

WORK PROGRAMME 2011

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 2011

The WP2011 will support the main policy initiatives¹ and it will in particular address the grand societal challenges in the area of climate and environmental change², their consequences and links to other sectors such as energy, transport, agriculture, health etc. This approach was successfully launched in the WP2009 with the goal that EU environmental research be closely connected to the recent major political drivers, namely climate change, energy and sustainable consumption and production. This was reflected in the WP2009 i.e. through the joint call on Biorefineries. The WP2010 was designed to support the agendas of competitiveness and economic recovery which were implemented through increased emphasis on environmental technologies including cross thematic calls on Public-Private-Partnerships (PPPs) to foster industrial participation.

EU environmental research has several distinct roles in which it can produce socio-economic impacts. The first is **knowledge generation**, a public good with a strong economic spill-over, the second, **institutional impacts** (notably strengthening of the European Research Area) and the third is **policy information and development of technological and management solutions**. Overall, the progress made towards a more strategic, systemic and policy linked vision of and approach to the kind of society we want to build for the future will be reinforced. Environmental research should encompass the concerns of diverse stakeholders at different levels.

It should not only - as in the past - identify and analyse environmental risks, but also support innovation and explore solutions that are aligned with both short-term issues arising out of crises and longer-term environmental sustainability³. Particularly this aspect will provide guidance for the future work programmes.

¹ Political guidelines for the next Commission, J.M. Barroso (3 September 2009)

² White Paper, Adapting to climate change: Towards a European framework for action. COM (2009), 147 final

³ Europe 2020: A strategy for smart, sustainable and inclusive growth. COM (2010), 2020

The WP2011 is designed to address pro-actively '**Transformation to Sustainable Societies in a Changing Environment**' as an overarching theme for all activities across the work programme.

The overarching theme is going to be addressed through the following three objectives:

The first objective is, through research, **to provide integrated solutions for action on adaptation to and mitigation of climate change** in order to respond to global challenges and the EU's ambitious commitment to combating climate change.⁴

EU research in partnership with developed and developing countries will improve the estimation of impacts and provide scientific and policy advice on adaptation and mitigation options. Until now, attention has focused on adaptation to climate change impacts but more is needed on costs and limits of adaptation as well as to links with mitigation strategies. In WP2011, the focus is on *climate processes and projections, effectiveness and cost assessments, technologies and management options - leading towards prioritised options for adaptation and mitigation decisions. Land use and forestry changes, as well as urban areas and coastal zones, will be studied for adaptation needs. Some of these challenges concern Latin America and will be tackled through a cross-thematic action.*

The second objective is, through research, **to support eco-innovation for eco-efficiency in society**⁵.

The transformation to sustainable societies implies the development and availability of technologies, products and services that help to minimise the environmental "footprint" of all human activities through energy and resource efficiency. Research will promote cutting edge technologies and management options, facilitating the emergence of world-class clusters for competitiveness, while examining the complex interplay between social and technological change. In WP2011, particular attention is given to *a new generation of technologies which, designed through methodologies of sustainability assessment, maximise eco-efficiency and -mimicking nature – reduce the pressure on resources. This priority will address in particular SMEs, mainly through bottom-up approaches and may open cross-thematic collaborations.*

The third objective is, through research, **to provide a systemic approach for governance in a changing environment.**

A transition towards economic and environmental sustainability must involve the whole society and requires a coordinated strategy in Europe. Research in close collaboration with various stakeholders, will include the improvement of environmental policy assessment, providing novel approaches for risk management and assessment for environmental governance. WP2011 will *identify/develop best methods to design environmental policies, indicators and observation systems. They will address the valuation of ecosystem services, biodiversity conservation governance, and the role of natural and man-made environments for fostering better health and well-being.* In particular a *cross-thematic call 'The ocean of tomorrow', focusing on the Mediterranean and Black Sea basins, is foreseen to support the development of ecosystem-based regulations, policies and management practices.*

⁴ International climate policy post-Copenhagen: Acting now to reinvigorate global action on climate change. COM (2010), 86 final

⁵ EU Communication Reviewing Community Innovation Policy in a changing world. COM (2009), 442 final

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

In the 2011 work programme a specific industry/SME-targeted Eco-innovation Call⁶ will be implemented to address the challenges for eco-innovation. The objective of this call is to boost eco-innovative breakthrough business models and technologies and to develop indicators to monitor environmental impact of innovation. The call also includes specific dissemination activities for SMEs using innovative e-dissemination and platforms for the use of research results. In addition, the Environment Theme will be part of the cross-thematic calls on Public-Private Partnerships which will further foster industrial and SME participation in the areas of "Green Cars" and "Energy efficient Buildings". Furthermore, the following topics include SME participation as an eligibility criterion:

ENV.2011.1.2.2-1 Combined exposures to environmental agents: integrated approaches to evaluate environment – health relationships in children.

ENV.2011.1.2.2-2 Exposure to electro-magnetic fields (EMF): investigations of mechanisms to support risk assessment and reduce uncertainty.

ENV.2011.1.3.4-1 Capacity building in natural hazards risk reduction.

ENV.2011.2.1.5-1 Sustainable and Resilient Green Cities.

ENV-NMP.2011.3.2.1-1 Development of advanced compatible materials and techniques and their application for the protection, conservation and restoration of cultural heritage assets.

- **International Cooperation**

Environmental problems and solutions need to be tackled internationally. The strategic approach for international collaboration of EU environmental research includes identification of major cooperation countries and regions. In line with the EU's commitments and S/T strategies, a coherent set of cooperation activities for major cooperation countries, USA, China, Russia, India, Brazil, and South Africa, and for major cooperation regions, the Mediterranean, Latin America, Asia and Africa in particular, will be continued along the lines set out already in 2008. Overall, SICAs are foreseen in all the main areas of the work programme following the strategic orientation of the WP2011.

The 2010 EU-Latin America and Caribbean (LAC) Summit⁷ focused on bi-regional cooperation on "Innovation and technology for sustainable development and social inclusion". The Summit's Action Plan calls for boosting science and technology cooperation between the EU and LAC countries. The activities targeting LAC contribute to sustainability as advocated by the Summit. This requires an integrated approach taking into account the environmental, economic and social dimensions and a balanced involvement of research teams and the relevant stakeholders from Europe and the LAC region in the consortia. Special attention will be paid to the uptake and use of the new knowledge generated and, whenever relevant, to SME participation.

⁶ See FP7-ENV-2011-ECO-INNOVATION

⁷ Madrid, 18-19 May 2010. See also ec.europa.eu/research/inco – Latin America and Caribbean

Where appropriate, synergies and/or complementarities among projects selected from the LAC focused topics are encouraged within the same theme or across themes. In these cases, a dedicated budget for coordination or joint outreach activities could be foreseen. For information on LAC related topics in other themes, see the corresponding work programme chapters⁸. The topics considered under this specific geographical focus in Theme 'Environment (including climate change)' are:

ENV.2011.1.1.5-1 Impacts of climate and land use changes in the Amazon (focus: Latin America)

ENV.2011.1.3.3-1 Better prevention and management of volcanic eruptions (focus: Latin America)

ENV2011.2.1.4-1 Potential of biodiversity and ecosystems for the mitigation of climate change (focus: Latin America and the Caribbean)

ENV.2011.3.1.1-1 Technologies for water scarcity mitigation in Latin American context (focus: Latin America)

ENV.2011.4.1.1-1 Integration and optimisation of information for building a Global Carbon Observation System (focus: Latin America)

ENV.2011.4.2.3-1 Community based management of environmental challenges (focus: Latin America)

- **Cross-thematic approaches**

The Call "The ocean of tomorrow" – Joining research forces to meet challenges in ocean management is introduced in 2011 Work Programme. The call is implemented jointly involving Theme 2 Food, Agriculture and Fisheries, and Biotechnology, Theme 5 Energy, Theme 6 Environment (including climate change), and Theme 7 Transport (including Aeronautics).

A joint call "Advanced materials and techniques for cultural heritage assets" involving Theme 4 Nanosciences, nanotechnologies, materials and new production technologies and Theme 6 Environment (including climate change) will be launched.

A joint call in the context of the Public-Private Partnership 'Green Cars' is organised by Theme 4 Nanosciences, nanotechnologies, materials and new production technologies, Theme 6 Environment (including climate change) and Theme 7 Transport (including Aeronautics).

A cross thematic call 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, Theme 5 Energy, and Theme 6 Environment (including climate change).

⁸ 'Health, Food, Agriculture, Fisheries and Biotechnology', 'Information and Communication Technologies', 'Nanosciences, Nanotechnologies, Materials and New Production Technologies' (NMP), 'Transport (including aeronautics)' and 'Social Sciences and Humanities'.

- **Dissemination actions**

Visibility, effectiveness and uptake of EU research results were the rationale behind cross-cutting 2009 topics on dissemination and brokerage in 2009 and in 2010. Policy relevant syntheses of the state of the art in the various areas of the Environment Theme will be launched. 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.

Open Access Pilot in FP7: Beneficiaries funded partially or entirely by the Environment Theme (including climate change) are required to deposit peer-reviewed articles resulting from projects to an institutional or subject-based repository, and to make their best efforts to ensure open access to these articles within six months.

- **Socio-economic dimension of research**

Where relevant, account should be taken of possible socio-economic impacts of research, including its intended and unintended consequences and the inherent risks and opportunities. A sound understanding of this issue should be demonstrated both at the level of research design and research management. In this context, where appropriate, the projects should ensure engagement of relevant stakeholders (e.g., user groups, civil society organisations, policy-makers) as well as cultivate a multi-disciplinary approach (including, where relevant researchers from social sciences and humanities). Projects raising ethical or security concerns are also encouraged to pay attention to wider public outreach.

- **Gender dimension**

The pursuit of scientific knowledge and its technical application towards society requires that 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 [http://ftp.cordis.europa.eu/pub/fp7/docs/negotiation_en.pdf].

- **Usage of Earth observation data**

Under a specific arrangement with the European Space Agency (ESA), 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 thiproposals (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.

- **Theme-specific information**

The budget of the 2011 work programme will be implemented on an annual basis and is divided into sub-activities with separate indicative budgets.

Unless otherwise specified in the topic description the following funding thresholds will apply to the FP7-ENV-2011 Call⁹:

Funding scheme	Minimum requested EU contribution	Maximum requested EU contribution	Maximum Number of Project(s)/ Topic
Collaborative Project (small or medium-scale focused research project)	Not fixed	€3 500 000	Up to 2
Collaborative Project (large scale integrating project)	€4 000 000	€7 000 000	Up to 1
Research for the benefit of specific groups – civil society organisations	Not fixed	€2 000 000	Not Fixed
Coordination and Support Action (coordinating action)	Not fixed	€1 000 000	Not fixed
Coordination and Support Action (supporting action)	Not fixed	€1 000 000	Not fixed

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-2011 including Collaborative Project (large scale integrating project) will be evaluated under the one-step procedure. 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.

⁹ Please note that different rules apply for the other calls in this work programme. See relevant Call pages FP7-ENV-2011-ECO-INNOVATION, FP7-ENV-NMP-2011, FP7-OCEAN-2011, FP7-2011-NMP-ENV-ENERGY-ICT-EeB, FP7-2011-GC-ELECTROCHEMICAL-STORAGE, FP7-JPROG-2011-RTD

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

II CONTENT OF CALLS IN 2011

Activity 6.1 Climate Change, pollution and risks

Sub-Activity 6.1.1 Pressures on environment and climate

Indicative budget: EUR 37 000 000

WP2011 will focus on the research needed to respond to global challenges and EU's ambitious commitments to combat climate change through integrated solutions in the field of adaptation, mitigation and vulnerability to climate change. The main research priorities will include emerging scientific issues such as the interaction between climate change and pollutants, the vulnerability of regions to climate change, the development of earth systems models and the improvement of decadal climate forecasting. Emphasis will be placed as well, to the responses from the research community to climate policies and to the conclusions of the 3rd World Climate conference and the United Nations Framework Convention on Climate Change – 15th Conference of the Parties (UNFCCC-COP-15) meeting in Copenhagen.

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

ENV.2011.1.1.1-1 Improvement of the representation of critical climate processes in climate and Earth system models

A critical source of uncertainties in climate projections is related to the use of imperfect models which do not represent or do not well capture essential features of climate and Earth system processes. The proposed research should deliver scientific progress through the development of models or model components used for climate projections. Critical sources of uncertainties should be addressed such as, *inter alia*, the better understanding and model representation of the hydrological and biogeochemical cycles, the stratosphere/troposphere chemical interactions, interactions between climate and aerosols, the representation of land surface processes, interactions between climate and ecosystems, improvement of the representation of cryospheric processes, sea level change critical processes in ocean/atmosphere interactions, the reduction of bias corrections at the interface between regional climate models and climate impact models. Critical processes to be better represented include processes affecting reversibility and triggering abrupt changes. Model modules or components shall be imbedded into relevant climate and/or Earth System Models and be duly validated. The validation should include the verification of the developed models or model components at a process level. The open access modular approach is strongly encouraged with regard to the availability of the models tools developed. Where required, the establishment of observation based data sets for model validation and evaluation should be an integral part of the work. The proposed research should build on previous and ongoing research activities at European and national levels.

Funding scheme: Collaborative Project (large scale integrating project)

Expected Impact: *Reduction of uncertainty on global and regional climate projections. Further structuring and strengthening of collaboration in EU climate and Earth system model developer's community.*

Area 6.1.1.2 Emissions and pressures: Natural and anthropogenic

ENV.2011.1.1.2-1 The impact of atmospheric pollution on European land ecosystems and soil in a changing climate

The impact of long-range transport of air pollution and local/regional emissions on European land ecosystems and soil under changing climate conditions should be addressed. Research should assess the relative importance of long-range transport via regional emissions and quantify the wet and dry depositions. The chemical transformations of atmospheric pollutants such as volatile organic compounds, NO_x and other ozone precursors should be investigated to better understand, in the light of climate change, the continuously increasing ozone background concentrations and the contribution from changing biogenic and anthropogenic sources. Research should explore the stress on vegetation and the impact on biomass including soil organic matter. Scientifically sound thresholds for protecting plant ecosystems, as well as soil biota, from atmospheric pollutants and for maintaining productivity and the carbon sink strength should be developed. Future atmospheric concentrations and associated risks for eco-systems (including economic implications) should be assessed for different climate scenarios.

Funding scheme: Collaborative Project (large scale integrating project)

Expected Impact: Quantification of the impact of atmospheric pollution under changing climate conditions on European land ecosystems. Support to EU policies through reliable and innovative ozone and other air pollutants risk assessment methodologies.

ENV.2011.1.1.2-2 Climate forcing of non UNFCCC gases, aerosols and black carbon

The objective of the project is to develop and assess possible effective emission abatement strategies for aerosols (including black carbon) and for the gases not included in the UNFCCC (e.g. ozone) and their corresponding precursors to mitigate climate change and to protect the quality of air. The project will include case studies in selected key regions of the world where the co-benefits between air pollution and climate change policies are expected to be high (e.g. areas with high concentrations of black carbon). For aerosols their different physical, chemical radiative properties and cloud interactions, will be considered taking into account the corresponding emission sources. Both natural and anthropogenic emissions should be considered. The project should make use of the most appropriate emission inventories and should make use of observations to validate the modelling results. The long range transport of pollutants and their regional and seasonal variability should be considered. The project will build upon the knowledge existing in this area and the work carried out under the Convention on Long Range Transboundary Air pollution (CLRTAP).

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

Expected Impact: Design of effective abatement strategies for non UNFCCC gases and aerosols to mitigate climate change and to protect the quality of air. Support to the implementation of the EU air quality and climate change policies.

Area 6.1.1.3 The Global Carbon Cycle - greenhouse gas budgets

ENV.2011.1.1.3-1 Vulnerability of Arctic permafrost to climate change and implications for global GHG emissions and future climate

The Arctic is particularly vulnerable to climate change. Carbon and nitrogen stored in permafrost regions represent one of the least understood and potentially most significant carbon-climate feedbacks because of the size of the carbon pools, the intensity of climate forcing at high latitudes and shifts in surface cover. The main objective of the project is to better understand the processes and dynamics affecting the size of the Arctic permafrost carbon and nitrogen pools and assess their vulnerability to climate change. Research should draw on better integration of observations (in situ and remote sensing), and state-of-the-art models, including more accurate representation of permafrost dynamics and relevant processes (e.g. thermal, hydrological, biogeochemical) above and below ground in global models in order to improve the quantitative predictions of the feedback of Arctic carbon pools to climate change. The establishment and analysis of observations base datasets for model evaluation should be integral part of the work.

Funding scheme: Collaborative Project (large scale integrating project)

Expected Impact: Strengthen monitoring and modelling efforts, reduction of uncertainties associated to the permafrost dynamics, improvement of future climate projections and assessment of stabilisation scenarios.

Area 6.1.1.4 Future climate

(Not open in 2011)

Area 6.1.1.5 Climate change natural and socio-economic impacts

ENV.2011.1.1.5-1 Impacts of climate and land use changes in the Amazon

Empirical and modelled data indicate that the Amazon basin is at particular risk to climate change, due to changes in temperature, precipitation, frequency and seasonality of extreme events and fire occurrence. Furthermore, land-use change and deforestation have a profound impact on regional and global climate and the hydrological cycle. However, significant uncertainties remain regarding the representation of the relevant processes in current climate models. The main objective of the project should be to understand and quantify the anthropogenic and climate induced land use and land cover changes in the Amazon and their non-linear interactions and feedbacks, as well as their implications for future regional and global climate changes and relevant policies such as initiatives related to reducing emissions from deforestation and forest degradation (REDD). Research should draw upon observational datasets and state-of-the-art models and contribute to better knowledge of how these ecosystems will be modified in their environmental, economic and social aspects and what response strategies would be realistic at various levels (regional-national-international level).

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

Expected Impact: Quantification of the links and feedbacks between climate variability and land-use change in the Amazon. Assessment of the implications for future climate change at regional and global scale. Contribution to national and international policies related to land-use change and climate change.

Area 6.1.1.6 Response strategies: adaptation, mitigation and policies

ENV.2011.1.1.6-1 Impacts of a global temperature increase of 2°C from pre-industrial level, in Europe and most vulnerable regions of the world

The proposed research activities should enhance knowledge and quantify the impacts of climate change in selected areas of Europe (including regional seas where relevant) and a set of most vulnerable regions arising from a global averaged surface temperature change of 2°C from pre-industrial level. The scope of activities should include the identification of projected impacts related to more ambitious mitigation targets (e.g. 1.5°C) and consider the impacts from climate-air pollution interactions. Climate change impacts on the natural environment and society should involve observations, global and regional climate modelling. An updated assessment of the economic costs of the impacts should also be carried out. Options for adaptation in the regions covered should be proposed and assessed. The project will include a dissemination and awareness raising programme towards society and policy-makers.

Funding scheme: Collaborative Project (large scale integrating project)

Expected Impact: Identification and quantification of impacts of a global temperature increase up to 2°C in Europe and vulnerable regions of the world. Provision of updated scientific basis for the 2015 review of international climate commitments taken under the UNFCCC.

ENV.2011.1.1.6-2 Mitigation policies and measures in the world's major economies compatible with the objective of limiting global surface temperature increase below 2°C

The proposed research activities should focus on the implications for mitigation and adaptation policies in the world's major economies to meet the objective to limit global temperature change below 2°C from pre-industrial level. Consistent representative concentration pathways used in the Intergovernmental Panel on Climate change (IPCC) context should be used or further developed to identify and assess relevant emission targets and update implied mitigation costs estimates for the world's major economies. Policy implications regarding technology and societal changes, concrete climate policy instruments and their related costs including the integration with technology and energy policies, issues related to governance and political feasibility, as well as obstacles for efficient climate policies should be investigated.

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

Expected Impact: Identification of challenges for major economies to implement policies in line with the requirements for meeting the 2°C target.

Sub-Activity 6.1.2 Environment and health

Indicative budget: EUR 18 000 000

WP 2011 will provide research support for improving our understanding of the impacts of natural environment and its changes on human populations. Continued support will be provided to research addressing the aims of the major policy initiatives such as the European Environment and Health Action Plan (2004-2010), the Fifth Ministerial Conference on Environment and Health, and the EU Sustainable Development Strategy with its environment and public health components. The supported research will contribute to providing integrated solutions for climate change adaptation and novel approaches for risk assessment and management for governance in a changing environment. The focus will be on exposure assessment to environmental stressors and their combinations and on possible health effects. Involvement of stakeholders, such as SMEs, NGOs, health authorities and international organisations, will be sought.

Area 6.1.2.1 Health impacts of climate change

ENV.2011.1.2.1-1 Environmental change and its effects on atopic diseases (allergies, asthma, eczema) in Europe

The aim is to investigate how factors such as climate variability, the spread of plant invasive species and land use changes affect the spatial and temporal distribution of airborne allergens, in particular pollen, and what is the effect of these changes on the prevalence of atopic diseases in Europe, especially among vulnerable groups such as children under the age of 10, elderly people and people with chronic diseases. The research will cover exposures to airborne allergens outdoors as well as in indoor environments. Interactions between pollen and air pollutants and its effect on allergenicity will be investigated. The effect of climate change on pollen density and allergenicity will also be addressed. Studies should cover current situation as well as future projections. It is important that project results are disseminated widely to relevant end-users.

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

Expected Impact: *Support to the implementation of the European Environment and Health Action. Better planning of responses of public health systems to future prevalence of atopic diseases.*

Area 6.1.2.2 Health effects of environmental stressors other than climate change

ENV.2011.1.2.2-1 Combined exposures to environmental agents: integrated approaches to evaluate environment-health relationships in children

Recent studies have suggested that even very low doses of some biologically active contaminants including toxic chemicals in the environment can alter gene expression important to learning and developmental function. Exposures during early development can adversely affect learning and development of the individual and last a lifetime, with huge economic and social consequences. Humans are exposed to complex mixtures of environmental contaminants that can interact to enhance adverse effects. The aim of the project is to develop better and sophisticated tools, procedures and testing methods to screen compounds for neurotoxicity and to improve assessment of exposures and effects. Timing of exposure, the role of bioaccumulation and mixtures, mechanisms of disease development and the role of individual susceptibility should be examined using latest biotechnology tools available. The validity and usability of these integrated tools should be tested in a (prospective) epidemiological study, especially focusing on learning and developmental disorders in children. The study should include aspects of environmental justice and socioeconomics including economically disadvantaged children.

Funding scheme: Collaborative Project (large scale integrating project)

Additional eligibility criterion: The Collaborative projects under this topic will only be selected for funding on the condition that the estimated EU contribution going to SME(s) is 15% or more of the total estimated EU contribution for the project as a whole. This will be assessed at the end of the negotiation, before signature of the grant agreement. Proposals not fulfilling this criterion will not be funded.

Expected Impact: *Support for the reduction of health inequalities, and for the goals of the EU Sustainable Development Strategy¹⁰ with its environment and public health components. Support for the goals of the EU and WHO environment and health process, EU chemicals legislation as well as the Council conclusions on combined effects of chemicals (2009). Reduction of uncertainty in risk assessments. The participation of SMEs in the project contributes to increased knowledge base and competitiveness of SMEs in the biotechnology sector.*

ENV.2011.1.2.2-2 Exposure to electro-magnetic fields (EMF): investigations of mechanisms to support risk assessment and reduce uncertainty

Extremely low frequency magnetic fields (ELF MF), associated with use and transmission of electric power, have been classified as possibly carcinogenic to humans, mainly based on epidemiological evidence for an association between residential exposure and childhood leukaemia. However, the underlying biological mechanisms are unclear. The aim will be to explore biophysical mechanisms that could explain the effects of weak environmental ELF fields in support of a possible causal relationship between cancer (especially childhood leukaemia) and ELF MF exposure. Improved *in vitro*, *ex vivo* and possibly *in vivo* methods and models to study exposures and effects should be developed. Improved understanding of exposures, especially in childhood, should also be aimed at.

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

Additional eligibility criterion: Collaborative Projects under this topic will only be selected for funding on the condition that the estimated EU contribution going to SME(s) is 15% or more of the total estimated EU contribution for the project as a whole. This will be assessed at the end of the negotiation, before signature of the grant agreement. Proposals not fulfilling this criterion will not be funded.

¹⁰ COM(2009),400 final

Expected Impact: Improvement of risk assessment and management of man-made environments in a domain with high scientific uncertainty, public concern, evolving regulatory needs and complex interplay of social and technological issues. Contribution to environmental sustainability and improved risk governance. The results will be of interest and potential benefit to participating SMEs.

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

ENV.2011.1.2.3-1 Integrating ecological and human risk evaluations for better risk governance

The aim of the coordination action will be to explore how chemical toxicity data obtained with ecotoxicological approaches and models can be better mined and applied to human risk assessment and vice versa. The action should lead to the improvement and harmonisation of tools and methods in risk assessment, serving as a case study how environment and health sectors can be integrated for better efficiency. Integrated methodologies and approaches for assessment of environmental and human toxicity of chemical mixtures should be evaluated.

Funding scheme: Coordination and Support Action (coordinating action)

Expected Impact: Contribution to improved environment and health policy assessments, providing novel approaches for risk assessment and management and improved risk governance of changing environment and exposures.

ENV.2011.1.2.3-2 Positive effects of natural environment for human health and well-being

Indications exist that close contact with nature brings benefits to human health and well-being. The aim will be to investigate the interconnections between exposure to natural outdoor environments, in both rural and urban settings, and better human health and well-being. The project will explore the underlying mechanisms at work and examine the effects for different population groups. Preventive as well as therapeutic effects of contact with the natural environment should be covered. Implications for land-use planning and green space management will be addressed.

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

Expected Impact: More robust evidence base on links between exposure to natural outdoor environment and human health and well-being. Better integration of human health needs into land use planning and green space management in rural as well as urban areas.

Sub-Activity 6.1.3 Natural Hazards

Indicative budget: EUR 18 000 000

WP 2011 will put emphasis on essential knowledge developments that will contribute to better protect society and enable improved prevention against risks and damages and to provide integrated solutions. Improved forecasting, prediction and early warning represent certainly a priority way to improve management of risks and enable better governance that will increase the security of exposed population. Furthermore reflecting on the necessary adaptation/mitigation measures in the context of new threats and potential new disasters related to climate change is necessary for the preparedness in sensitive areas. Merging forces into research knowledge, networking and practices is a prerequisite for more coherent scientific approaches to increase resilience of vulnerable population and world regions.

Area 6.1.3.1 Hazard assessment, triggering factors and forecasting

ENV.2011.1.3.1-1 Towards real-time earthquake risk reduction

Recent disasters have shown how much it is important to protect population, infrastructures and cities against potentially disastrous earthquakes. It is therefore necessary to capitalise, develop and improve in a multidisciplinary context a real-time efficient/early warning risk mitigation system for the protection of people and society. This will need the development of rapid processing and active controls within seconds and the elaboration of automated estimation/decision making processes. Innovative solutions are therefore needed to enable rapid detection, alert, damage assessment, response and decision support within few minutes. Research effort should also consider innovative methods of short term forecast of foreshocks, of seismicity changes, aftershocks evolution and that way contribute to improve short-term earthquake predictability. Fault interaction, stress concentration need to be taken into account. Uncertainties, false alarm and reliability need to be addressed. Research should consider as well within an interdisciplinary partnership the needs, acceptance and behaviour of end users and decision makers in relation to the whole communication chain related to early warning as well as the performance of such a system. Focus should be given to hotspots regions in Europe and outside and to large cities at high risk. The project should work out solutions adapted to the social/economic/cultural context of relevant and justified case studies.

Funding scheme: Collaborative Project (large scale integrating project)

Expected Impact: Reduction of seismic risk in large urban areas through better prevention and reduction of societal exposure to risks. Enhancement of preparedness and response capacity. Improvement in real time early warning systems, predictability and short term forecast. Contribution to the international effort in this field.

Area 6.1.3.2 Vulnerability assessment and societal impacts

ENV.2011.1.3.2-1 Building societal resilience to disasters in Europe

In the frame of an interdisciplinary context involving social and natural sciences, research should develop a conceptual and methodological approach to clarify how the resilience capacity of a society confronted with natural hazards and disasters can be characterized, defined and measured. Based on well analysed and representatives case studies or given situations, one should develop a way to assess the state of resilience and propose strategies and support measures to enhance it. Attention should be paid to scale (spatial and temporal) and their integration. Further consideration and clarification need also to be given to associated concepts like preparedness, risks governance, capacity building.

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

Expected Impact: *New clarified and largely accepted concept(s) and methods to define and measure the resilience of a society to disasters. Framework for a more comprehensive approach to be shared and tested in Europe and elsewhere. Identification of mechanisms and measures to enhance resilience, change human behaviour/perception and improve prevention and recovery.*

ENV.2011.1.3.2-2 Vulnerability and increased drought risk in Europe

Droughts are increasingly being observed in many regions of Europe, requiring innovative science-based approaches to evaluate the complexity of environmental and socio-economic impacts and people's vulnerability. In the European context, it is essential to improve the understanding of drought processes and occurrences, modelling, forecasting and monitoring, taking into considerations different European geo-climatic regions. Research should capitalise on e.g. studies of historical past events, improve the predictive skills for droughts and develop innovative drought indicators and methodologies for reducing and monitoring the vulnerability of drought-related risks and their impacts to society and the environment, in particular in water stressed areas. These developments should serve as a basis for improving early drought preparedness and risk reduction measures in support of EU policies, in particular the development of Drought Management Plans at EU level, and international policies (in particular the Hyogo Framework for Action).

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

Expected Impact: *Reduction of vulnerability to droughts and identification of the most sensitive areas and sectors in Europe. Better preparedness and risk reduction measures in support of EU policies and international efforts (Hyogo Framework for Action).*

Area 6.1.3.3 Risk assessment and management

ENV.2011.1.3.3-1 Risk prevention and management before volcanic eruptions

Volcanic eruptions likely to occur are always preceded by a volcanic unrest period and pre-eruptive precursor signals. In order to better understand the volcanic dynamics and to distinguish between volcanic activities leading or not to eruption, research should develop and improve the knowledge base and the predictability related to pre-eruptive processes and unrest signals for representative volcanoes. Unrest events should be characterised and reliable precursors for relevant volcano types should be defined. Advances in modelling, experimentation and monitoring capacity need to be assured within a multidisciplinary collaborative framework. Based on the analysis of volcanic unrest, taking into account uncertainties, the project should develop and improve the probabilistic assessments leading to better plans for the management of volcanic crises and to the improvement of forecasting and communication procedures.

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

Expected Impact: Improvement of preparedness and warning capacity. Improvements of the forecast capacity and management of volcanic crisis. Identification of reliable precursors.

Area 6.1.3.4 Multi-risk evaluation and mitigation strategies

ENV.2011.1.3.4-1 Capacity building in natural hazards risks reduction

The goal is to increase the sharing of know-how and best practices in disasters risk reduction related to key hazards affecting vulnerable societies around the world. European and international (e.g. ISDR¹¹) networking capacity should therefore be reinforced to better valorise existing reliable scientific knowledge and organise more efficient transfer and use of it, in particular for exposed population and in developing countries. Collaboration between social and natural scientists and key stakeholders needs to be improved. Consideration needs to be given to the notion of vulnerability and integrated risk assessment, as well as how to better provide scientific advice taking into account uncertainties. Studies, case analysis, lessons learned from previous events, think-tanks, production of relevant diversified educational material and good dissemination should be part of the overall approach. Furthermore consideration should be given on how to build a long-term hazard research site reference network.

Funding scheme: Coordination and Support Action (coordinating action)

Additional eligibility criterion: Coordinating actions under this topic will only be selected for funding on the condition that the estimated EU contribution going to SME(s) is 15% or more of the total estimated EU contribution for the project as a whole. This will be assessed at the end of the negotiation, before signature of the grant agreement. Proposals not fulfilling this criterion will not be funded.

Expected Impact: Improvement of mechanisms for knowledge transfer from science to application. Increase societal awareness and resilience to natural hazards. The participation of SMEs in the coordinating action contributes to increased capacities of SMEs in risk communication.

¹¹ United Nations International Strategy for Disaster Reduction

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 41 000 000

The 2011 work programme will contribute to the strategic objectives by focussing research activities on the need to generate the knowledge basis and develop advanced models and tools needed for 1) the sustainable management of resources; 2) the protection and sustainable use of ecosystems, 3) assuring urban sustainability. Both natural and man-made environment (cities) is addressed including lagoons. Some research areas are also contributing to support eco-innovation for eco-efficiency in society. The topics identified within each research area are of interest to international cooperation. Research related to natural resource protection and management will have to consider the need for contributing to the development of ecosystem-based management approaches, which requires multidisciplinary and a cross-cutting vision towards the natural resources, in particular soils, water and biodiversity.

Area 6.2.1.1 Integrated resource management

ENV.2011.2.1.1-1 Lagoons in the context of climate change

The research project will select a representative set of different "hotspot" coastal lagoons with a wide and balanced geographical distribution and characterised by different environmental conditions and pressures to assess their environmental, economic and social vulnerability to climate change impacts, urbanisation and industrialisation, and formulate realistic strategies towards their sustainable development, also with a view of fostering eco-innovation and eco-efficiency. The use of integrated coastal zone management approaches including adapted land and marine spatial planning should be considered as tools to determine actual and potential conflicting uses. The research will develop an integrated decision-support framework and system for the evaluation of these strategies, engaging relevant stakeholders in a local collaborative and participatory approach.

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

Expected Impact: Development of realistic strategies towards sustainable development of lagoons in Europe in view of the multiple and combined problems they are exposed to and development of decision support tools enabling the evaluation of these strategies.

Area 6.2.1.2 Water resources

ENV.2011.2.1.2-1 Hydromorphology and ecological objectives of WFD

Multi-disciplinary research combining ecological, hydrological and geo-morphological expertise should address the underlying mechanisms and the links between river morphology and the physical (including sediment dynamics and the associated water quality aspects) and ecological processes and biological patterns in rivers and floodplains to further elucidate the complex dynamics of their interactions, the role and impacts of spatial structuring, variability and scaling effects. The overall aim should be to develop biological and geomorphological indicators, tools and models to understand and predict eco-hydro-morphological responses to environmental changes, diagnose biological departures due to changes in physical habitats, and assess cost-effectiveness of restoration measures and management interventions across spatial and temporal scales including uncertainty and provide a better understanding of the complex inter-relationships between water quality and quantity, biodiversity, landscape and soil and the socio-economic activities in flood plains including the consequences on flood protection, particularly in the context of climate change. The project must be build on existing data and knowledge (e.g. ongoing restoration projects and national monitoring programmes, to be completed by new well justified multi-scale experimental studies to fill-up data gaps.

Funding scheme: Collaborative Project (large scale integrating project)

Expected Impact: Design of cost-effective hydromorphologically relevant restoration and mitigation measures and more cost-effective monitoring programmes in the context of the implementation of the WFD and GWD.

Area 6.2.1.3 Soil research and desertification

(Not open in 2011)

Area 6.2.1.4 Biodiversity

ENV.2011.2.1.4-1 Potential of biodiversity and ecosystems for the mitigation of climate change

Research will examine at a regional scale interactions between biodiversity and climate, and tipping points in ecosystems associated with climate change, especially those in relatively data-rich biodiversity hotspots such as Mesoamerica. It will improve our capacity to use ecosystems to mitigate climate change while avoiding feedback that might accelerate global change. It will examine and analyse unforeseen and undesirable consequences of ways in which biodiversity has been used, or is proposed for use, to help mitigate climate change. The work will also analyse the ways in which biodiversity and ecosystems can be used to reduce impacts of climate change on a large scale, for example in the Amazon basin.

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

Expected Impact: Natural resource and biodiversity managers will benefit from guidance on how biodiversity and ecosystems can be used to mitigate climate change without creating new problems. They will also benefit from consolidated understandings of interactions between climate, ecosystem functioning, and biodiversity.

ENV.2011.2.1.4-2 Behaviour of ecosystems, thresholds and tipping points

For managers of natural resources to be effective in a changing world, they must understand the potential for sudden and permanent changes (e.g. regime shifts) to ecosystems and the goods and services they provide. Research will explore the possibility of prediction of ecological changes and the behaviour of major ecosystems at various scales and under a variety of pressures, and of associating these predictions with probabilities. The internal interactions and dynamics, under a variety of drivers, of non-linear, dynamic, self-organizing ecosystems with meta-stable behaviour, tipping points and critical transitions will be observed, modelled and tested against both experimental and real-world ecosystems. Work will examine feedbacks between the systems and their drivers, and the circumstances under which ecosystems are committed to change that occur only after a lag. The project will improve methods for taking account of and communicating: risk and uncertainty in service provision and ecological thresholds, tipping points and irreversibility.

Funding scheme: Collaborative Project (large scale integrating project)

Expected Impact: Natural resource and biodiversity managers will be provided with methods to assess ecosystem services, develop management strategies and communicate with policy makers. They will also benefit from insights into the behaviour of major ecosystems under realistic conditions in which drivers of change act simultaneously. The expected impact is a better use of ecosystems and the protection of biodiversity.

ENV.2011.2.1.4-3 Improved comprehension of the utility of the concepts of value of biodiversity

The diversity of life on Earth and the integrity of ecosystems everywhere are under increasingly severe threats despite decades of awareness of the problem among scientists, civil society, and policy-makers. Endeavours to convince policy makers to invest effort in vigorous action to conserve biodiversity depend increasingly on demonstrating the value of biodiversity to humans, largely through the concept of ecosystem services, to the extent that alternative arguments and strategies are sometimes neglected. Research is needed on the one hand to assess the potential and observed effectiveness of the various arguments and on the other to clarify the relationships between biodiversity and ecosystem services. The research will analyse the implications of these relationships for the valuation of biodiversity, and for the concept of valuation as a means for protecting biodiversity, at a variety of spatial and temporal scales including the regional (e.g. European) scale. It will consider the implications for scaling values up or down across scales, and for transfer of values across space and over time. It will examine the potential or observed effectiveness of alternative ways to argue the case for swift and effective action to prevent further degradation of the natural world.

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

Expected Impact: Analysis of alternative ways to improve biodiversity policy making and governance at local, national and global scales.

Area 6.2.1.5 Urban development

ENV.2011.2.1.5-1 Sustainable and Resilient Green Cities

Urban resilience relates to a city's ability to respond to a number of combined "grand challenges": natural resource shortage ("peak oil", water, etc.), climate change adaptation and mitigation, and unprecedented urban growth; in ways that are socially, economically and environmentally acceptable and feasible. The aim is to develop positive transition strategies and scenarios to enable cities (and their rural interface) to meet these combined "grand challenges" by reducing their urban ecological footprint, via the innovative development of: public and private green infrastructure (ie: green walls and green roofs) and spaces, organic materials/products and green processes – inspired by nature (ie: biomimicry); rehabilitation of ecosystem services and urban biodiversity, urban/industrial regeneration, land use planning and creative design; short-circuit economies (increased reliance on local goods and services), improved climate-neutral infrastructure for sustainable waste, water, energy and transport management, while also fostering greater equity and social cohesion, and mitigating negative environmental impacts. The strategies must also limit urban sprawl to privilege compact and polycentric approaches, so as to reduce transport and energy costs, retain valuable agricultural land and natural areas, and protect landscape value, while limiting the negative effects of densification (ie: increased vulnerability to risk, noise, stress, safety). Lastly, the research should develop novel methods to enable adaptive governance, collaborative decision-making, and behavioural change to assist local authorities and citizens implement the transition from today largely unsuitable reality to tomorrow's resilient and sustainable European cities.

The research will integrate expertise from the following disciplines: architecture, urban planning and design, bio-physical sciences, public health, socio-economics, decision-making and governance, technology, and art. It should to the extent possible adopt a wide geographical distribution of cities (case studies) representative of all European regions. The research will extend well beyond the traditional combination of scientific disciplines exploring the interface between art and science.

Funding scheme: Collaborative Project (large scale integrating project)

Additional eligibility criterion: The project will only be selected for funding on the condition that the estimated EU contribution going to SME(s) is 10% or more of the total estimated EU contribution for the project as a whole. This will be assessed at the end of the negotiation, before signature of the grant agreement. Proposals not fulfilling this criterion will not be funded.

Expected Impact: *Provision of visions, feasible strategies, spatial scenarios and guidance tools that would enable adaptive governance, collaborative decision-making, and behavioural change towards resilient and sustainable European cities. The results of research in this topic should clearly be of interest and potential benefit to SMEs, and will create a beneficial economic impact to the sector concerned. A strong participation of SMEs in the project itself should help contribute to the realisation of that impact.*

ENV.2011.2.1.5-2 Furthering Strategic Urban Research

This coordination action will further the long-term strategic framework for scientific co-operation related to urban research by enabling knowledge transfer and the building of a structured dialogue, responding in this way to the following interconnected issues: environment and urban planning, energy, transport, tourism, technology and innovation, governance and education, social equity and cohesion, sustainable consumption; towards the reduction of the "urban ecological footprint".

It will promote the importance of open innovation, scientific advice, indicators and data collection and ensure the transfer of best practices adapted to the realities of European cities in view of climate change and natural resource scarcity, in particular "peak oil" and water. It will address complex and policy relevant issues in a problem-solving, integrated way, through collaborative techniques and wide stakeholder involvement including SMEs.

Funding scheme: Coordination and Support Action (coordinating action)

***Expected Impact:** The expected impact is, through building upon the current URBAN-NET project, to provide the opportunity for partnerships in view of ensuring wide EU27 representation including associated states, cities, civil society organisations and SMEs, municipalities in the field of urban research. This will also enable the establishment of public-public and public-private partnerships, which are fundamental for the implementation of sustainable urban development and planning.*

Area 6.2.1.6 Integrated forest research

ENV.2011.2.1.6-1 Land-use and European forest ecosystems

The rationale of this research shall be to establish an optimised land-use approach at landscape scale for the allocation and management of existing and new forest lands. This will be based on results of regional, national or European research projects in order to develop approaches, including decision support tools, for integrated forest management at landscape level. This applied research shall involve forest owners and managers and landscape planners who will need to contribute to adapting land-use strategies to meet increasing competition for forest products and services under changing environmental conditions. The research shall take into consideration existing and emerging policies and economic framework conditions, societal developments, and technical innovations. This should lead to new policies and economic framework conditions in order to insure effective multifunctional forestry as well as the maintenance of environmental and societal goods and services of forest ecosystems.

Funding scheme: Collaborative Project (large scale integrating project)

***Expected impact:** Forest and land-use managers will be provided with means, e.g. decision support tools, to ensure a balance between segregative and integrative approaches in allocating existing and new forest lands in view of a multifunctional forestry at landscape scale. The expected impact is a better management of land and forests.*

Sub-Activity 6.2.2 Management of marine environments

Indicative budget: EUR 16 000 000 for the FP7-OCEAN-2011

Area 6.2.2.1 Marine resources

(Not open in 2011)

Area 6.2.2.2 'The ocean of tomorrow' call

"The ocean of tomorrow" call - 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, threatening marine ecosystems and sustainable maritime activities. In particular, the growing demand for maritime transport, offshore energy, tourism, coastal development, resource extraction, fisheries and aquaculture, may have a major impact on 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"¹² 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.

The aims of the call are to improve our understanding and the predictive capacity of marine ecosystems' response to a combination of natural and anthropogenic factors, while fostering innovations to make the most of sea resources. It will thus contribute to implement the Marine Strategy Framework Directive and to respond in a coherent and integrated way to the EU Grand challenges, such as global warming, tightening supply of energy, water or food security. It is also in line with the new strategy for Europe EU 2020 which recognises that the only way to deliver new sources of growth and sustainable jobs is through research and innovation.

The partly regional focus of the call on the Mediterranean Sea and the Black Sea reflects the huge sustainability challenges in these two sea basins. It is in line with the Council conclusions on the "European Strategy for Marine and Maritime Research", which invite to put a particular emphasis on the Mediterranean and Black Sea basins. It also supports the objectives of the communications "Towards an Integrated Maritime Policy for better governance in the Mediterranean"¹³ and "Black Sea Synergy"¹⁴

¹² COM (2008) 534 final of 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."

¹³ COM (2009) 466 of 11.9.2009 – Communication from the Commission to the Council and the European Parliament: "Toward an Integrated maritime Policy for better governance in the Mediterranean".

¹⁴ COM (2007) 160 of 11.4.2007 – Communication from the Commission to the Council and the European Parliament: "Black Sea Synergy – a new regional cooperation initiative".

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 is implemented through four different topics, out of which two of generic nature and two of particular relevance to the Mediterranean and the Black Sea: topic 1: "Multi-use offshore platforms"; topic 2: "Marine microbial diversity – new insights into marine ecosystems functioning and its biotechnological potential"; topic 3: "Assessing and predicting the combined effects of natural and human-made pressures in the Mediterranean and the Black Sea in view of their better governance" (SICA); topic 4: "Knowledge-base and tools for regional networks of MPAs, integrated management of activities together with assessment of wind energy potential in the Mediterranean and the Black Sea (SICA).

A multi-disciplinary approach and a multi-sectoral partnership are considered essential to achieving the expected impacts. All topics have been designed to secure a substantial involvement of industrial partners, SMEs and relevant end-users.

OCEAN.2011-1: Multi-use offshore¹⁵ platforms

Call: FP7-OCEAN-2011

Increasingly, energy, fisheries and transport infrastructures are being established offshore. Facilities such as offshore wind farms may occupy large areas and compete with other users of the maritime space. Offshore platforms that can combine many functions within the same infrastructure could offer significant benefits in terms of economics, optimising spatial planning and minimising the impact on the environment.

This topic aims to develop novel innovative designs for multi-use offshore platforms and assess the technical, economical and environmental feasibility of constructing, installing, operating, servicing, maintaining and decommissioning together with the related transport aspects. The platforms shall target ocean renewable energy and in particular offshore wind, aquaculture and the related transport maritime services.

The work shall determine the optimal locations for multi-use offshore platforms taking into account renewable (in particular wind) energy resources, appropriate aquaculture, transport issues, and other platform-related activities including accessibility and possible use as offshore terminals. Model validations should be employed on several sites using field measurements.

In determining locations, the following should be taken into account:

- Ocean renewable energy resources and seabed characteristics;
- Hydrodynamic dispersion models;
- Hydrodynamic conditions for logistic, transport and installation purposes;
- Impact analysis on the environment, social acceptance and other users (e.g. vibrations, noise, radar interference, shipping, tourism, fishing).

Innovative designs for multi-use offshore platforms shall be developed that allow optimal coupling of the various activities and services. Research shall include safe, efficient installation, operation maintenance and monitoring (including possibly remotely) together with specialised transportation to optimise efficiency, operation and installation.

Designs of large structures shall be developed that allow coupling of ocean renewable energy with aquaculture, off shore transport facilities, environmental monitoring and other relevant activities. These should lead to optimised spatial use and improved economic viability. Physical modelling shall be employed at an appropriate scale for experimental validation of the proposed platforms.

Research into relations between the combined activities shall in particular address the interaction between wind energy and other platform users, innovative containment systems and related technology for optimal aquaculture operation, the development of transport solutions for optimised installation, maintenance, operation and services to shipping (breakwater, terminals etc). Compatibility of current aquaculture equipment and techniques (handling, husbandry, feeding, etc) with establishment on a multi use platform and possible innovations should also be considered.

An assessment of the economic viability and value to the various stakeholders shall be undertaken. This shall include consideration of costs for construction, operation, servicing and decommissioning. This assessment should include a comparison to non multi-use platforms.

The project shall include a comprehensive environmental impact methodology and assessment, including a comparison to non multi-use solutions.

When appropriate, knowledge shall be drawn from pre-existing research and data.

¹⁵ "Offshore" is considered to be "out of sight" from the coast.

Funding scheme: Collaborative Project

Additional eligibility criteria: The requested European Union contribution shall not exceed EUR 14 000 000.

Additional information:

Up to 3 projects may be funded under the total budget of the topic (EUR 14 000 000) in order to allow various designs to be tested while maintaining critical mass and ensure complete coverage of the topic.

The multi-disciplinary approach of the research undertaken is essential to address the topic. It will be considered during the evaluation of the criterion related to "S/T quality".

The multi-sectoral composition of the partnership and the participation of industrial partners and relevant end-users, in particular SMEs, are essential for the implementation of the project. It will be considered during the evaluation of the criterion related to "Implementation".

Expected impacts:

- Contribution to the target of 20% share of wind energy in the final EU electricity consumption by 2020,
- Contribution to the growth of aquaculture industry and to increasing food needs and food security,
- Contribution to the increase of employment level (new job opportunities) in the shipbuilding, energy and fisheries sector,
- New emerging green technologies and global competitiveness of the European industries,
- Contribution to the low carbon economy,
- Strengthen the role of the European maritime transport sector within offshore energy and fisheries developments. Facilitate more efficient eco-friendly transport operations.

OCEAN.2011-2: Marine microbial diversity – new insights into marine ecosystems functioning and its biotechnological potential

Call: FP7-OCEAN-2011

The sequencing of environmental samples from marine environments allows investigations on microbial diversity and their functions at molecular level, leading to a better understanding and prediction of the marine microbial influence on biogeochemical cycles and hence on climate change and to the exploitation of its potential for biotechnological applications. This is why nowadays massive output of sequencing efforts of marine environmental samples e.g. ocean sampling expeditions, are flooding databases. To interpret these data in their environmental context is a prerequisite to being able to transform the wealth of sequenced data into biological understanding. However, analysis and interpretation of these data, especially metagenomic data, requires tools that are very poorly developed so far.

The focus of research should be on the development of new bioinformatic approaches in the marine environment field that will enable microbial (e.g. viruses, bacteria, archaea and protists) data exploitation, integration and accessibility for researchers and different users worldwide. It should focus on standardization, processing, integration of heterogeneous data sources, annotation, interpretation of the metagenomics data taking into account their environmental context (biogeochemical and oceanographic data) and should link environmental studies with laboratory experiments so that hypothesis can be tested and unknown genes and/or biochemical pathways can be assigned a function. The complex problem of IPR issues related to the exploitation and protection of marine resources as well as outreach activities including training of researchers should also receive due consideration.

Funding scheme: Collaborative Project (large scale integrating project)

Additional eligibility criteria: The requested European Union contribution shall not exceed EUR 9 000 000.

Additional information:

A maximum of one project may be funded.

The multi-disciplinary approach of the research undertaken is essential to address the topic. It will be considered during the evaluation of the criterion related to "S/T quality".

The multi-sectoral composition of the partnership and the participation of industrial partners and relevant end-users, in particular SMEs, are essential for the implementation of the project. It will be considered during the evaluation of the criterion related to "Implementation".

Expected impacts:

- Better understanding of the complexity of microbial communities and their role on climate change, the parameters driving the functioning of marine ecosystems and reveal new exciting activities with potential industrial use,
- Contribution to the improvement of environmental bioinformatics capacity building in Europe and overcome fragmentation resulting from the very fast developments in sequencing, bioinformatics, and molecular ecology,
- Enabling integration with oceanographic research on earth observation and monitoring (e.g. GMES, GEOSS and Emodnet) and other EU funded related activities,
- Contribution to the increase of the interoperability and data quality and facilitate novel applications in the field of blue biotechnology,
- Contribution to the improvement of the protection of genetic resources and the sustainable use of marine resources by advancing new IPR approaches.

OCEAN.2011-3: Assessing and predicting the combined effects of natural and human-made pressures in the Mediterranean and the Black Sea in view of their better governance

Call: FP7-OCEAN-2011

The capacity of the Mediterranean and the Black Sea to provide goods and services to their surrounding populations may be compromised in the near future if anthropogenic and natural pressures are not considered in connection with the natural sensitivities and capacities of the marine environment in an integrated, ecosystem-based way. An integrated approach for governance in the Mediterranean and in the Black Sea basins is therefore needed.

The overall objectives of the project are to promote sustainable well-coordinated research efforts in order to characterise patterns of pressure in environmental and socio-economic terms on the Mediterranean and the Black Sea and to develop a framework for future implementation of adaptive policies and management schemes, while fostering international cooperation with neighbouring countries.

Firstly, the project will develop expert systems in order to address the objectives of the topic, making the best use of the available observational and monitoring capability currently deployed in both basins. In particular it should take advantage of and be built on systems such as the ones currently deployed through the Global Monitoring for Environment and Security (GMES) and the Group on Earth Observations (GEO) initiatives. The project should also take into consideration the European Marine Observation and Data Network (EMODNET) and the Data Collection Framework (DCF) in fisheries. Where needed, the project should fill short term data gaps and propose options to fill gaps on a continuous basis in the long term. This will include making more compatible the role of existing and future research vessel (i.e. a new multipurpose mobile platform for environmental data collection) with the current effort to monitoring systematically the environmental status of the Mediterranean and the Black Sea conditions through an integrated observing system.

Secondly, the project shall build an integrated knowledge-base for understanding the patterns of anthropogenic and natural pressures in the Mediterranean and in the Black Sea. In particular, it should develop the science-base needed to understand how the natural land-ocean processes that are characteristic of semi-enclosed basins (peculiar role of air-sea fluxes and fresh water fluxes, specific water mass ventilation rates, hydraulic control of flows across straits) and the anthropogenic processes (effects of large cities, coastal development, pollution, recreational activities, fishing and aquaculture activities) interact in these two basins.

Thirdly, the project shall provide a scientific rationale for a basin-wide promotion of the principles and objectives put forward in the Marine Strategy Framework Directive (MSFD) in close collaboration with the neighbouring countries in order to achieve Good Environmental Status (GES). It should be built upon existing models, in particular those developed under GMES, improve prediction and management of key anthropogenic and natural processes and their impacts in the Mediterranean and the Black Sea.

The project shall cover both Mediterranean and Black Sea basins and foster international cooperation. It will aim to build scientific capacity in the countries bordering the Mediterranean Sea and the Black Sea to strengthen European efforts to address the environmental challenges faced in the two semi-enclosed seas, jointly with neighbouring countries.

Finally, the project will develop a small research and survey vessel concept to be used for coastal areas, estuaries, as well as port areas, navigation channels. The innovative research content concerns a small vessel with low draft that can operate with very precise innovative dynamic positioning, novel propulsion in shallow waters and normal sea states. As well as being suitable for a wide range of research related users, the vessels will address the needs to survey, accurately and efficiently shallow water navigation channels, an important navigation safety issue for shipping, particularly in areas with shifting sands.

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

Additional eligibility criteria:

- The requested European Union contribution shall not exceed EUR 13 000 000.

- SICA - Minimum number of participants: 3 from different Member States or Associated countries and 4 from different ICPC, among which at least 2 from the Mediterranean Partner Countries and at least 2 from the ICPC countries of the EU Black Sea Synergy.¹⁶

Additional information:

A maximum of one project may be funded. The project must equally address both the Mediterranean and the Black sea basins. It may include one sub-project for the Mediterranean and one for the Black Sea; but with a strong interlink between the two (e.g. for modelling) and a common approach for the development of the small research and survey vessel.

The project should be in line with the requirements of the Inspire directive and data sharing principles of the GEOSS initiative.

The multi-disciplinary approach of the research undertaken is essential to address the topic. It will be considered during the evaluation of the criterion related to "S/T quality".

The multi-sectoral composition of the partnership and the participation of industrial partners and relevant end-users, in particular SMEs, are essential for the implementation of the project. It will be considered during the evaluation of the criterion related to "Implementation".

Expected impacts:

- Reinforcing the scientific knowledge base, including in the regions out of the EU where this knowledge base remains poor, in order to understand and manage the impact of global changes on the Mediterranean and the Black Sea marine ecosystems and thereby contribute to their sustainable development;
- Clarifying challenges related to the definition and implementation of basin wide Good Environmental Status in accordance with the MSFD;
- Contributing to building science-based basin scale management strategies and informing policy makers at national, EU, regional and International levels. Evaluating the various options for sustaining these tools on the long term;
- The project should be in line with EU and international policies such as: MSFD, GMES, GEOSS, Common Fisheries Policy (CFP), Integrated Maritime Policy, and the regional sea conventions;
- Enable advanced marine transport technology to accurately and efficiently locate in normal seas a vessel that can research and survey in shallow waters;
- Reinforcing international cooperation and interactions between scientists throughout the two geographic areas and spreading knowledge to decision makers.

¹⁶ COM (2007) 160: Armenia, Azerbaijan, Georgia, Moldova, Russia, Ukraine.

OCEAN.2011-4: Knowledge-base and tools for regional networks of MPAs, integrated management of activities together with assessment of wind energy potential in the Mediterranean and the Black Sea

Call: FP7-OCEAN-2011

Due to the specific nature of the Mediterranean and Black Sea and the rapid expansion of sea-based activities, there is a need to create new knowledge to support the development of decision maker's tools for optimizing the management of human activities, within an integrated coastal and marine space system.

The objective of the project is to build up scientific basis firstly for establishing regional or sub-regional wide networks of marine protected areas (MPAs) for conservation and better management of marine living resources, secondly for assessing offshore wind energy potential while evaluating possible synergies and conflicts of use with other marine activities.

Research on MPAs will concern the establishment of scientific guidelines, criteria, models and tools for the design, mapping, management, monitoring and control of regional or sub-regional networks of MPAs including deep-sea habitats and areas beyond national jurisdictions. These networks of MPAs should respond to clearly established objectives, from protecting biodiversity (strict reserves) to achieving a sustainable exploitation of aquatic living resources by preserving nursery grounds and juveniles (restricted areas).

The focus will be on the identification of priority areas in both basins through a hierarchical approach based on ecological and socio-economic criteria in underrepresented or poorly studied areas and ecosystems (e.g. the high seas and the deep seas). Sizing, spacing and ecological connectivity and interdependency between sites will be studied for optimal maintenance of species populations and biodiversity (spill over effect), considering possible genetic exchange, larval behaviour patterns and larval dispersal and making the best use of molecular science and multidisciplinary approaches between marine genomics and ecosystem science. Habitat discontinuity and fragmentation, physical oceanography should also be considered. The development of management strategies for implementing the regional networks such as regulation measures to limit and ban certain practices, dynamic closures, legal issues for managing trans-boundary areas and high seas MPAs are key elements of the project. The project should also promote innovative communication strategies between scientists, managers, fishermen, shippers, NGOs, potential users and public at large.

Research on wind energy will provide a scientific basis for assessing off-shore wind potential in the Mediterranean and the Black Sea, focusing on areas already identified as promising with respect to wind regimes. The project should assess the potential for offshore wind power production based on the use of existing models. It will also evaluate potential conflicts with other uses of the space (MPAs, maritime transport, on shore large desalination plants, dredging, fishing, aquaculture, sub-sea cables, pipelines, tourism, etc). The project should deliver scientific guidelines for an enriched "wind atlas" for decision-makers and planners.

Moreover the project shall launch two pilot studies, at least one in the Mediterranean and one in the Black Sea, addressing the establishment of regional networks of MPAs, also combining if possible wind energy development, and considering all the possible conflicts from other maritime activities. The pilot studies should address selected areas within regions or sub-regions of the Mediterranean Sea and the Black Sea as defined in the Marine Strategy Framework Directive¹⁷. The project should reinforce capacity building in support to international cooperation by transferring and making compatible methods across the two basins and by promoting common rules and practices in particular with non EU countries from Balkans, Southern Mediterranean and Eastern Europe bordering the two seas.

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

Additional eligibility criteria:

- The requested European Union contribution shall not exceed EUR 9 000 000.
- SICA - Minimum number of participants: 3 from different Member States or Associated countries and 4 from different ICPC, among which at least 2 from the Mediterranean Partner Countries and at least 2 from the ICPC countries of the EU Black Sea Synergy.¹⁸

Additional information:

A maximum of one project may be funded.

The multi-disciplinary approach of the research undertaken is essential to address the topic. It will be considered during the evaluation of the criterion related to "S/T quality".

The multi-sectoral composition of the partnership and the participation of industrial partners and relevant end-users, in particular SMEs, are essential for the implementation of the project. It will be considered during the evaluation of the criterion related to "Implementation".

Expected impacts:

- Improved methods and tools for developing holistic planning and integrated management approaches and practices for the implementation of regional or sub-regional networks of Marine Protected Areas and the assessment of offshore wind energy potential in the Mediterranean Sea and the Black Sea,
- Reinforcing international cooperation and interactions between scientists and marine space users throughout the two geographic areas and spreading knowledge to decision makers,
- Demonstrating the feasibility and possible synergy between regional networks of MPAs and offshore wind sites through the launching of two pilot studies, at least one in the Mediterranean and one in the Black Sea, with the participation of the industry,
- Supporting maritime spatial planning¹⁹ and the development of an Integrated Maritime Policy in the Mediterranean and Black Sea basins,
- Contributing to fulfil international/regional conventions and agreements, e.g. Convention on Biological Diversity, UN World Summit on Sustainable Development Plan of Implementation, as well as EU regulations and policies regarding the implementation of regional or sub-regional networks of MPAs.

¹⁷ The 4 sub-regions of the Mediterranean Sea are (i) the Western Mediterranean Sea; (ii) the Adriatic Sea; (iii) the Ionian Sea and the Central Mediterranean Sea; (iv) the Aegean-Levantine Sea.

¹⁸ COM (2007) 160: Armenia, Azerbaijan, Georgia, Moldova, Russia, Ukraine.

¹⁹ COM (2008) 791 of 25.11.2008 – Communication from the Commission "Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU".

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 7 000 000 (and EUR 50 000 000 for Eco-innovation Call, EUR 5 500 000 for PPP-GC, EUR 5 500 000 for PPP-EeB)

The transformation to sustainable societies implies a wide diffusion of environmental technologies that help to minimise the environmental "footprint" of human activities. This can be achieved through reduced energy input, reduced material flows, cleaner processes, re-use and recycling of resources and, extension of the durability of goods. This will help contribute to the decoupling of economic growth from resource depletion and environmental pollution leading to improved eco-efficiency in comparison to traditional technologies. The critical and decisive ones will be those capable of "making a real difference" through their widespread implementation and their further continuous improvement. However, the pace of eco-innovation is currently too limited to cope with the dimension and the urgency of today's environmental challenges. Eco-innovation should move beyond simply greening products towards new system solutions. The above mentioned issues will be addressed through a specific industry/SME-oriented bottom-up Eco-innovation Call on where applicants can choose the sector and the kind of technologies/solutions to develop. Other activities related to the Public Private Partnerships on Green Cars and Energy-efficient Buildings will also be carried out, as well as some specific international cooperation actions. All the topics foresee a relevant participation of industry, and in particular of SMEs.

Area 6.3.1.1 Water

(See also the Eco-innovation Call under Area 6.3.1.9)

ENV.2011.3.1.1-1 Technologies for water scarcity mitigation in Latin American context

The objective is to assess the potential of various water recycling and reuse technologies in Latin America, quantify the actual needs benefits and costs of those technologies, evaluate their social acceptance, and provide solutions for water supply and sanitation in rural and agricultural areas in the context of climate change and water scarcity mitigation. Emphasis should be given to water quality and quantity issues, integration of the needs of various end-users, ways to increase the role of water recycling technologies and reuse principles in integrated water resources management schemes, and appropriate decision tools helping the selection of suitable technologies at regional level. A convincing strategy for the effective dissemination, exploitation, take-up in practice and mainstreaming of results is essential.

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

Expected Impact: *Reduce water withdrawals for both surface and ground water systems, and degradation of freshwater resources. Provide a valuable tool to cope with water supply in agriculture and restoration of depleted aquifers. Prepare guidelines to help national and regional authorities to incorporate recycling in their water management strategies. Exchange experiences in this field between EU and Latin America to improve collaboration and strengthen the establishment of long term cooperation. The results of research in this topic should clearly be of interest and potential benefit to SMEs, and will create a beneficial economic impact to the sector concerned. A strong participation of SMEs in the project itself should help contribute to the realisation of that impact.*

ENV.2011.3.1.1-2 Natural water systems and treatment technologies to cope with water shortages in urbanised areas in India

The objective of this topic is to assess and enhance the potential of natural water treatment systems, such as, constructed wetlands, soil aquifer treatment and river/lake bank filtration to cope with water shortages in India. In addition, the feasibility of bank filtration as technology for the production of (source of) safe drinking water in urban areas, under high and widely varying pollution loads and extreme climate and hydrological conditions (monsoon floods) should be further explored. Research should consider the technical, financial and environmental sustainability of those systems. A convincing strategy for the effective dissemination, exploitation, take-up in practice and mainstreaming of results is essential.

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

Expected Impact: *Improve the performance and reliability of natural systems treatment technologies in India. Develop robust and sustainable drinking water technologies that are technically cost-efficient and easy to operate and maintain. Improve research partnership and establish the foundations for of long term cooperation between EU and India in water technologies. The results of research in this topic should clearly be of interest and potential benefit to SMEs, and will create a beneficial economic impact to the sector concerned. A strong participation of SMEs in the project itself should help contribute to the realisation of that impact.*

Area 6.3.1.2 Soil

(See the Eco-innovation Call under Area 6.3.1.9)

Area 6.3.1.3 Waste

(See also the Eco-innovation Call under Area 6.3.1.9)

"European Green Cars" (GC) – Topic implemented jointly by NMP, Transport (including Aeronautics) and Environment (including Climate Change) Themes²⁰.

One of the crucial aspects of research needed for electric and hybrid vehicles related to electrochemical storage. It should concentrate on both: new low cost materials (nickel and cobalt oxides are expensive and their prices are exploding) and on safety problems related to thermal runaway. Research on these issues is multidisciplinary and must involve several Themes to gather specialised knowledge and critical mass in a research field where step changes are needed. Another aspect that will be looked at is the issue of the recycling of batteries at the end of their life cycle and the development of technologies to maximise the recovery of materials, in particular for those of high added-value or presenting high environmental impacts.

The Call is organized jointly by the NMP, Transport and Environment Themes. The indicative budget of the NMP part for this "Green cars" PPP initiative is EUR 10 million in 2011, with the Transport Theme contributing also EUR 10 million, and the Environment Theme contributing EUR 5,5 million. The indicative budget of the Call is therefore EUR 25,5 million.

GC.ENV.2011.3.1.3-1, Advanced eco-design and manufacturing processes for batteries and electrical components

Content/scope: Further development and deployment of electrical vehicles call for large scale production of batteries and electrical components with good performances and at the lowest possible cost. Research shall address the whole value chain including the eco-design, assembly/integration and production of batteries and electrical components (motors, battery management systems, etc.). Eco-design should properly account for the relevant dismantling, recycling/disposal, and health and safety aspects of critical materials.

- For near-to-market types of lithium-based batteries, projects should focus on manufacturing processes of cells but also on their integration into manageable battery modules and packs. Advanced manufacturing processes of battery cells, should be flexible enough or reconfigurable to cope with new chemistries. Special attention should be devoted to thermal management systems and safety issues, which are critically dependant on battery system design.
- For electric drive-trains and in particular motors, the main challenge of cost reductions is to be achieved by design improvements in order to produce lighter systems with increased power density, while at the same time taking into account the availability of critical materials and their dismantling/recycling. Projects should not include design or manufacturing of the power chips themselves.

For a significant industrial benefit, it should be possible to integrate the advanced manufacturing tools, methodologies and processes developed within the project into conventional or already existing production lines or, in case of new architectures, include new methodologies.

In both cases the projects are expected to cover small-scale production-line demonstrators. The environmental improvements achieved should be proven via ILCD-conform Life Cycle Assessment. The feasibility of the dismantling/recycling process for motors should be proven at least at bench/pilot scale for the most critical materials.

²⁰ The two topics GC.ENV2011 3.1.3-1 and GC.2011.3.1.3.-2 are part of the Cross-thematic Public Private Partnership "Green Cars" call. For further information concerning the "Green Cars" PPP initiative, please see Annex 5 to the Cooperation Work Programme.

In order to ensure industrial relevance and impact of the research effort, active participation of industrial partners, including SMEs, components suppliers, electrical vehicle manufacturers and component recyclers, represents an added value to the activities and this will be reflected in the evaluation, under the criteria Implementation and Impact.

The work should be complementary to the objective GC-ICT-2011.6.8 'ICT for fully electric vehicles'.

Funding scheme: Large scale integrating collaborative projects

Additional eligibility criterion: The minimum EU contribution requested must be greater than EUR 4 million.

***Expected Impact:** Establishing the basis for a world level European automotive battery and electrical components manufacturing industry. In particular production of cells, battery packs, electrical motors and components with the required performances at competitive costs. Reduction of waste production and improvement of resource efficiency through a more efficient recycling of critical materials.*

GC.ENV.2011.3.1.3-2 Operational guidance for Life Cycle Assessment studies of the European Green Cars Initiative

Environmental Sustainability is a key driver for the Green Cars PPP. All the technological improvements that will be achieved within this joint action will have to be assessed and measured in a consistent and scientifically sound way. In order to obtain these objectives, the environmental gains achieved by the funded projects should be assessed using Life Cycle Assessments done according to the International Reference Life Cycle Data System (ILCD) Handbook. What is needed in the context of this PPP is(are) (i) specific operational guidance(s) that tailor(s) the general ILCD Handbook for application to future products, and (ii) related training material and courses for practitioners in industry.

The guidance(s) shall also look at items more specific to electric vehicles for a coherent benchmark framework with the other technological options: battery and electric component production process, end of life and recycling, typical vehicle utilization and associated measurement driving cycles, energy interaction between electricity storage systems and the power generation grid, etc. Dissemination of results, in particular to the green cars community and to the projects already selected in the European Green Cars Initiative, is of primary importance for the success of this action. The project will only develop the specific guidance(s) - the actual data collection and execution of the LCA(s) will be subject to separate calls. The project should be planned in order to deliver all results within maximum one year from its starting date.

Funding scheme: Coordination and Support Actions (supporting action)

Additional eligibility criterion: The requested EU contribution must not exceed EUR 500 000.

Additional information: Up to 1 project will be selected.

Expected Impact: Increase in the consistency and transparency of the LCA studies carried out on electric vehicles and, more in general, on all projects performed within the Green Cars PPP. Support - of more solid and reproducible data - to environmental and innovation policies in fields related to the Green Cars PPP (e.g. End of Life Vehicles, Weee Directive, Sustainable and Consumption Action Plan, SET-Plan, etc).

Area 6.3.1.4 Clean technologies

(See also the Eco-innovation Call under Area 6.3.1.9)

Area 6.3.1.5 Built environment

(See also the Eco-innovation Call under Area 6.3.1.9)

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

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

EeB.ENV.2011.3.1.5-1 Technologies for ensuring, monitoring and/or controlling a high quality indoor environment²¹ particularly in relation to energy-efficient buildings

Tackling climate change will require major reductions in the energy consumption of buildings by up to 50% from current levels and create a market place for energy efficient buildings. This will challenge traditional methods of construction and lead to major changes in the design, construction, commissioning and maintenance of buildings particularly with regard to the retrofitting of buildings which covers the vast majority of building stock in Europe. Research is needed to ensure that these reductions in energy consumption will take place whilst improving the indoor environment with respect to comfort, health, accessibility, safety and usability. The research is expected to lead towards improved indoor environment predictive and monitoring tools for design and retrofitting and to efficient products, systems and processes for commissioning and maintenance management of buildings that ensure a high quality indoor environment. Projects should consider the interests of stakeholder groups such as building designers, developers, owners and managers and related product manufacturers. Projects should demonstrate, in practice, the potential impacts of the tools, technologies or processes developed (in a selected range of diverse building contexts, for instance public buildings, office environments, hospitals, schools, museums, residential sector etc). Supported by data on improved indoor parameters typically affecting indoor environment quality, recommendations should be formulated for new policies and regulations within the EU. A convincing strategy for the effective dissemination, exploitation, take-up in practice and mainstreaming of results is essential. Non technical barriers to be overcome should be identified and addressed within the project. A substantial participation of industry, (which should include SMEs) is strongly recommended.

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

Additional eligibility criterion: The requested EU contribution must not exceed EUR 2 500 000.

Additional information: Up to 2 projects will be selected.

Expected Impact: *Research should lead to new products/services for indoor quality indicator monitoring and to recommendations for regulations and policies addressing indoor environment quality in relation with sustainability and health issues. Projects should lead to the gradual adoption of more energy efficient practices, within the broader framework of indoor environment quality, by providing building users and managers with efficient information and motivation for improvement. Projects should help promote innovation in the design, construction, commissioning and maintenance of buildings across the industry.*

Projects should contribute to the EU Energy Performance of Buildings and other relevant policy regulations such as the EU Disability Action Plan or policies addressing social inclusion, health and safety in the working (and living) environment, accessible tourism, etc. Projects should also support the Thematic Strategy on Air Pollution, the Thematic Strategy on Urban Environment, the European Environment and Health Action Plan, the Lead Market Initiative on sustainable construction and/or the European Economic Recovery Plan.

²¹ A high quality indoor environment should be safe, healthy, comfortable, and accessible, should prevent accidents, and provide positive stimulation to users, and facilitate independent living and/or participation in society.

EeB.ENV.2011.3.1.5-2 Operational guidance for Life Cycle Assessment studies of the Energy Efficient Buildings Initiative

Environmental Sustainability is a key driver for the EeB PPP. All the technological developments that will be achieved within this joint action will have to be assessed and measured in a consistent and scientifically sound way. In order to achieve these objectives, the environmental gains achieved by the funded projects should be assessed using Life Cycle Assessments done according to the International Reference Life Cycle Data System (ILCD) Handbook. What is needed in the context of this PPP is(are) (i) specific operational guidance(s) that tailor(s) the general ILCD Handbook for application to future products, and (ii) related training material and courses for practitioners in industry. Dissemination of results, in particular to the EeB community and to the projects already selected in the EeB Initiative, is of primary importance for the success of this action. The project will only develop the specific guidance(s) – the actual data collection and execution of the LCA(s) will be subject to separate calls. The project should be planned in order to deliver all results within maximum one year from its starting date.

Funding scheme: Coordination and Support Action (supporting action)

Additional eligibility criterion: The requested EU contribution must not exceed EUR 500 000.

Additional information: Up to 1 project will be selected.

***Expected Impact:** Increase in the consistency and transparency of the LCA studies carried out on energy efficient buildings and, more in general, on all projects performed within the EeB PPP. Support - of more solid and reproducible data - to environmental and innovation policies in fields related to the EeB PPP (e.g. Building Performance of Buildings Directive, waste Framework Directive, Sustainable and Consumption Action Plan, Environmental Technologies Action Plan, etc).*

Area 6.3.1.6 Marine environment

(See the Eco-innovation Call under Area 6.3.1.9)

Area 6.3.1.7 Air technologies

(See the Eco-innovation Call under Area 6.3.1.9)

Area 6.3.1.8 Technologies for climate

(See the Eco-innovation Call under Area 6.3.1.9)

Area 6.3.1.9 Eco-efficiency and Eco-innovation

Today's environmental challenges make individual incremental innovation insufficient to deliver on time the new techno-economic systems that will be capable of fully decoupling growth from resource depletion. In addition, new business models need to be designed together with the development of new technologies.

This area will be covered by a specific Eco-innovation Call.

The Eco-innovation Call includes four topics covering the development, the measurement and the dissemination of eco-innovation. The objective of the main topic (ENV.2011.3.1.9-1) of this Call is to explore research areas showing the highest potential environmental benefits that could result from the full-scale exploitation of Eco-innovative solutions put forward by the applicants. The evaluation of this topic will be done through a two-stage process. It is accompanied by two topics on the measurement of eco-innovations and eco-efficiency at meso and macro-level (ENV.2011.3.1.9-2, ENV.2011.3.1.9-3). The topic on dissemination (ENV.2011.3.1.9-4) tackles the important issue of creating the conditions to favour the market uptake of research results in the Eco-innovation area.

A detailed description of the specific rules and deadlines for submission can be found in the Call-fiche of the Eco-Innovation Call.

ENV.2011.3.1.9-1 Eco-innovation! (part of the Eco-innovation Call)

Proposals should address a subject²², belonging to one of the two following groups:

- 1) Research and development of system solutions, in production processes or consumption of goods and services, to be achieved through a variable mix of organisational (e.g. at business model level), and/or institutional measures, in combination with appropriate technical solutions. Proposals should maximise eco-efficiency, and this shall be demonstrated through appropriate economic/environmental social/indicators;
- 2) Research and development of novel eco-efficient environmental technologies²³ (including monitoring) whose use can substantially contribute, directly or indirectly, to the reduction of materials and resource use, energy consumption, polluting emissions, etc., and whose effectiveness can be demonstrated through a set of key environmental performance indicators. A particular solicitation is made for presenting proposals on bio-mimetic technologies capable of deriving from nature's way of functioning the design principles that lead to eco-efficient processes.

Proposals should address direct and indirect impacts, as well as primary and secondary effects, and should clearly demonstrate a substantial improvement of the sustainability performance along the entire life cycle of the proposed solutions – also considering rebound effects - with respect to currently available state-of-the-art technologies or solutions.

²² However, proposals exclusively targeting energy (including carbon capture and storage) or transport technologies are outside the scope of this call and should be addressed to the relevant Framework Programme Themes.

²³ Environmental technologies include – as defined in the Environmental Technologies Action Plan (ETAP - COM(2004) 38 final) - "All technologies whose use is less environmentally harmful than relevant alternatives". They encompass technologies and processes to manage pollution (e.g. air pollution control, waste management, pollution monitoring technologies), less polluting and less resource-intensive products and services and ways to manage resources more efficiently.

FP7 Cooperation Work Programme 2011: Environment (including climate change)

Proposals should adequately demonstrate the medium term market potential, the marketing feasibility and address the eventual regulatory and non-regulatory barriers that might limit the exploitation of the proposed innovation. Elements of business plans may considerably help to demonstrate the feasibility and the market potential.

This topic is mainly addressed to SMEs and industries, in appropriate partnership with research institutions and other stakeholders.

Funding scheme: Collaborative Project

Additional eligibility criterion: Proposals will only be selected for funding on the condition that the estimated EU contribution going to SME(s) is 30% or more of the total estimated EU contribution for the project as a whole. This will be re-assessed at the end of the negotiation, before signature of the grant agreement. Proposals not fulfilling this criterion will not be funded. Proposals related to solutions beyond prototype stage or proposals that have successfully completed the research and development phase and that are ready for first application or market replication are outside the scope of this call and should be addressed to the Competitiveness and Innovation Framework Programme (CIP) on eco-innovation.²⁴ Proposals only addressing technology already existing at the scale of prototype are also outside the scope of this call. They could be eligible in the frame of LIFE+ Environment Programme, provided they remain at the scale of a prototype.²⁵

Expected Impact: *The selected projects should provide concrete and measurable environmental, social and economic improvements with respect to today's technologies or systems that help decoupling the use of resources from economic growth. Moreover, the result of the research in this topic should clearly be of interest and potential benefit to SMEs, creating the basis for medium-term successful market exploitation of the research results.*

ENV.2011.3.1.9-2 Development of eco-efficiency meso-level indicators for technology assessment (part of the Eco-innovation Call)

Research in this topic should develop indicators based on the quantitative assessment of eco-efficiency measured at "meso"-level (depending on the case, this may refer to a system, sector or product). The eco-efficiency indicators should look at the entire value chain including the final use and consider the interactions between the different economic actors involved. The eco-efficiency indicators should be tested, collecting appropriate data, in at least 6 different case studies. The case studies should include in particular highly innovative sectors, systems or products and should be selected taking into account their economic relevance and their potential environmental impacts. Appropriate measures for dissemination and communication of research results should be foreseen. The research should build on existing initiatives on eco-efficiency indicators (e. g. EEA, Eurostat, JRC, OECD).

Funding scheme: Collaborative Project

Additional eligibility criterion: The requested European Union contribution shall not exceed EUR 2 500 000

Additional information: A maximum of one project may be funded.

Expected Impact: *The results will provide policy makers a sound knowledge on the impact of socio-technical dynamics as well as a set of indicators that private actors could use to communicate and inform consumers about the eco-efficiency of their system, sector or product. The results and the data produced will improve the science-policy link in different fields and support the implementation of several EU policies like the Sustainable Consumption and Production Action Plan, Environmental Technologies Action Plan, the Renewable Energy Directive, the Waste Framework Directive, the Water Framework Directive, and the Lead Market Initiative.*

²⁴ <http://ec.europa.eu/ecoinnovation>

²⁵ <http://ec.europa.eu/environment/life/>

ENV.2011.3.1.9-3 Macro-level Indicators to monitor the environmental impact of innovation (part of the Eco-innovation Call)

The development and availability of technologies, products and services that help minimising the environmental footprint of human activities through energy and resource efficiency are key elements of the transition to sustainable societies. A limited amount of data is already available to measure the impact of eco-innovation but it is often on a fragmented and local scale. The lack of good macro-level indicators is hindering the full recognition of the eco-innovations potential. This research should not stop at the theory of eco-innovation measurement but should be aimed at developing and measuring macro-level indicators to monitor the ex-post impacts of innovation processes including diffusion of innovations into society on key environmental impact categories (e.g. greenhouse gases release, resource efficiency, biodiversity). The possibility of designing policy targets and/or evaluating the impact of policy measures on the basis of eco-innovation indicators should be investigated. Appropriate measures for dissemination and communication of research results should be foreseen. The research should build on existing initiatives on eco-innovation indicators (e.g. EEA, Eurostat, JRC, OECD).

Funding scheme: Collaborative Project

Additional eligibility criterion: The requested European Union contribution shall not exceed EUR 2 500 000

Additional information: A maximum of one project may be funded.

Expected Impact: *Reinforced ability to monitor the environmental impact of eco-innovation at the macro-level. The results and the data produced will improve the science-policy link in different fields and support the implementation of several EU policies like the Sustainable Consumption and Production Action Plan, Environmental Technologies Action Plan, the Renewable Energy Directive, the Water Framework Directive, the Waste Framework Directive and the Lead Market Initiative.*

ENV.2011.3.1.9-4 Dynamic e-dissemination systems and platforms for enterprises including SMEs to exploit results for eco-innovation (part of the Eco-innovation Call)

Dissemination of EU research results is made through the individual projects, notably by dedicated websites and other tools. To help enterprises and in particular SMEs to benefit from EU funded research, e-dissemination of results should be streamlined and promoted notably through creative and dynamic platforms and interoperable portals/tools. The activity should be put in place in collaboration with past and current EU projects of particular relevance. The project will set up an interactive web portal, a search tool, a tool of on line communication between projects, a virtual library as well as other tools, which are easily updated, with the aim of helping enterprises and notably SMEs to find information and research results through a single entry point. Continuity and maintenance of the platforms beyond the end of the project should be addressed. Priority should be given to dissemination of results from projects on eco-innovation and clean technologies relevant to climate change mitigation and adaptation.

Funding scheme: Coordination and Support Action (supporting action)

Additional eligibility criterion: The requested European Union contribution shall not exceed EUR 1 000 000.

Proposals will only be selected for funding on the condition that the estimated EU contribution going to SME(s) is 25% or more of the total estimated EU contribution for the project as a whole. This will be re-assessed at the end of the negotiation, before signature of the grant agreement. Proposals not fulfilling this criterion will not be funded.

Additional information: A maximum of two projects may be funded.

Expected Impact: Easy and user-friendly access for enterprises, and notably SMEs to EU funded research results in the area of eco-innovation and clean technologies relevant to climate change mitigation and adaptation. Evidence of how EU research has informed innovation in enterprises, notably SMEs. Increased visibility and use of EU research results leading to increased SME participation.

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

Indicative budget: EUR 6 000 000 for FP7-ENV-NMP-2011 and EUR 2 000 000 for FP7-JPROG-2011-RTD

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 general objective of the call, and with a strong focus on eco-innovative SMEs, this Sub-activity will focus more specifically on research for compatibility between old and new materials and techniques for cultural heritage assets through a joint call with the NMP Theme.

Taking in consideration the coming Joint Programming Initiative on Cultural Heritage, an accompanying action has been envisaged.

Area 6.3.2.1 Assessment and conservation in cultural heritage

ENV-NMP.2011.3.2.1-1 Development of advanced compatible materials and techniques and their application for the protection, conservation and restoration of cultural heritage assets²⁶

Technical content/scope: Ageing, environmental conditions, use in public or private spaces or in exhibitions and museums, transport, as well as unpredictable events, lead to damages of movable and immovable cultural heritage assets. In general, conservation and restoration use traditional materials and techniques. However, new materials and techniques (including bio- and nanotechnology) may offer advanced, more effective and long-lasting solutions. The socio-economic benefits of conserving cultural heritage generally surpass the costs of conservation; inappropriate interventions, however, may negatively affect this balance. The applicability or development of compatible materials with suitable properties should be assessed in order to evaluate the contribution to preventive conservation and thus, implicitly, to the sustainability and authenticity of the cultural assets.

Research proposals should develop advanced compatible materials (e.g. consolidants, coatings, substitutes etc.) and/or techniques (e.g. cleaning methods, reinforcement etc.) to secure the conservation of the original objects and/or improve the physical state of the damaged objects. Proposals should also assess the long term behaviour of the materials as regards the durability of the historic assets, and/or the performance of the chosen techniques. The potential for adverse environmental and health impacts relating to the new materials and/or techniques should also be assessed.

²⁶ The joint Call for the topic ENV-NMP.2011.3.2.1-1 is organised by the Directorates Environment and NMP of DG RTD. The total indicative budget is 12 000 000 Euros of which 6 000 000 Euros from Theme 6 (Environment including Climate Change) and 6 000 000 Euros from Theme 4 – NMP (Nanosciences, Nanotechnologies, Materials and New Production Technologies).

Proposals may also include materials with novel properties such as self-healing or self-cleaning, or materials with an improved resistance to degradation mechanisms. Dedicated modelling, standardisation and/or the production of (certified) reference materials may also be addressed as part of the research proposals. Training activities may be included. The active participation of industrial partners, including SMEs, represents an added value to the activities and this will be reflected in the evaluation. Priority will be given to proposals that clearly demonstrate the market potential of new materials and techniques. This topic has been identified as particularly appropriate for the participation of beneficiaries outside the EU, in particular from International Cooperation Partner Countries (ICPC).

Special Features: Call jointly implemented by **the Environment Theme (including Climate Change) and the Theme Nanosciences, Nanotechnologies, Materials and New Production Technologies (NMP)**.

Funding scheme: SME targeted **Collaborative Projects**

Additional eligibility criteria:

- The maximum European Union contribution per project is EUR 3 000 000.
- SME targeted Collaborative Projects will only be selected for funding on the condition that the estimated European Union contribution going to SME(s) is 35% or more of the total estimated EU contribution allocated to the project as a whole. This will be assessed at the end of the negotiation, before signature of the grant agreement. Proposals not fulfilling this criterion will not be funded.

Expected Impact: (i) *Longer-lasting solutions in the conservation of cultural assets with historical and/or artistic value, and/or (ii) Affordable solutions in terms of cost and/or complexity of operation by those who will use the materials and techniques developed, and/or (iii) Contribution to achieving EU policies, in line with international recommendations in this field. The results of the research in this area should clearly be of benefit to SMEs and are expected to create a favourable economic impact on the sector concerned.*

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

ENV.2011.3.2.2-1 Coordination action in support of implementation by participating States of a Joint Programming Initiative (JPI) on "Cultural Heritage and Global Change"²⁷: a new challenge for Europe"

Following the Commission's Communication on Joint Programming to tackle Europe's major societal challenges, the Competitiveness Council has welcomed the common commitment of EU Member States to tackle the challenges of the preservation and sustainable exploitation of cultural heritage within the global change scenario. A successful coordination action must support the implementation of the Joint Programming initiative by proposing concrete solutions for pooling national expertise and resources and establishing closer and robust collaboration among the participating States in the field of cultural heritage.

This action should serve towards the establishment of the governing Board of the JPI, the development of a vision document and the drafting of the Strategic Research Agenda. The coordinating country should also act in view of extending the partnership of the JPI to other countries not included in the founders group. The potential of introducing the international cooperation dimension - in particular with neighbouring countries – should also be explored.

Funding scheme: **Coordination and Support Action (coordinating action)**

Specific eligibility, and evaluation criteria: please refer to Annex 4, section A4.2.2.4 of the Cooperation Work Programme including the Call Fiche "FP7-JPROG-2011-RTD"

²⁷ This topic is part of the FP7-JPROG-2011-RTD Call. Please see Annex 4 of the Cooperation Work Programme.

Expected Impact: Support to the establishment of the Joint Programming initiative on 'Cultural Heritage and Global Change: a new challenge for Europe', in particular support of the management structure and development of the Strategic Research Agenda. The Joint Programming Initiative in the field of cultural heritage should help to streamline the national programmes in order to reduce overlaps and to exploit synergies, with a scale and scope of action that will go well beyond what either the EU or Member States can achieve on their own.

Area 6.3.2.3 Environment technologies for archaeology and landscapes

(Not open in 2011)

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

(Not open in 2011)

Sub-Activity 6.3.3 Technology assessment, verification and testing

Area 6.3.3.1 Risk assessment of chemicals and alternative strategies for testing

(Not open in 2011)

Area 6.3.3.2 Technology assessment

(Not open in 2011)

Area 6.3.3.3 Environmental technologies verification and testing

(Not open in 2011)

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 20 000 000

The first key issue to be dealt with in the domain of Earth Observation in 2011 remains data sharing and the inter-operable integration of observations, datasets, and models currently partitioned into many different subsets, which have a huge potential value when they can be used together across the various Societal Benefit Areas (SBAs) of GEO (Group on Earth Observations – <http://www.earthobservations.org/>). What is at stake is the capability to contribute to an independent assessment of (Planet Earth's Environment), including climate issues, based on the full and open access to global datasets as made possible through the GEOSS. (Global Earth Observation System of Systems). The second issue concerns capacity building and the vast research effort which is still required with regard to the development, utilisation and exploitation of observing capacity, especially for in-situ systems in developing countries with a specific emphasis on South America and Africa.

The third issue concerns optimisation of information and the role of Global Data Sets collected through the GEOSS initiative for European Research and Decision Making in order to assess global carbon balance. There is a strong political demand for assessing the benefits for Europe and its role in GEO through a cost benefit estimation of GEOSS in this domain by using Models linking economy, environment and society. All four topics will contribute to providing integrated solutions for action on adaptation and mitigation of environmental changes and providing a systemic approach for governance in a changing environment. These actions are also of great interest to potential industrial partners, including SMEs. Activities should be complementary with the on-going development of GMES. The GEO tasks referred to in the 4 topics of this sub-activity are fully described in the 2009-11 GEO Work plan at http://www.earthobservations.org/documents/work%20plan/ego_wp0911_rev2_091210.pdf

Area 6.4.1.1 Integration of European activities within GEO

ENV.2011.4.1.1-1 Integration and optimisation of information for building a Global Carbon Observing System

The topic is intended to support the research necessary for the development of a Global Carbon Observing System, including further integrating networks of atmospheric CO₂ observations, air-surface exchange flux terrestrial networks, as well as ocean observatories, building on existing European and global initiatives and relevant GEO tasks (e.g. CL-09-03). Whenever possible the projects should incorporate other constituents important for the radiative budget in the Global Carbon Observing System.

The project should contribute to fostering the development of high-resolution global and regional data-assimilation and modelling systems to enhance the spatial and temporal resolution of the observations and provide relevant global to regional-scale information, including emission inventories through the GEOSS. Partners from South America involved in forest carbon monitoring must be included in a balanced way in the consortium, in particular to contribute to filling the gap for in-situ data in those critical tropical high carbon productivity areas. The project should explore long-term possibilities for sustaining a Global Carbon Observing System beyond its research and development phase, including developing economic scenarios based on cost/benefit analyses and demonstrating the added value for Europe to support such a system.

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

Expected Impact: *An aggregated set of global Carbon information building on existing regional initiatives and resources, in view of the achievement of the 2015 GEOSS climate strategic target.*

Area 6.4.1.2 Cross-cutting research activities relevant to GEO

(Not open in 2011.)

Area 6.4.1.3 Earth Observation activities in emerging areas

ENV.2011.4.1.3-1 Inter-operable integration of shared Earth Observations in the Global Context

The overall purpose of the topic is to enable further global access to Earth Observation data and resources through the GEOSS Common Infrastructure (GCI). It should contribute to the development of new tools, processes, procedures and protocols to remove obstacles to the sharing of Earth observation (EO) data at global level and to address data/product providers identified concerns. The project should promote harmonization of data sharing consistent with the Data Sharing Implementation Guidelines approved by the GEO Plenary VI and enable multidisciplinary interoperability. The research to be conducted should include developing and testing adequate mechanisms to encourage reuse and re-dissemination of Earth Observation GEOSS data. The project will provide a European support to develop the operational capabilities of the GCI by producing applications in three different GEO Societal Benefit Areas (SBAs): 1) In the Weather SBA, the project should contribute to the design and use of shared algorithms and software providing unified data access to Earth Observation and forecasting systems for hazards and extreme meteorological events; 2) In the Water SBA, the project should contribute to integrating and producing global Earth Observation resources for hydrological application and Run-off process based on in-situ and satellite data; 3) In the Ecosystem SBA, the project should facilitate the implementation of GOOS (Global Ocean Observing System) by engineering and testing the access to and provision of Ocean Observation Data and resources through the GCI. The project should be strengthening the European contribution to populating, developing and using the (GCI) based on innovative concepts involving when necessary high-tech SMEs. It should be implemented with reference to the GEO tasks AR-09-01, DA-06-01 and WE-06-03. Collaboration with GEO countries providing advanced development for the GCI is strongly encouraged.

Funding scheme: Collaborative Project (large scale integrating project)

Expected Impact: *Enhanced interoperability and data sharing contributing to the development of the GEOSS Common Infrastructure (GCI) consistent with INSPIRE²⁸ provisions. An increase in the number of Weather, Water and Ecosystem registrations in the GEOSS. The development of working data-sharing procedures within GEOSS. Promotion of understanding of the responsibilities for both providers and users of GEOSS data products and services with regard to data dissemination, access, use, and reuse.*

²⁸ Infrastructure for Spatial Information in Europe-Directive 2007/2/EC – <http://inspire.jrc.ec.europa.eu/>

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.2011.4.1.4-1 Developing increased EO capacity for better agriculture and forestry management in Africa

The main objective of this action is to contribute to food security in Africa by enhancing the current global capabilities in the areas of agriculture monitoring, famine early warning, food-supply and crop prediction and agriculture risk assessment, through increased use of Earth observation data. Emphasis is placed on the creation and sustained provision of the required Earth observation data, enhancements of the observations (data products and predictive models) and the development of the necessary capacity and infrastructure to make the data and products available to improve agricultural and forestry management, including irrigation issues, using the full interoperable capability of the GEOSS. The activity shall integrate and build upon GEO tasks, in particular AG-07-03: Global Agricultural Monitoring and GMES initiatives, including the ESA GMES Global Monitoring for Food Security Project, establishing the appropriate connections.

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

Expected Impact: Assembly, integration and provision of existing and newly generated geo-information relevant for Agriculture, Forestry and Ecosystem management by building the necessary capacity, especially within developing countries. The substantial uptake of Earth Observation techniques, information and products by an increasingly large community of managers and decision makers.

ENV.2011.4.1.4-2 Assessing the ecosystem status, including fisheries, within the Mediterranean marine coastal areas of North African countries

This action aims at contributing to a permanent monitoring of the status of the coastal ecosystems, including fisheries, for the coastal areas of North Africa. The project shall look to build upon the existing capacity of States within this region, enabling the collection of the relevant data and providing the means to assemble and make available the data and required information in a meaningful way for the end user. Data availability to all interested parties shall be ensured through the use of the GEOSS Common Infrastructure (GCI). The assessment performed should contribute to populate the (GCI) and be conducted in collaboration with the relevant GEO tasks. This activity will identify and assess the risks posed by global change and human development to the environment, society and regional economies. It will also support the development of adaptation strategies to reduce these risks and mitigate impacts at local and regional levels.

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

Expected Impact: An enhanced monitoring and management system of the North African Mediterranean coastline, with the uptake of the information and services provided by the network of responsible regional and local authorities.

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

Indicative budget: EUR 13 000 000

In 2011 the sub-activity puts a major focus on governance. A systemic approach for governance in a changing environment will be provided through the following activities: efficiency of environmental policy tools, push towards “beyond GDP” society, involving local communities in the management of environmental challenges; and, last but not least putting sustainable production and consumption at the heart of green growth.

Area 6.4.2.1 Tools for impact assessment

ENV.2011.4.2.1-1 Efficiency assessment of environmental policy tools related to sustainability

The challenge of decoupling growth from environmental pressure has led to a shift in the environmental policy mix, with increasing importance being given to market-based instruments. Based on an empirical analysis of the changes in the environmental policy mix, research is needed to assess the effectiveness, efficacy and efficiency of its different components and of their different combinations (auctioned tradable permits, environmental taxes, removal of harmful subsidies, regulations, stimulus packages investing in green technology and industries, etc.) This should be done with regard to the pursuit of sustainable development, taking into account the three pillars (environmental, economic and social) on an equal footing.

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

Expected Impact: *Increased ability to engage on a radical pathway to reaching and maintaining a far more sustainable Europe by 2020 and beyond, and promoting sustainability at a global scale.*

Area 6.4.2.2 Sustainable development indicators

ENV.2011.4.2.2-1 Knowledge brokerage activities for engaging in a "beyond GDP" society

New ways are called for to make use of research results in policy-making through their "secondary exploitation" in order to support the mainstreaming of the "GDP and Beyond" policy process. Economists and other stakeholders have for a long time pointed to the shortcomings of GDP in taking into account environmental and social aspects. Yet, it is only recently that these concerns have come to the core of the political agenda, notably with the European Commission Communication of August 2009 "GDP and beyond: measuring progress in a changing world" and report by The Commission on the Measurement of Economic Performance and Social Progress ("Stiglitz report") issued in September 2009. This topic calls for the mobilisation of scientific knowledge to accelerate the shifting away from GDP as an exclusive mainstream indicator. In the proposal, the "research reservoir" shall be made explicit as well as the policy aim for activating this research reservoir. The proposal shall guarantee full involvement of policy makers, either through the composition of the consortium and/or through the work plan design. Over the duration of the project, knowledge brokerage activities should systematically monitor and report the progress of "GDP and beyond" issues and build structures designed to continue beyond the project's duration. Due to the experimental nature of the project, and the importance of the learning process, the design should include an in-built evaluation process that documents and critically analyses successes and difficulties with the knowledge brokerage approach.

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

Additional eligibility criterion: The requested EU contribution shall not exceed EUR 1 500 000.

Additional information: Bottom-up topic, up to three projects will be selected.

Expected Impact: *Increase influence of indicators on the sustainable development policy process. Improve knowledge transfer among researchers in academic institutions and in (policy) think tanks, non-governmental organisations, stakeholders and policy-makers and optimised the uptake and use of research results in the field of sustainable development indicators.*

Area 6.4.2.3 Interplay between social, economic and ecological systems

ENV.2011.4.2.3-1 Community based management of environmental challenges

Away from panaceas and silver bullet solutions, local community members can create and enforce original rules that lead to successful and sustainable economic governance models if given access to and in control of their own resources. Supporting these findings, this topic calls for partnerships between civil society and research organisations. These partnerships should identify and analyse locally owned and developed solutions put in place to prevent and resolve tensions arising from a necessary new repartition and use of natural resources, including ecosystem services, due to environmental and climate changes. Adapted outcomes of this research will be shared and potentially implemented with two to three other local communities confronted with the same kind of challenges and seeking support and collaboration in finding ways to overcome their difficulties. The overall focus is on Latin America.

Funding scheme: Research for the benefit of specific groups – Civil Society Organisations,

Additional eligibility criterion: A minimum of one participant from Latin America is required.

Expected Impact: *Enhanced local sustainable economic governance of natural resources. Identification and implementation of means to resolve local tensions arising from new repartition and use of natural resources.*

ENV.2011.4.2.3-2 Sustainable Consumption and Production at the heart of green growth

There is a need for more research on the interrelations between sustainable consumption and production on the one hand, and economic dynamics on the other hand. This will help to improve our understanding of the different drivers of the current unsustainable patterns and levels of production and consumption and their growth dynamics. The topic calls for looking beyond the behavioural perspective and for adapting a more systemic approach. Concepts, options, risks and relevance of green growth should be revisited and enhanced with a view to encourage structural changes towards sustainable consumption and production. How can we ensure that successful "niche" strategies lead towards more general sustainable solutions? In particular, alternative business models and regulation frameworks could be explored in one or two specific areas such as food, energy use or mobility patterns.

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

Expected Impact: *New versions for smart, sustainable and inclusive growth in line with the Europe 2020 Strategy, in order to reverse unsustainable trends of production and consumption patterns.*

Activity 6.5 Horizontal activities

The efforts to support and increase the visibility, effectiveness and uptake of environment related EU research results will be increased across the work programme 2011. Under this sub-activity, cross-thematic work on dissemination and brokerage of results will be promoted to facilitate the transformation of knowledge to decisions and action. This would involve strengthened integration of Member States research with Framework Programme research as well as wider international collaboration in the area of environmental research.

Particular efforts will be made to capture data from previous and/or ongoing projects and sustain them through networking measures. Specific activities include development of dissemination strategies through creative means in order to reach the larger public, including policy makers, civil society organisations and SMEs.

Sub-Activity 6.5.1 Dissemination and horizontal activities

Indicative budget: EUR 1 000 000

ENV.2011.5.1.0-1 Uptake of climate related research results through knowledge platforms with African collaboration partners

After many years of international dialogue and collaboration, several research networks have been established between European and third country researchers in the area of environmental research. The proposed activity should identify and promote good practices for use of research results in decisions and action by these networks and their constituencies through creative and efficient means, including e-tools. Particular emphasis should be given to past and on-going research projects with a strong international component. The project will establish knowledge platforms involving all types of stakeholders, including researchers from past and current EU funded projects, local authorities, NGOs, SMEs, handicraftsmen, artists and educational partners. Priority should be given to the transformation of knowledge (including indigenous knowledge) into climate change adaptation and mitigation activities in Africa. The broad participation of information multipliers from EU and third countries as well as coordination with National Contact Points is necessary.

Funding scheme: Coordination and Support Action (supporting action)

Additional eligibility criterion: A minimum of one partner from an EU Member State or Associated Country and two African partners in the consortium is required. This requirement will be applied as eligibility criterion.

Expected Impact: Increased uptake of research results through involvement of stakeholders in early stages of new projects and in dissemination of results from mature projects. Evidence of how research has informed policy and action in the field of climate change adaptation and mitigation in Africa.

III IMPLEMENTATION OF CALLS

- **Call identifier: FP7-ENV-2011**
- **Date of publication²⁹:** 20 July 2010
- **Deadline³⁰:** 16 November 2010
- **Indicative budget^{31,32}:** EUR 155 000 000

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.

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 37 000 000)		
<i>1.1.1.</i>	ENV.2011.1.1.1-1 Improvement of the representation of critical climate processes in climate and Earth system models.	<i>Collaborative Project (large scale integrating project)</i>
<i>1.1.2.</i>	ENV.2011.1.1.2-1 The impact of atmospheric pollution on European land ecosystems and soil in a changing climate.	<i>Collaborative Project (large scale integrating project)</i>
	ENV.2011.1.1.2-2 Climate forcing of non UNFCCC gases, aerosols and black carbon.	<i>Collaborative Project (small or medium-scale focused research project)</i>

²⁹ The Director General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

³⁰ The Director-General responsible may delay this deadline by up to two months.

³¹ Under the condition that the draft budget for 2011 is adopted without modifications by the budgetary authority.

³² 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.

ACTIVITY/ AREA	TOPICS CALLED	FUNDING SCHEMES
1.1.3.	ENV.2011.1.1.3-1 Vulnerability of Arctic permafrost to climate change and implications for global GHG emissions and future climate.	<i>Collaborative Project (large scale integrating project)</i>
1.1.4.	Not open in this Call.	
1.1.5.	ENV.2011.1.1.5-1 Impacts of climate and land use changes in the Amazon.	<i>Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries (focus on Latin America)</i>
1.1.6.	ENV.2011.1.1.6-1 Impacts of a global temperature increase of 2° from pre-industrial level, in Europe and most vulnerable regions of the world.	<i>Collaborative Project (large scale integrating project)</i>
1.1.6.	ENV.2011.1.1.6-2 Mitigation policies and measures in the world's major economies compatible with the objective of limiting global surface temperature increase below 2°C.	<i>Collaborative Project (small or medium-scale focused research project)</i>
Sub-activity 6.1.2. Environment and health (EUR 18 000 000)		
1.2.1.	ENV.2011.1.2.1-1 Environmental change and its effects on atopic diseases (allergies, asthma, eczema) in Europe.	<i>Collaborative Project (small or medium-scale focused research project)</i>
1.2.2.	ENV.2011.1.2.2-1 Combined exposures to environmental agents: integrated approaches to evaluate environment-health relationships in children.	<i>Collaborative Project (large scale integrating project) Additional eligibility criterion related to SME participation applying to this topic is set out in the topic description</i>
	ENV.2011.1.2.2-2 Exposure to electromagnetic fields (EMF): investigations of mechanisms to support risk assessment and reduce uncertainty.	<i>Collaborative Project (small or medium-scale focused research project) Additional eligibility criterion related to SME participation applying to this topic is set out in the topic description</i>
1.2.3.	ENV.2011.1.2.3-1 Integrating ecological and human risk evaluations for better risk governance.	<i>Coordination and Support Action (coordinating action)</i>
	ENV.2011.1.2.3-2 Positive effects of natural environment for human health and well-being.	<i>Collaborative Project (small or medium-scale focused research project)</i>

ACTIVITY/ AREA	TOPICS CALLED	FUNDING SCHEMES
Sub-activity 6.1.3. Natural Hazards (EUR 18 000 000)		
1.3.1.	ENV.2011.1.3.1-1 Towards real-time earthquake risk reduction.	<i>Collaborative Project (large scale integrating project)</i>
1.3.2.	ENV.2011.1.3.2-1 Building societal resilience to disasters in Europe.	<i>Collaborative Project (small or medium-scale focused research project)</i>
	ENV.2011.1.3.2-2 Vulnerability and increased drought risk in Europe.	<i>Collaborative Project (small or medium-scale focused research project)</i>
1.3.3.	ENV.2011.1.3.3-1 Risk prevention and management before volcanic eruptions.	<i>Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated for international cooperation partner countries (focus on Latin America)</i>
1.3.4.	ENV.2011.1.3.4-1 Capacity building in natural hazards risks reduction.	<i>Coordination and Support Action (coordinating action) Additional eligibility criterion related to SME participation applying to this topic is set out in the topic description</i>
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 41 000 000)		
2.1.1.	ENV.2011.2.1.1-1 Lagoons in the context of climate change.	<i>Collaborative Project (small or medium-scale focused research project)</i>
2.1.2.	ENV.2011.2.1.2-1 Hydromorphology and ecological objectives of WFD.	<i>Collaborative Project (large scale integrating project)</i>
2.1.3.	Not open in this Call.	
2.1.4.	ENV.2011.2.1.4-1 Potential of biodiversity and ecosystems for the mitigation of climate change.	<i>Collaborative Project (large scale integrating project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries (focus on Latin America)</i>
	ENV.2011.2.1.4-2 Behaviour of ecosystems, thresholds and tipping points.	<i>Collaborative Project (large scale integrating project)</i>
	ENV.2011.2.1.4-3 Improved comprehension of the utility of the concepts of value of biodiversity.	<i>Collaborative Project (small or medium-scale focused research project)</i>

ACTIVITY/ AREA	TOPICS CALLED	FUNDING SCHEMES
2.1.5.	ENV.2011.2.1.5-1 Sustainable and Resilient Green Cities.	<i>Collaborative Project (large scale integrating project) Additional eligibility criterion related to SME participation applying to this topic is set out in the topic description</i>
	ENV.2011.2.1.5-2 Furthering Strategic Urban Research.	<i>Coordination and Support Action (coordinating action)</i>
2.1.6.	ENV.2011.2.1.6-1 Land-use and European forest ecosystems.	<i>Collaborative Project (large scale integrating project)</i>
Sub-activity 6.2.2. Management of marine environments		
2.2.1.	Not open in this Call.	
2.2.2.	Not open in this Call.	
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 7 000 000)		
3.1.1.	ENV.2011.3.1.1-1 Technologies for water scarcity mitigation in Latin American context.	<i>Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries (focus on Latin America)</i>
	ENV.2011.3.1.1-2 Natural water systems and treatment technologies to cope with water shortages in urbanised areas in India.	<i>Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries</i>
3.1.2.	Not open in this Call.	
3.1.3.	Not open in this Call.	
3.1.4.	Not open in this Call.	
3.1.5.	Not open in this Call.	
3.1.6.	Not open in this Call.	
3.1.7.	Not open in this Call.	
3.1.8.	Not open in this Call.	
3.1.9.	Not open in this Call.	

ACTIVITY/ AREA	TOPICS CALLED	FUNDING SCHEMES
Sub-activity 6.3.2. Protection, conservation and enhancement of cultural heritage, including human habitat		
3.2.1.	Not open in this Call.	
3.2.2.	Not open in this Call.	
3.2.3.	Not open in this Call.	
3.2.4.	Not open in this Call.	
Sub-activity 6.3.3. Technology assessment, verification and testing		
3.3.1.	Not open in this Call.	
3.3.2.	Not open in this Call.	
3.3.3.	Not open in this Call.	
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 20 000 000)		
4.1.1.	ENV.2011.4.1.1-1 Integration and optimisation of information for building a Global Carbon Observing System.	<i>Collaborative Project (large scale integrating project) – for specific cooperation actions (SICA) dedicated to international cooperation partner countries</i>
4.1.2.	Not open in this Call.	
4.1.3.	ENV.2011.4.1.3-1 Inter-operable integration of shared Earth Observations in the Global Context.	<i>Collaborative Project (large scale integrating project)</i>
4.1.4.	ENV.2011.4.1.4-1 Developing increased EO capacity for better agriculture and forestry management in Africa.	<i>Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries</i>

ACTIVITY/ AREA	TOPICS CALLED	FUNDING SCHEMES
4.1.4.	ENV.2011.4.1.4-2 Assessing the ecosystem status, including fisheries, within the Mediterranean marine coastal areas of North African countries.	<i>Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries</i>
Sub-activity 6.4.2 Forecasting methods and assessment tools for sustainable development taking into account different scales of observation (EUR 13 000 000)		
4.2.1.	ENV.2011.4.2.1-1 Efficiency assessment of environmental policy tools related to sustainability.	<i>Collaborative Project (small or medium-scale focused research project)</i>
4.2.2.	ENV.2011.4.2.2-1 Knowledge brokerage activities for engaging in a "beyond GDP" society.	<i>Collaborative Project (small or medium-scale focused research project). Additional eligibility criterion: The requested EU contribution shall not exceed EUR 1 500 000.</i>
4.2.3.	ENV.2011.4.2.3-1 Community based management of environmental challenges.	<i>Research for the benefit of specific groups – Civil Society Organisations, Additional eligibility criterion: A minimum of one participant from Latin America is required</i>
4.2.3.	ENV.2011.4.2.3-2 Sustainable Consumption and Production at the heart of green growth.	<i>Collaborative Project (small or medium-scale focused research project)</i>
ACTIVITY 6.5. HORIZONTAL ACTIONS		
Sub-activity 6.5.1. Dissemination and horizontal activities (EUR 1 000 000)		
5.1.0.	ENV.2011.5.1.0-1 Uptake of climate related research results through knowledge platforms with African collaboration partners.	<i>Coordination and Support Action (supporting action) Additional eligibility criterion: A minimum of one partner from an EU Member State or Associated Country and two African partners in the consortium is required. This requirement will be applied as eligibility criterion</i>

• **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 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).

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.

Unless otherwise specified in the topic description the following funding thresholds will apply to the FP7-ENV-2011 Call:

Funding scheme	Minimum requested EU contribution	Maximum requested EU contribution	Maximum Number of Project(s)/ Topic
Collaborative Project (small or medium-scale focused research project)	Not fixed	€3 500 000	Up to 2
Collaborative Project (large scale integrating project)	€4 000 000	€7 000 000	Up to 1
Research for the benefit of specific groups – civil society organisations	Not fixed	€2 000 000	Not Fixed
Coordination and Support Action (coordinating action)	Not fixed	€1 000 000	Not fixed
Coordination and Support Action (supporting action)	Not fixed	€1 000 000	Not fixed

- **Evaluation procedure:**

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 below and complemented by annex 2 to 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).

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

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 December 2010 and January 2011. It is expected that the grant agreement negotiations for the shortlisted proposals will be opened in March 2011.

- **Consortia agreements**

Participants in Collaborative Project (large scale integrating project) 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'.

- **Dissemination**

Grant agreements of projects financed under this call for proposals will include the special clause 39 on the "Open access Pilot in FP7". This includes the obligation on beneficiaries to ensure free access to peer-reviewed articles resulting from projects via an institutional or subject-based repository.

- **Call identifier: FP7-ENV-2011-ECO-INNOVATION**
- **Date of publication**³³: 20 July 2010
- **Deadline**³⁴: 16 November 2010
- **Indicative budget**³⁵: EUR 50 000 000

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.

- **Topics called:**

Theme/Activity	Topic called	Funding scheme and additional eligibility criteria
ENV.2011.3.1.9-1	Eco-innovation!	<i>Collaborative Project No budget limitation per proposal or upper limit of number of proposals to be funded. Proposals will only be selected for funding on the condition that the estimated EU contribution going to SME(s) is 30% or more of the total estimated EU contribution for the project as a whole. This will be assessed at the end of the negotiation, before signature of the grant agreement. Proposals not fulfilling this criterion will not be funded.</i>
ENV.2011.3.1.9-2	Development of eco-efficiency meso-level indicators for technology assessment	<i>Collaborative Project The requested European Union contribution shall not exceed EUR 2 500 000. A maximum of one project may be funded.</i>
ENV.2011.3.1.9-3	Macro-level Indicators to monitor the environmental impact of innovation	<i>Collaborative Project The requested European Union contribution shall not exceed EUR 2 500 000. A maximum of one project may be funded.</i>
ENV.2011.3.1.9-4	Dynamic e-dissemination systems and platforms for enterprises including SMEs to exploit results for eco-innovation	<i>Coordination and Support Action (Supporting Action). The requested European Union contribution shall not exceed EUR 1 000 000.</i>

³³ The Director General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

³⁴ The Director-General responsible may delay these deadlines by up to two months.

³⁵ Under the condition that the draft budget for 2011 is adopted without modifications by the budgetary authority.

		<i>A maximum of two projects may be funded. Proposals will only be selected for funding on the condition that the estimated EU contribution going to SME(s) is 25% or more of the total estimated EU contribution for the project as a whole. This will be assessed at the end of the negotiation, before signature of the grant agreement. Proposals not fulfilling this criterion will not be funded.</i>
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• **Indicative budget per topic**

Topics	Indicative Budget
ENV.2011.3.1.9-1 Eco-innovation!	EUR 43 000 000
ENV.2011.3.1.9-2 Development of eco-efficiency meso-level indicators for technology assessment	EUR 7 000 000
ENV.2011.3.1.9-3 Macro-level Indicators to monitor the environmental impact of innovation	
ENV.2011.3.1.9-4 Dynamic e-dissemination systems and platforms for enterprises including SMEs to exploit results for eco-innovation	

In case the budget for the topics ENV.2011.3.1.9-2, ENV.2011.3.1.9-3 and ENV.2011.3.1.9-4 cannot be consumed (totally or partially) the remaining budget will be returned to the topic ENV.2011.3.1.9-1.

• **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 all funding schemes, is set out in the Rules for Participation. They are summarised in the table 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 two of which are established in the same MS or AC.
Coordination and support action (supporting action)	At least 1 independent legal entity.

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 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'.

• **Dissemination**

Grant agreements of projects financed under this call for proposals will include the special clause 39 on the "Open access Pilot in FP7". This includes the obligation on beneficiaries to ensure free access to peer-reviewed articles resulting from projects via an institutional or subject-based repository.

TOPIC ENV.2011.3.1.9-1 Eco-innovation!

The eligibility criteria apply to both first and second stage proposals. At stage 1, part B will be used to check the number of eligible participants. At stage 2, part A will be used alone to determine the eligibility conditions.

No budget limitation per proposal or upper limit of number of proposals to be funded.

Proposals related to solutions beyond prototype stage or proposals that have successfully completed the research and development phase and that are ready for first application or market replication are outside the scope of this call and should be addressed to the competitiveness and Innovation Programme (CIP) on eco-innovation.³⁶ Proposals only addressing technology already existing at the scale of prototype are also outside the scope of this call. They could be eligible in the frame of LIFE+ Environment Programme, provided they remain at the scale of a prototype.³⁷

Proposals exclusively targeting energy (including carbon capture and storage) or transport technologies are outside the scope of this call and should be addressed to the relevant Framework Programme Themes.

Evaluation procedure:

Proposals will not be evaluated anonymously. Proposals will be evaluated remotely with the consensus session being held in Brussels. A reserve list of proposals might be established.

- 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 below and complemented by annex 2 to the work programme.
- The evaluation of the topic ENV.2011.3.1.9-1 shall follow a two stages procedure. The first stage proposal, of a maximum of 15 pages (A4 pages; font size 11 points; top, bottom, left right margins: 15mm) should focus on the S&T content and on clear identification of the intended results, their intended use and the expected impact (economic, social, environmental, etc.), and 2 additional pages to describe the consortium and the estimated financial resources involved.. The Commission will instruct the experts to disregard any pages in excess of these limits.

³⁶ <http://ec.europa.eu/ecoinnovation>

³⁷ <http://ec.europa.eu/environment/life/>

- Stage 1 proposals shall be submitted by the closure date mentioned above (16/11/2010 at 17:00.00, Brussels local time).
- For successful first-stage proposals, coordinators will receive an invitation to submit their full proposal instead of an *Evaluation Summary Report*. This full proposal will then be evaluated against the entire set of evaluation criteria. The closure date of the second submission will be specified in the invitation to submit the complete proposal. The indicative closure date for stage 2 is 26/04/2011 at 17:00.00, Brussels local time.
- There will be a specific ranking list for the topic ENV.2011.3.1.9-1. At the Review 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.
- Hearings will not be organised.

Evaluation criteria and thresholds:

Stage 1 proposals for the topic ENV.2011.3.1.9-1 Eco-Innovation! are evaluated on the basis of their **S/T quality** and **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:

STAGE 1	Minimum threshold
S/T quality	4/5
Impact	3/5
Overall threshold	8/10

Only proposals that will pass all thresholds will be invited to present a full proposal for Stage 2.

Stage 2 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:

STAGE 2	Minimum threshold
S/T quality	4/5
Implementation	3/5
Impact	3/5
Overall threshold	11/15

Indicative evaluation and contractual timetable:

Evaluation stage 1 proposals: remote phase in December 2010, consensus phase in January 2011.
 Evaluation stage 2 proposals: remote phase in May 2011, consensus phase in June 2011.
 Evaluation results estimated to be available by mid July 2011.

Consortia agreements:

Participants are required to conclude a consortium agreement.

TOPIC ENV.2011.3.1.9-2 Development of eco-efficiency meso-level indicators for technology assessment

TOPIC ENV.2011.3.1.9-3 Macro-Indicators to monitor the environmental impact of innovation

TOPIC ENV.2011.3.1.9-4 Dynamic e-dissemination systems and platforms for enterprises including SMEs to exploit results for eco-innovation

Evaluation procedure:

Proposals will not be evaluated anonymously. Proposals will be evaluated remotely with the consensus session being held in Brussels.

The evaluation of the topics ENV.2011.3.1.9-2, ENV.2011.3.1.9-3, and ENV.2011.3.1.9-4 shall follow a single stage procedure. Proposals shall be submitted by the closure date mentioned above (16/11/2010 at 17.00.00, Brussels local time) and evaluated against the entire set of evaluation criteria.

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

There will be a ranking list for the topics ENV.2011.3.1.9-2, ENV.2011.3.1.9-3, and ENV.2011.3.1.9-4. At the Review 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.

Hearings will not be organised.

Evaluation criteria and thresholds:

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

Indicative evaluation and contractual timetable:

Remote phase in December 2010, consensus phase in January 2011. Evaluation results estimated to be available by end of February 2011. A reserve list of proposals might be established.

Consortia agreements:

Participants in Collaborative Projects are required to conclude a consortium agreement prior to grant agreement. Participants in Coordination and Support Actions are encouraged, but not required, to conclude a consortium agreement.

- **Call identifier: FP7-ENV-NMP-2011**
- **Date of publication**³⁸: 20 July 2010
- **Deadline**³⁹: 16 November 2010 at 17:00.00, Brussels local time
- **Indicative budget**^{40,41}: EUR 12 000 000 of which: EUR 6 000 000 from Theme 6 – Environment, including Climate Change and EUR 6 000 000 from Theme 4 – NMP (Nanosciences, Nanotechnologies, Materials and New Production Technologies)

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 indicated budget for this 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.

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

Topic called:

THEME/ACTIVITY	TOPIC CALLED	FUNDING SCHEME
ENV.NMP.2011.3.2.1-1	Development of advanced compatible materials and techniques and their application for the protection, conservation and restoration of cultural heritage assets.	<i>SME targeted collaborative projects. The maximum requested European Union contribution per project is EUR 3 000 000.</i>
ENV.NMP.2011.2.2-5		

The topic is evaluated and implemented jointly with Theme 4, Nanosciences, Nanotechnologies, Materials and New Production Technologies (NMP). It is identical to both themes. Hence, each proposal must be submitted only once, either for topic ENV.2011.3.2.1-1, or topic NMP.2011.2.2-5, but not both. When applying for this call, please use only one of the activity codes above.

³⁸ The Director General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

³⁹ The Director-General responsible may delay this deadline by up to two months.

⁴⁰ Under the condition that the draft budget for 2011 is adopted without modifications by the budgetary authority.

⁴¹ 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.

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.

Additional eligibility criteria:

- For this topic, the maximum requested EU contribution per project is EUR 3 000 000.
- SME-targeted Collaborative Projects will only be selected for funding on the condition that the estimated EU contribution going to SME(s) is 35% or more of the total estimated EU contribution allocated to the project as a whole. This will be assessed at the end of the negotiation before signature of the grant agreement. Proposals not fulfilling this criterion will not be funded.

• **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 held in Brussels.
- 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, and if proposals are again still tied, they will be prioritised in order to ensure the best coverage of the topic.
- 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

In order to ensure an efficient implementation and maximum impact of SME-related activities, the following aspects will be evaluated under the criteria "Implementation" and "Impact":

- The level of SME: involvement: although the coordinator does not need to be an SME. The participating SMEs should have a significant role in the project management.
- The project output should be for the benefit of the SMEs and SME-dominated industrial communities.

- **Forms of grants and maximum reimbursement rates**

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

- **Consortia agreements**

Participants are required to conclude a consortium 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'.

Call title: "The ocean of tomorrow"

- **Call identifier: FP7-OCEAN-2011**
- **Date of publication**⁴²: 20 July 2010
- **Deadline:** 18 January 2011 at 17.00.00, Brussels local time⁴³
- **Indicative budget**⁴⁴: EUR 45 million from the 2011 budget of which:
 - EUR 14 million from Theme 2 – Food, Agriculture and Fisheries, and Biotechnology (KBBE)
 - EUR 5 million from Theme 5 – Energy
 - EUR 16 million from Theme 6 – Environment (including climate change)
 - EUR 10 million from Theme 7 – Transport (including Aeronautics)

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

⁴² The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

⁴³ The Director-General responsible may delay this deadline by up to two months.

⁴⁴ Under the condition that the draft budget for 2011 is adopted without modification by the budgetary authority.

Theme / Activity / Area implementing jointly 'The ocean of tomorrow' Location of the call and topics descriptions	Topics called	Funding Scheme
<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>Theme 5 – Energy Area ENERGY.10.1 Call "The ocean of tomorrow" – Joining research forces to meet challenges in ocean management</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>Theme 7 – Transport (including Aeronautics) Activity 7.2.8 Call "The ocean of tomorrow" - Joining research forces to meet challenges in ocean management</p>	OCEAN.2011-1 Multi-use offshore platforms	<i>Collaborative Project</i> <i>Max requested EU contribution per proposal: EUR 14 000 000</i>
	OCEAN.2011-2 Marine microbial diversity – new insights into marine ecosystems functioning and its biotechnological potential	<i>Collaborative Project (large scale integrating project)</i> <i>Max requested EU contribution per proposal: EUR 9 000 000</i>
	OCEAN.2011-3 Assessing and predicting the combined effects of natural and human-made pressures in the Mediterranean and the Black Sea in view of their better governance	<i>Collaborative Project (large scale integrating project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries</i> <i>Max requested EU contribution per proposal: EUR 13 000 000</i>
	OCEAN.2011-4 Knowledge-base and tools for regional networks of MPAs, integrated management of activities together with assessment of wind energy potential in the Mediterranean and the Black Sea	<i>Collaborative Project (large scale integrating project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries</i> <i>Max requested EU contribution per proposal: EUR 9 000 000</i>

• **Eligibility conditions**

- The general eligibility criteria are set out in Annex 2 to 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 criterion applies in this call:
The requested EU contribution shall not exceed the indicative budget for the topic chosen (see table displayed above).
- Standard minimum number of participating legal entities for all funding schemes used in the call, in line with the Rules for Participation:

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

- **For the following topics, additional eligibility criteria apply, over and above the criteria stated above:**

Topics	Particular requirements
OCEAN.2011-3: Assessing and predicting the combined effects of natural and human-made pressures in the Mediterranean and the Black Sea in view of their better governance	SICA - Minimum number of participants: 3 from different Member States or Associated countries and 4 from different ICPC, among which at least 2 from the Mediterranean Partner Countries and at least 2 from the ICPC countries of the EU Black Sea Synergy. ⁴⁵
OCEAN.2011-4: Knowledge-base and tools for regional networks of MPAs, integrated management of activities together with assessment of wind energy potential in the Mediterranean and the Black Sea	

- 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.

⁴⁵ COM (2007) 160: Armenia, Azerbaijan, Georgia, Moldova, Russia, Ukraine

- **Evaluation procedure**

- The evaluation criteria and scoring scheme are set out in Annex 2 to 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 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. The number of proposals that can be funded per topic is limited as follows:

Topic number	Indicative budget per topic	Maximum number of proposals
OCEAN.2011-1	EUR 14 000 000	Up to three projects may be funded.
OCEAN.2011-2	EUR 9 000 000	Up to one project may be funded.
OCEAN.2011-3	EUR 13 000 000	Up to one project may be funded.
OCEAN.2011-4	EUR 9 000 000	Up to one project may be funded.

A reserve list of projects will be established to be used in case the negotiation for entering into a grant agreement fails.

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:

- The multi-disciplinary approach of the research undertaken is essential to address the topic. It will be considered during the evaluation of the criterion related to "S/T quality".

- The multi-sectoral composition of the partnership and the participation of industrial partners and relevant end-users, in particular SMEs, are essential for the implementation of the project. It will be considered during the evaluation of the criterion related to "Implementation".

- **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 2011.

- **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.

- **Flat rates to cover subsistence costs:** In accordance with Annex 3 to 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 call implemented between NMP, ICT, ENERGY, and ENVIRONMENT (including Climate Change)

Call title: "Energy-efficient Buildings" - 2011

- Call identifier: FP7-2011-NMP-ENV-ENERGY-ICT-EeB
- Date of publication⁴⁶: 20 July 2010
- Deadline⁴⁷: 2 December 2010 at 17.00.00 (Brussels local time).
- Indicative budget^{48 49}: EUR 85.5 million from the 2011 budget of which:
 - EUR 40 million from Theme 4 – Nanosciences, Nanotechnologies, Materials & New Production Technologies
 - EUR 20 million from Theme 3 – Information and Communication Technologies (ICT)
 - EUR 20 million from Theme 5 – Energy
 - EUR 5.5 million from Theme 6 – Environment (including Climate Change)
- **Topics called:**

Activity/ Area	Topics called	Funding Schemes	Budget (Million EUR)
NMP – Nanosciences, nanotechnologies, Materials and new Production			
EeB.NMP.2011-1	Materials for new energy efficient building components with reduced embodied energy	<i>Collaborative Projects (Large-scale projects)</i>	39
EeB.NMP.2011-2	New efficient solutions for energy generation, storage and use related to space heating and domestic hot water in existing buildings		
EeB.NMP.2011-3	Energy saving technologies for buildings envelope retrofitting		
EeB.NMP.2011-4	Geo-clusters approach to support European energy-efficiency goals	<i>Coordination and Support Actions (coordinating action)</i>	1 ⁵⁰

⁴⁶ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication

⁴⁷ The Director-General responsible may delay this deadline by up to two months

⁴⁸ 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 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.

⁴⁹ Under the condition that the draft budget for 2011 is adopted without modification by the budgetary authority

Environment (including Climate Change)			
EeB.ENV.2011.3.1.5-1	Technologies for ensuring, monitoring and/or controlling a high quality indoor environment ⁵¹ particularly in relation to energy efficient buildings	<i>Collaborative Projects (small or medium-scale focused research project)</i> ⁵²	5
EeB.ENV.2011.3.1.5-2	Operational guidance for Life Cycle Assessment studies of the Energy Efficient Buildings Initiative	<i>Coordination and Support Actions (supporting action)</i> ⁵³	0,5
Energy			
EeB.ENERGY.2011.8.1-1	Demonstration of very low energy new buildings	<i>Collaborative Projects</i> ⁵⁴	20
ICT – Information and Communication Technologies			
EeB-ICT-2011.6.4	ICT for energy-efficient buildings and spaces of public use - a) targeted outcome	<i>Collaborative Projects (STREP only)</i>	19
EeB-ICT-2011.6.4	ICT for energy-efficient buildings and spaces of public use - b) targeted outcome	<i>Coordination and Support Actions (CSA)</i>	1

- **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.

⁵⁰In the case the budget of 1 million for the topic **EeB.NMP.2011-4** cannot be consumed (totally or partially) the remaining budget will be allocated to the NMP topics in the area of the Energy Efficient Buildings.

⁵¹ A high quality indoor environment should be safe, healthy, comfortable, and accessible, should prevent accidents, and provide positive stimulation to users, and facilitate independent living and/or participation in society.

⁵² Maximum requested EU contribution per project: EUR 2 500 00. Up to two projects can be funded

⁵³ Maximum requested EU contribution per project: EUR 500 00. Up to one proposal can be funded

⁵⁴ Up to 5 projects can be supported

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.

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 Member State or Associated Country, and no 2 of which are established in the same Member State or Associated Country.
- Coordination and Support Actions – **supporting actions**: at least 1 independent legal entity.

- **Additional eligibility criteria**

For the following topics, implemented via large scale integrating projects: the **EU funding requested must be greater than EUR 4 million**:

- **EeB.NMP.2011-1** Materials for new energy efficient building components with reduced embodied energy;
- **EeB.NMP.2011-2** New efficient solutions for energy generation, storage and use related to space heating and domestic hot water in existing buildings;
- **EeB.NMP.2011-3** Energy saving technologies for buildings envelope retrofitting.

For the following topic, implemented via small or medium-scale focused research projects: **EU funding requested must not exceed EUR 2.5 million**:

- **EeB.ENV.2011.3.1.5-1** Technologies for ensuring, monitoring and/or controlling a high quality indoor environment⁵⁵ particularly in relation to energy efficient buildings.

For the following topic, implemented via coordination and support action (supporting action): **EU funding requested must not exceed EUR 0.5 million**:

- **EeB.ENV.2011.3.1.5-2** Operational guidance for Life Cycle Assessment studies of the Energy Efficient Buildings Initiative.

For the ICT topic **EeB-ICT-2011.6.4**, each proposal must indicate the type of funding scheme used - CA or SA for Coordination and Support Actions. See Appendix 2 to the ICT chapter of the Cooperation work programme for further details.

- **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.

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

⁵⁵ A high quality indoor environment should be safe, healthy, comfortable, and accessible, should prevent accidents, and provide positive stimulation to users, and facilitate independent living and/or participation in society.

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

Further information on elements to be taken into account in the evaluation is given under the respective topic descriptions.

See also Annex 2: Eligibility and evaluation criteria for proposals and priority order for proposals with the same score⁵⁶.

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: January 2011. It is expected that the grant agreement negotiations for the shortlisted proposals will start as of March 2011.

- **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.2011.8.1-1** 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).
- The form of grant applied for '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 for the demonstration part of the project.

⁵⁶ 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.

- For the flat rate financing, the unit value of the European Union's financial contribution is fixed to an eligible cost of EUR 100 /m² eligible costs and thus to a European Union contribution of EUR 50 /m².
- The total of the European Union financial contribution based on flat rate financing may not exceed EUR 6 million.
- 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.2011-1, EeB.NMP.2011-2, EeB.NMP.2011-3, EeB.NMP.2011-4, EeB.ENV.2011.3.1.5-1, EeB.ENV.2011.3.1.5-2 and EeB.ENERGY.2011.8.1-1 and in accordance with Annex 3 to 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 call jointly implemented between NMP, ENVIRONMENT (including Climate Change), and TRANSPORT (including Aeronautics)

Call title: Sustainable automotive electrochemical storage

Call identifier: FP7-2011-GC-ELECTROCHEMICAL-STORAGE

Date of publication: 20 July 2010⁵⁷

Deadline: 2 December 2010⁵⁸ at 17.00.00 (Brussels local time).

Indicative budget^{59 60}: EUR 25.5 million from the 2011 budget of which:

- EUR 10 million from Theme 4 – Nanosciences, nanotechnologies, materials and new production technologies (NMP)
- EUR 5.5 million from Theme 6 – Environment (including Climate Change)
- EUR 10 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 **Advanced eco-design and manufacturing processes for batteries and electrical components** is identical in each theme. Hence, each proposal must be submitted only **once** either to topic GC.NMP.2011-1 or to topic GC.ENV.2011-3.1.3-1 or topic GC.SST.2011-7.7, **but not to all**.

Activity/ Area	Topics called	Funding Schemes	Budget Million EUR
GC.NMP.2011-1	Advanced eco-design and manufacturing processes for batteries and electrical components	<i>Collaborative projects (Large-scale projects)</i>	25.5
GC.ENV.2011-3.1.3-1			
GC.SST.2011-7.7			
GC.ENV.2011-3.1.3-2 ⁶¹	- Operational guidance for Life Cycle Assessment studies of the European Green Cars Initiative	<i>Coordination and support action (Supporting action)</i>	

⁵⁷ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

⁵⁸ The Director-General responsible may delay this deadline by up to two months.

⁵⁹ 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.

⁶⁰ Under the condition that the draft budget for 2011 is adopted without modification by the budgetary authority.

⁶¹ Up to one project can be funded

- **Eligibility conditions:**

The general eligibility criteria are set out in Annex 2 to 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

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 Member State or Associated Country, and no 2 of which are established in the same Member State or Associated Country.

- Coordination and Support Actions – **supporting actions**: at least 1 independent legal entity.

- **Additional eligibility criterion:**

For the topic **Advanced eco-design and manufacturing processes for batteries and electrical components**, implemented via large scale collaborative projects: **the EU funding requested must be greater than EUR 4 million.**

For the topic: **Operational guidance for Life Cycle Assessment studies of the European Green Cars Initiative**, implemented via coordination and support action (supporting action): **the EU funding requested must not exceed EUR 500 000.**

- **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

Further information on elements to be taken into account in the evaluation is given under the respective topic descriptions.

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: January 2011. It is expected that the grant agreement negotiations for the shortlisted proposals will start as of March 2011.

- **Consortia agreements**

Consortia agreements are required for Collaborative projects.

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

As a result of the evaluation, a single ranked list of proposals retained for funding will be drawn up as well as a single 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.

- **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'.

IV OTHER ACTIONS⁶²

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 2011 will be up to EUR 3 150 000 of which maximum EUR 1 500 000 for public procurement.

- Study/ies on "Ex-ante assessment of impacts of future EU action on research and innovation for the environment"

The study/ies will assess ex-ante the impacts of alternative strategic agendas and implementation modalities to foster an Innovation Union for the environment, notably through the consolidation of ERA and the promotion of research and innovation for a climate resilient and resource efficient Europe. The study/ies will take stock of past EU activities, identify main problems justifying public intervention, propose different options to overcome them and assess the potential positive and negative impacts of each option on the environment, society and the economy. The procedure is scheduled for the first and second quarter of 2011. The overall commitment appropriations for this public procurement activity will be up to EUR 500 000

Funding scheme: CSA, public procurement

- Follow-up to the report "Gearing European research towards sustainability: RD4SD Exercise" Research policy and sustainable development

In line with the recommendations of the RD4SD report, the following activities will be undertaken in order to measure and optimise the contribution of research to sustainability goals: (i) a critical review of the existing fora where research agenda are designed; (ii) an inventory about existing surveys aiming at measuring the contribution of R&D to sustainability; and (iii) carry out a pilot exercise built on the elaboration of proxy-indicators coupled with qualitative methods, to assess this contribution at the level of the European Research Area. These actions will be subject to a contract following a public procurement procedure by using as appropriate a Framework contract already existing in the European Commission for monitoring and analysing knowledge triangle policies in Europe.

Funding scheme: CSA, public procurement. Budget: EUR 500 000

- 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 related research. The indicative budget for this activity is EUR 300 000.

Funding scheme: CSA, experts appointment

⁶² In accordance with Articles 14, 17 and 27 of Regulation (EU) 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).

- Group(s) of external experts for BONUS (Article 185 activity)
At the end of the strategic phase, the Commission assisted by independent experts should evaluate the progress of the initiative towards the achievement of objectives and deliverables, namely with respect to the establishment of appropriate consultation platforms for active stakeholder involvement, a Strategic Research Agenda and precise Implementation Modalities including legal and financial rules and procedures, provisions governing the intellectual property rights arising from the BONUS 185 activities, human resources and communication aspects. The cost estimates for the strategic phase evaluation is estimated at EUR 50 000 (including expert cost, daily allowances and travel).
Funding scheme: *CSA, experts appointment*

- An annual contribution to the 2011 activities of the GEO Secretariat⁶³
As a full member of GEO the Commission will pay on behalf of the Community a 2011 contribution of EUR 600 000 to the GEO Trust Fund which is the budgetary structure agreed by the GEO members to fund the GEO secretariat (hosted by the World Meteorological Organisation in Geneva, Switzerland).
Funding scheme: *other action*
Expected impact: To ensure the implementation of the GEOSS according to its annual work plan and the continuity of the leadership and participation of Europe in GEO

- A contribution to the preparation of the IPCC 5th Assessment report
The IPCC (Intergovernmental Panel on Climate Change) is the key global climate science – policy interface, underpinning European and international climate policy making and is the leading body responsible for the scientific assessment of climate change. In order to contribute to the best possible preparation for the IPCC 5th Assessment report, the Commission will pay a contribution of EUR 600 000 to the IPCC secretariat (hosted by the World Meteorological Organisation in Geneva, Switzerland). The action aims to increase the participation of European science to the IPCC process and enhance the visibility of the IPCC goals in Europe.
Funding scheme: *CSA (Support action), grant to named beneficiary, EUR 600 000*
Expected Impact: *Increased participation of experts from EU and from developing countries to IPCC meetings in Europe. Higher visibility of the EU within the preparation process of the 5th IPCC Assessment report.*

Independent expertise

The use of appointed experts for the evaluation of project proposals (EUR 2 000 000) and, where appropriate, for the reviewing of running projects (EUR 600 000).

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 2 600 000.

Funding scheme: *CSA, experts appointment*

⁶³ Contribution paid by 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.

V BUDGET

Indicative budget for the Environment (including climate change) Theme for the 2011 work programme

Activities	2011⁶⁴ Budget EUR Million⁶⁵
Calls:	
FP7-ENV-2011	155.00
FP7-ENV-2011-ECO-INNOVATION	50.00
FP7-ENV-NMP-2011	6.00
FP7-OCEAN-2011	16.00
FP7-2011-NMP-ENV-ENERGY-ICT-EeB	5.50
FP7-2011-GC-ELECTROCHEMICAL-STORAGE	5.50
FP7-JPROG-2011-RTD⁶⁶	2.00
Total	240.00
Evaluations (independent expertise)	2.00
General activities (cf. Annex 4)	2.94
Other activities:	
Project reviews (EUR 600 000)	
Monitoring and impact assessment (EUR 1 000 000)	
Groups for external experts (EUR 350 000)	
An annual contribution to the 2011 activities of the GEO secretariat (EUR 600 000)	
Contribution to IPCC (EUR 600 000)	
Total	3.15
Estimated total budget allocation	248.09

⁶⁴ Under the condition that the draft budget for 2011 is adopted without modifications by the budget authority.

⁶⁵ The budget figures given in this table are rounded to two decimal points.

⁶⁶ Call fiche: See Annex 4 of the Cooperation Work Programme.

**Summary of budget allocation to general activities for 2011 in EUR
(cf. Annex 4)**

Activities	2011⁶⁷ Budget EUR
Cordis	454 357 ⁶⁸
Eureka/Research organisations	20 130
COST	2 412 025
Strategy oriented support actions	34 508
Cooperation with non-University Research Performing Organisations	17 254
Experts (evaluators and reviewers)	5 751
Total	2 944 025

All budgetary figures given in this work programme are indicative. The final budgets may vary following the evaluation of proposals.

- The total budget of the call may vary by up to 10% of the total value of the indicated budget from 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.

For actions not implemented through call for proposals:

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

⁶⁷ Under the condition that the draft budget for 2011 is adopted without modifications by the budget authority.

⁶⁸ This amount is reserved is reserved to support the CORDIS activities in 2011. The exact content of the CORDIS activities in 2011 will be specified through an update of Annex 4 to the Cooperation work programme at a later stage.

Indicative Budget Allocation for the FP7-ENV-2011 Call:

Sub-Activity	Indicative budget EUR Million
6.1.1 Pressures on Environment and Climate	37.00
6.1.2 Environment and Health	18.00
6.1.3 Natural Hazards	18.00
6.2.1 Conservation and Sustainable Management of Natural and Man-Made Resources and Biodiversity	41.00
6.2.2 Management of Marine Environments	-
6.3.1 Environmental Technologies	7.00
6.3.2 Cultural Heritage	-
6.3.3 Technology assessment, Verification and Testing	-
6.4.1 Earth Observation	20.00
6.4.2 Sustainable Development	13.00
6.5.1 Dissemination and Horizontal Activities	1.00
Total	155.00