⁵⁶. This project was launched in January 2008 to increase the bi-regional S&T cooperation between European and the Sub-Saharan African Countries. The new INCO-NET call will offer the opportunity for the CAAST-NET project to support the interaction between the national and international programmes relevant to the topics covered by the Africa call.

⁵⁶ www.caast-net.org.

IV OTHER ACTIONS⁵⁷

Monitoring, Evaluation and Impact Assessment

The 'Environment' Theme will comply with the prevailing requirements for monitoring, evaluation and impact assessments, both ex-ante and ex-post. This may involve studies and surveys as appropriate implemented through public procurement, and/ or appointing groups of experts. The overall commitment appropriations for this Activity in 2010 will be up to EUR 550 000, of which maximum EUR 400 000 for public procurement.

- Study on *'Forward-looking activity to identification of future actions in the field of environment research and their potential impacts'*

A forward-looking activity will be carried out to identify medium and long-term global possible changes and challenges aiming at identifying and anticipating the key drivers for change and the related socio-economic impacts in the field of environment. This forward-looking activity should help to identify future research actions and when possible innovation priorities in the field of environment, contributing to build a strong European Research Area (ERA) in this field. It will also provide strategic intelligence and will identify (and when possible, quantify) the potential impacts of environmental research and innovation actions on the environment, the economy and the society. Such information will be useful for the preparation of the future Framework Programme. The activity will combine forward-looking methods with a thorough analysis of the achievements of past FPs and the expected outcomes of environmental research in FP7.. This study will be subject to one contract following a public procurement procedure by using as appropriate a Framework contract already existing in the Commission for evaluation studies. The procedure is scheduled for the first and second quarter of 2010. The overall commitment appropriations for this public procurement activity will be up to EUR 300 000.

Funding scheme: CSA, public procurement

- Study on *'Impacts of Framework Programmes in area(s) covered by Environment research'*

A study will be carried out to thoroughly analyse the impacts of present and past Framework Programmes in one or two areas covered under Environment research. Long term effects on the environment, the economy and the society will be identified and when possible quantified. This study will be subject to one contract following a public procurement procedure by using as appropriate a Framework contract already existing in the Commission for evaluation studies. The procedure is scheduled for the second quarter of 2010. The overall commitment appropriations for this public procurement activity will be up to EUR 100 000.

Funding scheme: CSA, public procurement

- Group(s) of external experts for policy relevant analyses and forward looking reflection on environment related research. Group(s) of external experts will be established to provide analyses of past activities in policy relevant areas and to engage in a forward looking reflection on issues related to future environment research. The indicative budget for this activity is EUR 150 000.

Funding scheme: CSA, experts appointment

An annual contribution to the 2010 activities of the GEO Secretariat⁵⁸

⁵⁷ In accordance with Articles 14, 17 and 27 of Regulation (EC) No 1906/2006 of 18 December 2006 laying down the rules for the participation of undertakings, research centres and universities in actions under the Seventh Framework Programme and for the dissemination of research results (2007-2013).

To ensure the implementation of the GEOSS according to its annual work plan and the continuity of the participation of Europe in GEO, the Commission will pay on behalf of the Community, which is member of the Group, a yearly contribution of EUR 600 000 to the GEO Secretariat (hosted by the World Meteorological Organisation in Geneva, Switzerland).

Funding scheme: *other action*

Independent expertise

The use of appointed experts for the evaluation of project proposals and, where appropriate, for the reviewing of running projects.

The set up of groups of experts to advise on or support the design and implementation of Community research policy.

The indicative budget for independent expertise is EUR 2 500 000.

Funding scheme: *CSA, experts appointment*

⁵⁸ Contribution paid by the Communities as subscription to a body of which they are a member, according to Article 108(2)(d) of the Financial Regulation applicable to the general budget of the European Communities.

Indicative Budget

Indicative budget for the Environment Theme for the 2010 work programme⁵⁹

	2010 (in EUR million)
Calls:	
FP7-ENV-2010	175.0
FP7-OCEAN-2010	10.5
FP7-AFRICA-2010	17.5
FP7-2010-GC-ELECTROCHEMICAL-STORAGE	5.0
FP7-2010-NMP-ENV-ENERGY-ICT-EeB	5.0
Total	213.0
Evaluations (independent expertise)	1.9
General activities (cf. Annex 4)	2.37
Other activities:	
<ul style="list-style-type: none"> • Project reviews (600.000) • Monitoring and impact assessment (400.000) • Group(s) for external experts (150.000) • An annual contribution to the 2010 activities of the GEO Secretariat (600.000) 	
Total	1.75
Estimated total budget allocation	219.02

All budgetary figures given in this work programme are indicative. Following the evaluation of proposals, the final budget awarded to actions implemented through calls for proposals may vary:

- by up to 10% of the total value of the indicated budget for each call; and
- any repartition of the call budget may also vary by up to 10% of the value of the indicated budget for the call.

The final budgets for evaluation, monitoring and review may vary by up to 20% of the indicated budgets for these actions. The final budget for actions not implemented through calls for proposals may vary by up to 10% of the indicated budgets for these actions.

⁵⁹ Under the condition that the appropriations foreseen in the preliminary draft budget for 2010 are adopted without modifications by the budgetary authority.

**Summary of budget allocation to general activities for 2010 in million EUR
(cf. Annex 4)**

Cordis	450.016
Eureka/Research organisations	19.937
COST	1.831.913
Strategy oriented support actions	65.509
Total	2.367

Summary of budget allocation in the work programme 2010 including the following calls: FP7-ENV-2010, FP7-OCEAN-2010, FP7-AFRICA-2010, FP7-2010-GC-ELECTROCHEMICAL-STORAGE, FP7-2010-NMP-ENV-ENERGY-ICT-EeB

Sub-Activity	Indicative budget (in EUR million)
6.1.1 Pressures on Environment and Climate	32.5
6.1.2 Environment and Health	16
6.1.3 Natural Hazards	11.5
6.2.1 Conservation and Sustainable Management of Natural and Man-Made Resources and Biodiversity	32
6.2.2 Management of Marine Environments	19
6.3.1 Environmental Technologies	51.5
6.3.2 Cultural Heritage	8.5
6.3.3 Technology assessment, Verification and Testing	4.5
6.4.1 Earth Observation	17
6.4.2 Sustainable Development	16.5
6.5.1 Dissemination and Horizontal Activities	4
Total	213