

WORK PROGRAMME 2010

COOPERATION

THEME 5

ENERGY

(European Commission C(2009) 5893 of 29 July 2009)

ANNUAL WORK PROGRAMME 2010

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ANNUAL WORK PROGRAMME

2010 COOPERATION THEME 5: ENERGY

<u>Overall objective for FP7:</u>
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Adapting the current energy system into a more sustainable one, less dependent on imported fuels and based on a diverse mix of energy sources, in particular renewables, energy carriers and non polluting sources; enhancing energy efficiency, including by rationalising use and storage of energy; addressing the pressing challenges of security of supply and climate change, whilst increasing the competitiveness of Europe's industries.

5.1. CONTEXT

Energy is a pervasive issue which concerns everybody's daily life, is of major importance to Europe's economic well being and competitiveness while having a major environmental impact, the least not being on the question of climate change and global warming. Energy research priorities are therefore set up with these concerns in the background

The European Strategic Energy Technology Plan (SET-Plan) aims to contribute to the creation of the European Research Area in the domain of Energy. It has been strongly endorsed by Council and Parliament, both in terms of the proposed approach and the key challenges identified. In the short term, the FP7 Energy Work Programme is the main instrument we have at our disposal to support the implementation of the SET-Plan. The work programme 2010 therefore reinforces the focus on the key challenges of the SET-Plan, in particular anticipating the objectives of the embryonic European Industrial Initiatives and the European Energy Research Alliance.

It foresees in particular the research needed in support of large scale demonstration programmes in the domain of CCS and on electricity grids following the Smart Grids concept. In the renewable energy areas, topics cover activities foreseen within the three Industrial Initiatives: Solar Europe (both concentrated solar and PV), Wind (offshore) and Bioenergy.

The activities of Directorates General (DG) for Transport and Energy (DG TREN) and Research (DG RTD) activities are now closely coordinated for the Energy work programme. In particular where a topic such as development of inter-active distribution networks requires research and demonstration, it is financed by the two Directorate Generals and managed by the most relevant DG.

In addition two topics directly support the implementation of a SET Plan action.

- ENERGY 2010.10.1-3: Support to the European Energy Research Alliance
- ENERGY.2010.10.1-4: Support to the Belgian Presidency Conference on the European Strategic Energy Technology Plan (SET-Plan).

To continue with the objectives of the Framework Programme, bearing in mind that several topics cover both energy efficiency and renewables, two topics are dedicated to energy efficiency:

- ENERGY.2010.8.1-1: Valorisation of low temperature heat

- EeB.ENERGY.2010.8.1-2: Demonstration of Energy Efficiency through Retrofitting of Buildings

Gender Issues

The pursuit of scientific knowledge and its technical application towards society requires the talent, perspectives and insight that can only be assured by increasing diversity in the research workforce. Therefore, all projects are encouraged to have a balanced participation of women and men in their research activities and to raise awareness on combating gender prejudices and stereotypes. When human beings are involved as users, gender differences may exist. These will be addressed as an integral part of the research to ensure the highest level of scientific quality. In addition, specific actions to promote gender equality in research can be financed as part of the proposal, as specified in Appendix 8 of the Negotiation Guidance

SME relevant Research

SME participation in research projects is explicitly encouraged when topics are particularly well suited to such firms. Topics open for proposals indicate whether they are appropriate for the participation of SMEs. This is considered in the evaluation of these topics where preference will be given to proposals with relevant SMEs participation. One topic can be highlighted in this work programme:

- ENERGY.2010.2.1-1: Further development of very thin wafer based c-Si photovoltaics

International cooperation

All activities are open to researchers and research institutions from third countries and strong efforts are made to encourage them to seize this opportunity. Particular attention is paid to support important strategic bilateral agreements and dialogues, as well as multi-lateral co-operation initiatives, such as the Carbon Sequestration Leadership Forum (CSLF). Several topics have been specifically highlighted as being research areas which are particularly well suited for international cooperation and where an agreement has been reached with a specific country. These aspects will be considered specifically during the evaluation of all topics concerned by international cooperation. Such opportunities, described in detail in the relevant sections, include:

- ENERGY.2010.3.5-1: Liquid or gaseous fuel production using direct biological conversion of solar radiation
- ENERGY.2010.5.2-3: CCS – site abandonment
- **Topic Energy.2010.10.1-3 Sub-seabed carbon storage and the marine environment**
- ENERGY.2010.10.2-1: Future Emerging Technologies

Pursuant to the scope of India-EU Science and Technology Cooperation Agreement & reinforcing the international dimension of European research within the European Commission's Seventh Research FP, the 2009 India-EU Call on Solar Energy System will facilitate India-EU project mode partnerships supported by two-way mobility of researchers.

It includes the following topics:

- ENERGY.2010.2.1-2: Development of novel materials, device structures and fabrication methods suitable for thin film solar cells and TCOs including Organic Photovoltaics
- ENERGY.2010.2.1-3: Development of new concentrator modules and field performance evaluation of Concentrated PV system

- ENERGY.2010.2.5-3: Small scale steam engine powered by Linear Fresnel Reflector (LFR) system- Development of prototype

Cross Thematic approaches

Contributing to Europe's recovery means addressing urgently important challenges which necessitate a cross thematic approach.

One of these challenges concern the 'Green Car'. Research needed for hybrid and electric cars should concentrate on new low cost materials 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. A call is organised jointly by the Directorates NMP, Energy, Environment and Transport of DG RTD. The indicative budget of the ENERGY part for the 'Green cars' initiative is EUR 5 million in 2010 out of a total of EUR 25 million.

The Energy work programme 2010 contributes to supporting the Green Car and the building initiative through the following topics:

- GC-ENERGY.2010.10.2-2: Materials, technologies and processes for sustainable automotive electrochemical storage applications
- EeB.ENERGY.2010.8.1-2: Demonstration of Energy Efficiency through Retrofitting of Buildings

Special attention will also be paid to encourage pluri-disciplinarity in marine sciences and technologies. Such cross-thematic approach is be addressed through a call entitled 'The ocean of tomorrow: Joining research forces to meet challenges in ocean management' involving various Cooperation Themes (Theme 2 – Food, Agriculture and Fisheries, and Biotechnologies, Theme 5 - Energy, Theme 6 - Environment including climate change, Theme 7 - Transport and Theme 8 – Socio-economic sciences and Humanities).

The call is implemented through three different topics:

- ENERGY.2010.10.1-1 Quantification of climate change impacts on economic sectors in the Arctic
- ENERGY.2010.10.1-2 Vectors of changes in ocean and seas marine life, impact on economic sectors
- ENERGY.2010.10.1-3 Sub-seabed carbon storage and the marine environment

Future Emerging Technologies for Energy Applications (FET)

In order to reach the ambitious targets fixed by the Energy and Climate package it is essential to encourage a shift from incremental progress towards more radical changes.

The objective is to support research aiming at identifying or further exploring new scientific and technological opportunities in a given field and/or in combination with other relevant areas and disciplines such as materials, as well as to nurture novel ideas and radically new uses. A specific call will take place in 2010 for the following topic:

- Topic ENERGY.2010.10.2-1: Future Emerging Technologies for Energy Applications (FET)

Dissemination actions

In order to strengthen the diffusion and use of the output of research, the dissemination of knowledge and transfer of results, including to policy makers, two topics are proposed to support networking in the domains of wind energy and of renewables for heating and cooling as well as a call for tender for services to organise the valorisation of research results.

This complements actions in the Intelligent Energy-Europe (IEE) Programme component of the Competitiveness and Innovation Programme (CIP) to support innovation and remove non-technological barriers to the widespread market deployment of demonstrated energy technologies.

Theme specific information

Long and medium term research: The general rule for topic design is a problem solving approach where proposals are sought on the basis of overall performance targets. Only in a limited number of cases are proposals sought for specific technologies. As a general rule, evaluation will take place in two steps with first stage proposals evaluated on the basis of their scientific quality and the retained stage 2 proposals against the entire set of evaluation criteria. For those topics where the scientific aspect is less compelling (coordination and support activities) evaluation will take place in a single step.

Demonstration (including short and medium term research): Topics are industrially oriented, with a predominant demonstration component (demonstration projects), and, if necessary, with a small part of integrated research components. Proposals will be evaluated in one step against all the evaluation criteria.

Further details are described in the respective Guide for Applicants for each call.

5.2 CONTENT OF CALLS IN 2010

ACTIVITY ENERGY.1: HYDROGEN AND FUEL CELLS

NOTE: Starting from 2009, the topics in this Activity are defined and selected in the annual implementation plan of the Joint Technology Initiative (JTI) on fuel cells and hydrogen, established on the basis of Article 171 of the Treaty, which has become operational in 2008. The JTI is an industry led public private partnership which will define and manage a strategic, target-oriented research and development programme to support the broad market introduction of fuel cell and hydrogen technologies.

The JTI content covers fundamental, industrial and applied research as well as demonstration and relevant cross-cutting activities. The detailed programme of activities of the JTI is decided by its Governing Board. Therefore, such activities are not covered within this work programme.

ACTIVITY ENERGY.2: RENEWABLE ELECTRICITY GENERATION

Research into, development and demonstration of integrated technologies for electricity production from renewables, suited to different regional conditions where sufficient economic and technical potential can be identified, in order to provide the means to raise substantially the share of renewable electricity production in the EU. Research should increase overall conversion efficiency, cost efficiency, significantly drive down the cost of electricity production from indigenous renewable energy resources including biodegradable fraction of waste, enhance process reliability and further reduce the environmental impact and eliminate existing obstacles.

AREA ENERGY.2.1: PHOTOVOLTAICS

Research will include the development and demonstration of new processes for photovoltaic manufacturing, including the manufacturing of equipment for the PV industry, new photovoltaic-based building elements complying with existing standards and codes and the demonstration of the multiple additional benefits of photovoltaic electricity. Longer term strategies for next-generation photovoltaics (both high-efficiency and low-cost routes) will also be supported.

Topic ENERGY.2010.2.1-1: Further development of very thin wafer based c-Si photovoltaics

Contents/scope: Research will clarify material requirements for the new processing steps involved in production of high efficiency applications on very thin (<100µm) crystalline wafers. The material manufacturing processes will be adapted and the cell technology developed for a major reduction of production costs. The project(s) should address issues related to material requirements and components, device performance and manufacturing of such cells and modules.

Development on high efficiency solar cells on very thin (<100µm) crystalline wafers and of their advanced high-throughput manufacturing, including advanced wafer handling and/or the use of temporary carriers should enable the introduction of very thin cells in production lines. Transfer to pilot production should be envisaged at the end of the project(s).

Funding scheme: Collaborative Project.

Expected impact: About 90% of the current PV production today still uses wafer-based crystalline silicon technology. The mainstream manufacturing approach for c-Si solar cells is to process wafers of about 180µm thick which are then assembled into modules. The availability of Si material of the required quality for high efficiency applications is one of the limitations for further improvement. Although considerable progress has already been made in the manufacturing of c-Si modules, there are still possibilities to further reduce their cost. The project(s) are expected to accelerate the move to higher efficiency solar cells (>20%) and thinner silicon wafers (<100µm, and as thin as ~50µm) and hence reduce material intensity and production costs of c-Si modules.

Additional information: The active participation of relevant industrial partners, in particular SMEs, is essential to maximise impact of the project. This will be considered in the evaluation.

Open in call: FP7-ENERGY-2010-1

Topic ENERGY.2010.2.1-2: Development of novel materials, device structures and fabrication methods suitable for thin film solar cells and TCOs including organic photovoltaics. EU - India Call

Content/scope: The conventional thin film solar cell technologies (Si-based, CdTe, CIGS) have recently made significant progress towards industrial production, and in the same time organic photovoltaics have demonstrated their potential for the future. However further research and development work is needed with the aim to increase the photovoltaic conversion efficiency, enhance the long term performance stability of devices and decrease the production cost of solar modules.

Research and in-depth investigations on innovative materials, inexpensive and low temperature processing routes and alternative device structures should be performed with objective to reduce optical losses and maximise the use of solar spectrum for efficiency enhancement. This later could be achieved by improving elements properties of thin layers and interfaces in thin film solar cells and transparent conductive oxides (TCO) layers. It is also important to develop low cost and large area scalable inexpensive deposition technologies for the development of highly efficient solar cells, which optimise material utilization during processing without sacrificing cell performance.

Funding Scheme: Collaborative Project.

Expected Impact: At the end of the project the new developments in the thin film solar cell materials/devices/processing should result in higher efficiency and stable (as demonstrated by accelerated lifetime testing) devices.

Additional eligibility criterion Proposals which do not include coordination with an Indian project will be considered ineligible. Therefore, the EC proposals must identify and include a detailed explanation of the coordinated Indian proposal submitted in parallel to the Indian Department of Science and Technology (DST).

Additional selection criterion: Proposals will be selected on the condition that their corresponding coordinated Indian project is also selected for funding by the DST.

Additional information: To ensure a project implementation that reflects a genuine EU-India cooperation, priority in evaluation will be given to proposals involving properly coordinated research activities between Europe and India in the research plan of the two coordinated projects.

The active participation of relevant industrial partners and industrial research centres as well as the exchange of researchers between European Indian participants are deemed necessary for achieving the expected impact of the project. This will be considered in the evaluation.

Open in Call: FP7-ENERGY-2010-INDIA

Topic ENERGY.2010.2.1-3: Development of new concentrator modules and field performance evaluation of Concentrated PV systems - EU-India Call

Content/scope: Multi-junction solar cells have achieved over 40% efficiency under concentrated light. PV systems using these high efficiency cells and operating in the high concentration range between 200 – 1000 times are under field evaluation. Further research is needed to improve first the optical efficiency of the systems and the tracking system performance; and second to assess the reliability and efficiency of the module assembly in terms of electrical insulation and, stability and durability of materials. At the end of the project the overall module efficiency should be improved to 30-35 % with the aim to further reduce the cost of electricity generation from Concentrated PV (CPV) systems.

Research and in-depth investigations on primary and secondary optics, efficient heat dissipation techniques and improved and cost effective tracking arrangements should be performed in the project. New materials and new concepts should be explored. In parallel to these development two systems of at least 25 – 50kW capacity each should be designed and installed in an appropriate location in India and in Europe respectively. Module indoor rating as well as system's field performance evaluation and comparison should be carried out. Modelling of the system's technical performance should help the development of good practice techniques for CPV with special attention to the spectral effects and device temperature on the average energy production.

Funding Scheme: Collaborative Project.

Expected Impact: At the end of the project a new module and CPV system should be developed and demonstrate the required reliability according to the current qualification standards. The targeted efficiency should be demonstrated by the system installed in India and Europe. The project should also deliver a manufacturing cost analysis and the generation cost assessment for the 50 kWp systems.

Additional eligibility criterion: Proposals which do not include coordination with an Indian project will be considered ineligible. Therefore, the EC proposals must identify and include a detailed explanation of the coordinated Indian proposal submitted in parallel to Indian Department of Science and Technology (DST).

Additional selection criterion: Proposals will be selected on the condition that their corresponding coordinated Indian project is also selected for funding by the DST.

Additional information: To ensure a project implementation that reflects a genuine EU-India cooperation, priority in evaluation will be given to proposals involving properly coordinated research activities between Europe and India in the research plan of the two coordinated projects.

The active participation of relevant industrial partners and industrial research centres as well as the exchange of researchers between European Indian participants are deemed necessary for achieving the expected impact of the project. This will be considered in the evaluation.

Open in Call: FP7-ENERGY-2010-INDIA

AREA ENERGY.2.2: BIOMASS

In this Area, no topics are open in calls published in this work programme

AREA ENERGY.2.3: WIND

Innovative large scale on and off-shore wind power plants based on improved technologies, more robust, reliable and low-maintenance multi-MW turbines, combined with dependable output forecasting tools as well as with standards and certification schemes should bring wind power to higher levels of market penetration.

Topic ENERGY.2010.2.3-1: Cross-sectoral approach to the development of very large offshore wind turbines

Contents/scope: The project will test at industrial prototype scale the best available concepts, materials and technologies, e.g. fault tolerant systems based on advanced power electronics and ICT sub-systems, in view of the development of off-shore wind turbines in the range of 10MW. This shall also serve the purpose of developing new concepts, materials and technologies for the further up-scaling (> 10MW) of off-shore wind turbines. Projects shall adopt a cross-sectoral approach to take benefit from the diversity of the expertise in offshore developments. The elimination of the major current bottlenecks related to extreme reliability requirements, the effectiveness of remote maintenance, the delivering of stable power into the grid and/or weight/size limitations shall be of central concern.

Funding scheme: Collaborative Project.

Expected impact: Offshore wind energy carries many advantages such as more regular high intensity wind regimes leading to larger electricity production potential from the wind turbines. In addition, some of the constraints related to land-based wind turbines can be relaxed such as noise and visual impacts once the turbines are installed far from the coast. This will allow better use of the huge potential of offshore wind energy with very large and robust wind turbines and will bring down the today high cost of offshore wind power for massive deployment.

Additional information: The active participation of stakeholders involved in harsh environment industrial developments is essential to achieving the full impact of the project. This will be considered in the evaluation.

Open in call: FP7-ENERGY-2010-1

Topic ENERGY.2010.2.3-2: Support to the coordination of stakeholders' activities in the field of wind energy

Content/scope: Major stakeholders in the field of wind energy have established the European Wind Energy Technology Platform (TP Wind) in order to foster cooperation in the sector on R&D activities. As a result of this process, the Strategic Research Agenda (SRA) has been published and the Platform is now moving towards implementation of the key topics defined in the past years, in particular through the European Wind Initiative.

This process, which is expected to have a long lasting impact on the structure and potential of the European wind energy sector to implement the European objectives, should be supported by efficient management/coordination and communication activities.

Management activities will include the organisation of high-level workshops, conferences and meetings amongst European stakeholders, as well as the promotion of projects originating

from the SRA and research and demonstration projects co-funded by the European Commission.

Communication activities will focus on the development and maintenance of IT tools and databases, on the preparation of information leaflets, brochures, reports, newsletters and other relevant documents, as well as on facilitating the flow and exchange of information within TP Wind and with other relevant Technology Platforms and national and international organisations.

In particular, the development of stronger ties with the oil & gas, maritime and strong cooperation with grids sectors shall lead to the development of a shared strategy towards common European energy and climate change policy and energy market challenges (e.g. installation of offshore wind turbine generators; wind-grid integration, etc.).

Funding Scheme: Coordination and Support Action (supporting action).

Expected Impact: A deepening of the cooperation of relevant stakeholders would contribute to:

- i) increase the efficiency and competitiveness of research & demonstration in the field of wind energy;
- ii) help maximise synergies with oil & gas and maritime sectors and prevent unnecessary fragmentation of activities.

Additional information: Up to one project may be funded. For this topic, the maximum EC contribution per project will be EUR 1 000 000 for a period of three years.

Open in call: FP7-ENERGY-2010-2

AREA ENERGY.2.4: GEOTHERMAL

In this Area, no topics are open in calls published in this work programme.

AREA ENERGY.2.5: CONCENTRATED SOLAR POWER

Concentrated solar power (CSP) has much scope for improvements in the optical and thermal efficiency of the solar components, power generation efficiency (including hybridisation with other fuel), and operational reliability.

A large reduction in both capital cost and maintenance cost, together with the improvement of the environmental profile, is necessary to make CSP systems more competitive with conventional electricity sources and other renewables.

Topic ENERGY.2010.2.5-1: Dry-cooling methods for multi-MW sized concentrated solar power plants

Contents/scope: Research and development will address the elimination of cooling water demand for power cycles in multi-MW sized concentrated solar power (CSP) plants. The work should deal with high performance dry cooling methods, while high overall CSP plant energy conversion efficiency and low electricity production cost should be maintained.

The project should include demonstration of the cooling concept on an industrial prototype scale.

Funding scheme: Collaborative Project.

Expected impact The project should bring technologies forward so that Concentrated Solar Thermal Power will have the potential to be one of the major sources of renewable electricity

in the future. This is especially true if one considers the option of using barren desert areas for their massive deployment. It will then be important to be able to operate CSP plants without cooling water consumption while at the same time achieving a high efficiency and price competitiveness.

Additional information: The active participation of relevant industrial partners is essential in order to achieve the maximum impact of the project. This will be considered in the evaluation.

Open in call: FP7-ENERGY-2010-1

Topic ENERGY.2010.2.5-2: Main CSP components for high-temperature operation

Contents/scope: Research and development will address design and material issues of solar receivers, and possible other crucial components, for higher transfer fluid temperature operating conditions, well beyond the 400°C common today. Life-time expectancy of the selected components must also be addressed.

The project should include demonstration of the selected components on an industrial prototype scale.

Funding scheme: Collaborative Project.

Expected impact: The project is expected to contribute to higher temperatures operating cycles, which would be beneficial in order to increase the efficiency and therefore the power level for a given plant size. This would contribute to the reduction of the produced electricity cost and the acceleration of the implementation of CSP technology.

Additional information: The active participation of relevant industrial partners is essential in order to achieve the maximum impact of the project. This will be considered in the evaluation.

Open in call: FP7-ENERGY-2010-1

Topic ENERGY.2010.2.5-3: Small scale steam engine powered by Linear Fresnel Reflector (LFR) system- Development of prototype - EU-India Call

Content/ Scope: Research and development on a decentralised small (< 1MW) solar steam system based on a steam engine and a simple Linear Fresnel Concentrator for decentralized heat and power applications should be performed in the project. Focus is on the development of components for the Linear Fresnel System as well as on a high efficiency small scale steam engine with respect to robustness and, autonomous operation. The research work is needed to develop cost effective mirror/ or reflectors, minimising the shading effects and exploratory use of alternative materials in the LFR system. The project should include a small industrial scale prototype suitable for local Indian conditions.

Funding scheme: Collaborative Project.

Expected impact: An autonomous system for heat and power supply in the MW scale based on robust technology and easy to manufacture would not only decrease the dependency on fuel and grid capacity but would also increase productivity of the Indian industrial sector, making it more independent of grid blackouts.

Additional eligibility criterion: Proposals which do not include coordination with an Indian project will be considered ineligible. Therefore, the EC proposals must identify and include a detailed explanation of the coordinated Indian proposal submitted in parallel to Indian Department of Science and Technology (DST).

Additional selection criterion: Proposals will be selected on the condition that their corresponding coordinated Indian project is also selected for funding by the DST.

Additional Information: To ensure a project implementation that reflects a genuine EU-India cooperation, priority in evaluation will be given to proposals involving properly coordinated research activities between Europe and India in the research plan of the two coordinated projects.

The active participation of relevant industrial partners and industrial research centres as well as the exchange of researchers between European Indian participants are deemed necessary for achieving the expected impact of the project. This will be considered in the evaluation.

Open in Call: FP7-ENERGY-2010-INDIA

AREA ENERGY.2.6: OCEAN

In this Area, no topics are open in calls published in this work programme

See CALL 'THE OCEAN OF TOMORROW' under Area ENERGY 10.1

AREA ENERGY.2.7: HYDRO

In this Area, no topics are open in calls published in this work programme

AREA ENERGY.2.8: INNOVATIVE INTEGRATION OF RENEWABLE ENERGY SUPPLY AND ENERGY EFFICIENCY IN LARGE BUILDINGS AND/OR CONCERTO COMMUNITIES

In this Area, no topics are open in calls published in this work programme

AREA ENERGY.2.9: CROSS-CUTTING ISSUES

Topic ENERGY.2010.2.9-1: Demonstration of innovative multi-purpose solar power plant

Contents/scope: Demonstration of MW-size solar power plant exploiting possible efficiencies, cost reduction, performances improvements coming from innovative combined production of electricity and fresh water. The demonstrator should be located in areas with favourable irradiation conditions and water needs, possibly including Southern Mediterranean Partners Countries.

Funding scheme: Collaborative Project with a predominant demonstration component (the guidelines for demonstration projects as described in the guide for applicants apply)

Expected impact: Demonstration of technological approaches improving the overall economics and increasing the exploitation potential of the solution.

Additional information: The projects shall be in line with overall EU policy priorities (e.g. SET Plan, Renewables Directive); to ensure that the demonstration action is completed in a short-term time horizon, relevant commitments and permits should be already in place when proposal is submitted. Up to two projects may be supported.

Open in call: FP7-ENERGY-2010-2

ACTIVITY ENERGY.3: RENEWABLE FUEL PRODUCTION

Research into, development and demonstration of improved fuel production systems and conversion technologies for the sustainable production and supply chains of solid, liquid and gaseous fuels from biomass (incl. biodegradable fraction of waste). Emphasis should be on

new types of Biofuels in particular for transport and electricity as well as on new production, storage and distribution routes for existing Biofuels, including the integrated production of energy and other added-value products through biorefineries. Aiming to deliver ‘source to user’ carbon benefits, research will focus on improving energy efficiency, enhancing technology integration and use of feedstock.

AREA ENERGY.3.1: FIRST GENERATION BIOFUEL FROM BIOMASS

In this Area, no topics are open in calls published in this work programme

AREA ENERGY.3.2: SECOND GENERATION FUEL FROM BIOMASS

In this Area, no topics are open in calls published in this work programme

AREA ENERGY.3.3: BIOREFINERY

In this Area, no topics are open in calls published in this work programme

AREA ENERGY.3.4: BIOFUELS FROM ENERGY CROPS

The existing conventional crop schemes are far advanced but the entire process chain including planting, harvesting, logistics, and upgrading to a quality feedstock still requires integrated technological improvements to increase productivity and yields. The same is true for novel crops and cropping schemes such as short rotation coppice, Miscanthus and perennial grasses as well as other innovative energy crop schemes (e.g. for anaerobic digestion). Particular attention has to be paid to sustainable feedstock production, feedstock quality according to customer needs, minimised feedstock cost, and the regional/climatic fit of the entire process chain.

Topic ENERGY.2010.3.4-1: Biofuels from algae

Content/scope: Demonstration at industrial scale (minimum farming area 10 ha and productivity in the range of 90 to 120 dry tons/ha.y) of algae and their subsequent use in biofuel production. The proposals shall address the full plant covering photo-bioreactors or open ponds, algae separation, drying of the biomass, oil or other chemicals extraction, and downstream processing for biofuel production. The biofuel production plant does not necessarily have to be integrated on the same location with the algae production plant but the produced algo-oils and/or algo-chemicals have to be used in existing or new built facilities for biofuel production. The quality of the final biofuel shall be checked on the basis of existing CEN standards wherever appropriate and shall be used in fleets to demonstrate their seamless applicability in transport.

Funding scheme: Collaborative Project with a predominant demonstration component (the guidelines for demonstration projects as described in the guide for applicants apply)

Expected impact: Improved sustainability and separation of land-for-food versus land-for-fuel issue across the value chain.

Additional information: The overall sustainability approach will be an important element in the evaluation. Strong weight will be put on industrial leadership of the projects and the demonstration of the full chain from algae cultivation to biofuel production. Projects based on the supply and utilisation of carbon dioxide generated from fossil fuel installations will not be considered eligible for support.

The use of the RSFF (Risk Sharing Finance Facility (Joint Initiative of the European Commission under FP7 and of the European Investment Bank

(<http://www.ec.europa.eu/invest-in-research>; www.eib.org/rsff) would be particularly appropriate for this topic.

Up to three projects demonstrating the production of biofuel from algae shall be supported.

Open in call: FP7-ENERGY-2010-2

AREA ENERGY.3.5: ALTERNATIVE ROUTES TO RENEWABLE FUEL PRODUCTION

The activities will explore alternatives to fuel generation from biomass such as using renewable electricity to produce carbon-neutral hydrogen and solar radiation to fuel generation through thermo-chemical and non-thermal processes. Results are expected to (i) provide in-depth fundamental and technological knowledge as a basis for future development and (ii) bring innovative fuel production processes closer to pilot plant demonstration.

Topic ENERGY.2010.3.5-1: Liquid or gaseous fuel production using direct biological conversion of solar radiation

Contents/scope: Long-term research and development of processes and devices to convert directly solar energy into liquid or gaseous fuel through biological routes. This would involve a number of disciplines (biological, biochemical, biophysics, photochemistry, electrochemistry, etc.) and approaches (molecular and non-molecular, bio mimetic, biological construction) to implement new metabolic pathways in view of producing the fuel directly from solar radiation. The target fuels are high quality oils, alcohols or other substances suitable as liquid or gaseous fuels for transport, excluding hydrogen, methane and electricity. This topic targets novel technologies, where molecules or micro-organisms act as biofuel producers rather than as feedstock for Biofuels. This excludes state-of-the-art technologies for biofuel production (either 1st or 2nd generation).

Funding scheme: Collaborative Project.

Expected impact: The project shall lead the way towards highly efficient processes for direct solar radiation conversion into high quality fuels. It should have a strong positive potential impact on climate change mitigation and on sustainability issues.

Additional information: The participation of top class research groups from US and Japan could maximise the impact of this precompetitive topic. This will be considered in the evaluation.

Open in call: FP7-ENERGY-2010-1

AREA ENERGY.3.6: BIOFUEL USE IN TRANSPORT

In this Area, no topics are open in calls published in this work programme.

AREA ENERGY.3.7: CROSS-CUTTING ISSUES

In this Area, no topics are open in calls published in this work programme.

ACTIVITY ENERGY.4: RENEWABLES FOR HEATING AND COOLING

Research into, development and demonstration of a portfolio of technologies and devices including storage technologies to increase the potential of active and passive heating and cooling from renewable energy sources to contribute to sustainable energy. The aim is to achieve substantial cost reductions, increase efficiencies, further reduce environmental

impacts and optimise the use of technologies in different regional conditions where sufficient economic and technical potential can be identified. Research and demonstration should include new systems and components for industrial applications (incl. thermal sea water desalination), district and/or dedicated space heating and cooling, building integration and energy storage.

AREA ENERGY.4.1: LOW/MEDIUM TEMPERATURE SOLAR THERMAL ENERGY

In this Area, no topics are open in calls published in this work programme.

AREA ENERGY.4.2: BIOMASS

The focus of the biomass area (including the biodegradable fraction of waste) will be on the following topics: i) to improve the performances of small scale biomass boilers/stoves and their exhaust systems in order to achieve very low levels of pollutants emissions at highest efficiencies and low cost; ii) to improve the performances of small-to-medium scale combined heat-and-power plants (CHP) or combined cooling-heat-and-power plants (CCHP) on the base of a wide range of biomass and waste feed-stocks with emphasis on maximised total energy exploitation; iii) to cost-effectively convert existing industrial oil and gas boilers into biomass-fired ones; iv) to produce and use novel solid biomass fuels (e.g. energy crops or mixed pellets based on a variety of organic feedstock such as agricultural or forest based by-products) in existing biomass heating installations, incl. technical adaptation of the heating installations incl. long term demonstration.

Topic ENERGY.2010.4.2-1: Demonstration of a new generation of boilers and stoves

Content/scope: Demonstration of a new generation of highly efficient boilers and stoves, fired with biomass, in the range up to 100 kWth, with ultra-low emission levels of fine particulates and other pollutants.

Funding scheme: Collaborative Project with a predominant demonstration component (the guidelines for demonstration projects as described in the guide for applicants apply)

Expected impact: achieve very low levels of pollutants emissions (and especially fine particulates) at highest efficiencies and low costs of this class of small scale biomass boilers and/or stoves; achieve a very high market share and very high impact on air quality in cities during the heating season.

Additional information: Strong weight will be put on convincing market deployment strategies. The quality of the market deployment plan will be an important element in the evaluation.

The project should foresee a steering group with authorities and other experts with experience in legislation making, in order to ensure that the results can be used for future EU-legislation that introduce significantly stricter maximum levels of emissions in the short term.

Up to three projects will be supported. All projects should demonstrate their commitment to cooperate with other projects under the same topic on all non-technical issues.

Open in call: FP7-ENERGY-2010-2

AREA ENERGY.4.3: GEOTHERMAL ENERGY

In this Area, no topics are open in calls published in this work programme.

AREA ENERGY.4.4: INNOVATIVE INTEGRATION OF RENEWABLE ENERGY SUPPLY AND ENERGY EFFICIENCY IN LARGE BUILDINGS AND/OR CONCERTO COMMUNITIES

In this Area, no topics are open in calls published in this work programme.

AREA ENERGY.4.5: CROSS-CUTTING ISSUES

The focus of cross-cutting issues will be as follows: i) to develop testing procedures, standards and labels for components and modular systems; ii) to develop cost-efficient and reliable combined RES/RES hybrid systems; iii) to demonstrate new compact and cost effective advanced heat or cold storage systems with higher energy density than water and water/glycol mixtures. Medium-to-long term thermal storage systems and enhanced storage systems in combination with solar thermal power are of particular interest; iv) to pursue comprehensive impact assessments of future developments in the renewables for heating and cooling sector; v) to promote and disseminate innovations in the renewables for heating and cooling sector.

Topic ENERGY.2010 4.5-1: Support to the coordination of stakeholders' activities in Renewables for Heating and Cooling

Content/scope: Major stakeholders in the field of renewables for heating & cooling have progressed in the process of setting up the European Technology Platform on Renewable Heating and Cooling. The main goals are:

1. to foster cooperation in the field and to design and implement a strategic research agenda.
2. to ensure an active cooperation in the European energy and climate change policy, with strategy papers, recommendations, positions on Commission proposals on future directives on Renewables, energy performance in buildings, and Energy efficiency.

Management activities will include the organisation of high-level workshops, conferences and meetings amongst European stakeholders as well as the promotion of projects originating from the SRA and research and demonstration projects co-funded by the European Commission.

Communication activities will focus on facilitating the flow and exchange of information within the Technology Platform, with other relevant Technology Platforms, and externally; on development and maintenance of IT tools, as well as on the preparation of information leaflets, brochures, reports and other relevant documents.

In particular, the development of stronger ties with the construction sector for the most efficient integration of RES heating and cooling technologies and concepts in buildings, industry, district heating/cooling on city level, etc. This cooperation with the construction sector shall lead to the development of a shared strategy towards common European energy and climate change policy and energy market challenges.

Funding scheme: Coordination and Support Action (supporting action).

Expected impact: A deepening of the cooperation of relevant stakeholders would contribute to:

- i) help maximise synergies and prevent unnecessary fragmentation of activities;

- ii) increase the efficiency and competitiveness of research & demonstration in the field of Renewables for Heating and Cooling.

Additional information: Up to one project may be funded. For this topic, the maximum EC contribution per project will be EUR 1 000 000 for a period of three years.

Open in call: FP7-ENERGY-2010-2

ACTIVITY ENERGY.5: CO₂ CAPTURE AND STORAGE TECHNOLOGIES FOR ZERO EMISSION POWER GENERATION

Research, development and demonstration of technologies to drastically reduce the adverse environmental impact of fossil fuel use aiming at highly efficient and cost effective power and/ or steam generation plants with near zero emissions, based on CO₂ capture and storage technologies, in particular underground storage.

AREA ENERGY.5.1: CO₂ CAPTURE

Projects in this area should optimise and develop capture techniques for both green field and retrofit power generation applications.

Topic ENERGY.2010.5.1-1: Demonstration of advanced CO₂ capture concepts

Content/scope: There are a number of promising CO₂ capture concepts (chemical looping combustion, post combustion carbonate looping, membrane based systems etc.) being tested in several small laboratory prototype installations. Rapid scaling up involving testing in substantially larger pilots is required, in order to accelerate the development of one or more of these concepts. The project(s) should result in the demonstration of new CO₂ capture concepts - already identified, but not yet validated - at sufficiently large scale pilot plants.

Funding scheme: Collaborative Project.

Expected impact: The project(s) should result in a major step forward in the development of CO₂ capture technologies that have a significantly lower energy penalty and water use.

Open in call: FP7-ENERGY-2010-1

AREA ENERGY.5.2: CO₂ STORAGE

Projects in this area should address the safety of geological CO₂ storage at all timescales, the liability issues, for different kinds of CO₂ storage underground, e.g. saline aquifers, depleted oil or gas fields, enhanced oil or gas recovery, enhanced coal bed methane.

Topic ENERGY.2010.5.2-1: CCS - storage site characterisation

Contents/scope: Identification and characterisation of sites for CO₂ storage proposed to be used in the near term. Building on the results of previous regional capacity assessment studies, the project should perform a full techno-economic site analysis, including a detailed estimation/determination of storage capacity and injectivity, modelling of dynamic reservoir behaviour, and safety aspects including requirements for measurement, monitoring and verification (MMV). The project(s) should include advancing public awareness of CCS in the concerned storage areas.

The project(s) will support the implementation of the European Industrial Initiative on CCS mentioned in the SET Plan, and should be placed in the context of the requirements on site characterisation and risk assessment pursuant to the proposed Directive on the geological storage of carbon dioxide.

Funding scheme: Collaborative Project.

Expected impact: The project(s) should facilitate and support the large scale demonstration of CCS in the EU.

Open in call: FP7-ENERGY-2010-1

Topic ENERGY.2010.5.2-2: Trans-national cooperation and networking in the field of geological storage of CO₂

Contents/scope: This network should build a credible and independent and representative body of expertise in the field of geological storage of CO₂ through the lasting and durable networking of research capacity in all relevant EU Member States and Associated Countries. The network will focus on identifying and sharing good practices and on coordination and structuring of knowledge transfer and information dissemination in the field of geological storage of CO₂. The consortium should become independent from EC funding after the end of the project, for example through the formation of an Association. The project(s) will support the implementation of the European Industrial Initiative on CCS mentioned in the SET Plan. As such, it shall liaise - and coordinate its activities - with other stakeholders including the ZEP Technology Platform; it should also build on the results from other CCS networks in Europe.

Funding scheme: Coordination and Support Action (Coordinating Action).

Expected impact: Facilitate the large scale demonstration and deployment of CCS, and support the implementation of the Directive on geological storage of carbon dioxide in all relevant EU Member States and Associated Countries.

Open in call: FP7-ENERGY-2010-1

Topic ENERGY.2010.5.2-3: CCS – site abandonment.

Contents/scope: Closing a CO₂ storage site requires an assessment of issues such as plugging techniques and materials and casing/wellhead integrity. Proposals should address risk analysis, monitoring and propose methods and protocols for remediation in case of accidental leakage of CO₂ from the site.

The project(s) should be placed in the context of the closure and post-closure requirements pursuant to the proposed Directive on the geological storage of carbon dioxide. It will develop and propose tested site-abandonment methodologies and best practices which will assist operators and authorities in meeting closure and post-closure obligations.

Funding scheme: Collaborative Project.

Expected impact: A harmonised approach to the safe abandonment of CO₂ storage sites will facilitate and support the large scale demonstration of CCS.

Additional information: The active participation of relevant partners from the Carbon Sequestration Leadership Forum, in particular the U.S., could add to the scientific and/or technological excellence of the project(s) and/or lead to an increased impact of the research to be undertaken. This will be considered in the evaluation.

Open in call: FP7-ENERGY-2010-1

See also CALL 'THE OCEAN OF TOMORROW' under Area ENERGY 10.1

ACTIVITY ENERGY.6: CLEAN COAL TECHNOLOGIES

Research, development and demonstration of technologies to substantially improve efficiency, reliability and cost of coal (and other solid hydrocarbons) fired power plants. This can also include the production of secondary energy carriers (including hydrogen) and liquid or gaseous fuels. 'Clean coal' in this context really means a sustainable solid hydrocarbon value chain with a focus on efficient and clean coal utilization, i.e. coal use aiming at zero or significantly reduced emissions by means of enhanced plant efficiency and CO₂ capture and storage.

AREA ENERGY.6.1: CONVERSION TECHNOLOGIES FOR ZERO EMISSION POWER GENERATION

Topic ENERGY.2010.6.1-1: Efficiency Improvement of Oxygen-based combustion

Content/scope: Further research and demonstration work is needed on oxygen based combustion technologies with a view on the CO₂ capture process in order to make this technology available for large scale power plants. It is envisaged that a project under this topic will test, demonstrate and further develop technologies in a medium sized test environment. Scalability of the results to large scale power plants has to be in the focus of the activities.

Funding scheme: Collaborative Project.

Expected impact: Oxygen-based combustion technologies can play an important role for CCS. Projects under this topic shall further develop these technologies and test them in medium scale demonstration plants and thereby pave the way for their use in industrial scale power plants.

Open in call: FP7-ENERGY-2010-2

AREA ENERGY.6.2: COAL-BASED POLY-GENERATION

In this Area, no topics are open in calls published in this work programme.

CROSS-CUTTING ACTIONS BETWEEN ACTIVITIES ENERGY.5 AND ENERGY.6 (Activity ENERGY.5&6)

This section includes areas and topics that are cross cutting between 'CO₂ capture and storage for zero emission power generation' and 'clean coal technologies', which in many ways are complementary activities.

AREA ENERGY.5&6.1: POWER GENERATION TECHNOLOGIES FOR INTEGRATED ZERO EMISSION SOLUTIONS

In this Area, no topics are open in calls published in this work programme.

AREA ENERGY.5&6.2: CROSS CUTTING AND REGULATORY ISSUES

Projects in this area should address economic, social, environmental and infrastructural development issues essential to the large scale commercial deployment of CCS technologies and/or the deployment of technologies to reduce GHG emissions in the coal sector.

Topic ENERGY.2010.5&6.2-1: Extending the value chain for GHG emissions

Content/scope: Uncontrolled release of natural greenhouse gases such as methane from coal deposits and other methane containing sources to the atmosphere represents a potentially important threat to the fight against climate change. Such specific natural sources of methane can represent important hydrocarbon resources. Research and demonstration work is needed to develop strategies and technologies to extract methane in a controlled way from coal mines and to verify the possibility of sustainable commercial exploitation for energy usage of these resources. Work under this topic can address new methods of extracting methane from coal mines (e.g. through enhanced methane recovery through CO₂ injection) or can address the use and adjustment of already known extraction technologies in emerging economies.

Funding scheme: Collaborative Project.

Expected impact: The development of a viable strategy to recover methane from coal mines and use it as an energy source shall reduce the danger of release of methane to the atmosphere and to a better use of indigenous energy sources.

Additional information: The active participation of partners from emerging economies and the demonstration of the technologies in these countries would be highly beneficial and will likely increase the impact of the project. This will be considered in the evaluation.

Open in call: FP7-ENERGY-2010-2

ACTIVITY ENERGY.7: SMART ENERGY NETWORKS

To facilitate the transition to a more sustainable energy system, a wide-ranging R&D effort is required to increase the efficiency, flexibility, safety, reliability and quality of the European electricity and gas systems and networks notably within the context of a more integrated European energy market.

AREA ENERGY.7.1: DEVELOPMENT OF INTER-ACTIVE DISTRIBUTION ENERGY NETWORKS

To fully exploit the potential advantages of renewable energies, distributed generation and demand response techniques it is necessary to re-think the basic philosophy governing the electricity distribution systems. Distributed generation sources must be fully integrated into the distribution system. At the same time, full use must be made of the customers' demand flexibilities, and appropriate economic signals, such as real time pricing, must be developed to exploit these flexibilities. The future active network will efficiently link small and medium scale power sources with consumer demands. Power flow assessment, voltage control, protection and intelligent metering solutions require cost-competitive technologies and new communication systems with more sensors and actuators than presently seen in the distribution systems.

Topic ENERGY.2010.7.1-1: Large-scale demonstration of smart electricity distribution networks with distributed generation and active customer participation.

Contents/scope: Full-scale demonstration of concepts for active distribution networks enabling the integration of increased numbers of small and medium-size distributed energy resources. These may include small- and medium-scale photovoltaic, wind, combined heat and power, heat pumps and direct or indirect storage. The demonstration concepts should anticipate potential future developments such as a roll-out of electric vehicles. The work should exploit all options for the balancing of variable energy sources, including better prediction, demand response, and storage. Projects should integrate subsystems from more than one supplier and clearly address architectures and interfaces, as a preparation of standardisation activities.

Each successful project should test a specific concept at a single demonstration site under realistic conditions, e.g. with several thousand users and include a variety of profiles including residential, commercial and small industrial, resulting in a clear assessment of the options considered.

Each project should commit to collaborate with the other projects to share assessment methods and demonstration results, and to jointly plan extrapolation of their findings in different European contexts and geographical areas. While the implementation of the demonstration is expected to require a majority of the resources sizable research efforts are expected to be included. They should be driven by demonstration needs and be fully embedded in the projects.

Funding scheme: Collaborative Project with a predominant demonstration component (the guidelines for demonstration projects as described in the guide for applicants apply).

Expected impact: A clear path for integration of large shares of renewable and distributed energy sources in electricity distribution networks and for the active participation of all end-users in energy markets. Setting the stage for standardisation of architectures and interfaces should accelerate the penetration for those new sources of electricity.

Additional Information: Up to three projects may be funded.

Projects should rely on low-carbon energy resources (photovoltaic, wind and CHP installations) or electric vehicles (if available) that are either already in place or planned to be deployed in parallel with the projects. Any specific research and demonstration costs for the deployment of these resources will not be covered under the present topic.

Significant and committed Distribution Systems Operators (DSO) participation is essential to maximising the impact of the project. This will be considered in the evaluation.

The use of the RSFF programme (risk sharing between the European community and the European Investment Bank (<http://www.ec.europa.eu/invest-in-research>; www.eib.org/rsff) would be particularly appropriate to this topic.

Open in call: FP7-ENERGY-2010-2

AREA ENERGY.7.2: PAN-EUROPEAN ENERGY NETWORKS

In this Area, no topics are open in calls published in this work programme.

AREA ENERGY 7.3: CROSS CUTTING ISSUES AND TECHNOLOGIES

This activity will cover enabling and emerging technologies and cross-cutting issues, of a technical and non-technical nature, required to support the development of the Smart Energy Networks. It will also address activities of support to the coordination of non-community research programmes.

Topic ENERGY.2010.7.3-1: Energy storage systems for power distribution networks.

Contents/scope: This topic aims at technology development of energy storage systems for stationary applications in the power range of several tens of kW to 1 MW, and larger. The work should include innovative components and their integration for cost-effective energy storage systems. The characteristics should target energy storage systems applications supporting the integration of variable renewable electricity energy sources such as wind, wave power and photovoltaics.

Funding scheme: Collaborative Project.

Expected impact: The research and development of cost-effective energy storage systems, based on different technologies, should contribute to increasing the hosting capacity of future electricity distribution networks for variable distributed energy resources and to the reliability, efficiency, security and reduced environmental impact of these networks.

Open in call: FP7-ENERGY-2010-1

ACTIVITY ENERGY.8: ENERGY EFFICIENCY AND SAVINGS

The vast potential for final and primary energy consumption savings and improvements in energy efficiency need to be harnessed through the research into, optimisation, validation and demonstration of new concepts, optimisation of proved and new concepts and technologies for buildings, transport, services, and industry. Large-scale actions may be supported by innovative R&D addressing specific components or technologies. A key aim is the optimisation of the local community energy system, balancing a significant reduction in energy demand with the most affordable and sustainable supply solution, including the use of new fuels in dedicated fleets.

AREA ENERGY.8.1: EFFICIENT ENERGY USE IN THE MANUFACTURING INDUSTRY AND BUILDING SECTOR

The manufacturing industry is consuming large quantities (percentage of primary energy) of energy - electricity, heat, cold, fuels - for the production of industrial and consumer goods; any increase in energy efficiency in the manufacturing processes would deliver significant benefits on security of energy supply as well as reduction of green house gases emissions while reducing the cost of the manufactured goods.

Topic ENERGY.2010.8.1-1: Valorisation of low temperature heat

Contents/scope: Innovative systems, methods and/or equipment for use of low temperature heat (<120°C) for power generation and/or cooling. The whole cycle from heat production to cooling or power delivery should be addressed and a wide range of applications should be considered, including industrial and residential applications. Several types of heat sources should be considered ranging from CHP plants to industrial waste heat. New concepts, technologies, equipment and materials should be developed.

Funding scheme: Collaborative Project

Expected impact: Better and more efficient use of low temperature heat, available from various sources such as industrial processes, CHP-plants and even households would lead potentially to large energy savings. The projects are expected to bring forward new technologies and concepts with large European-wide applicability.

Open in call: FP7-ENERGY-2010-1

Topic EeB.ENERGY.2010.8.1-2: Demonstration of Energy Efficiency through Retrofitting of Buildings

Content/scope:

Demonstrate in the building sector, high energy efficient innovative **retrofitting** technologies and measures for low energy performing buildings, the typology of which is representative for large geographical areas in Europe.

The project(s) shall use innovation in technology, design, planning, operation or systems integration with a strong preference for residential buildings and address socio economic issues.

While the project(s) could contain a single building or a number of buildings, located in one or more countries, effort and budget should be balanced amongst participants from at least three Member States/Associated Countries.

Retrofitting should be as cost effective as possible. The return to investment for the energy saving measures should be calculated and presented and should be reasonable under current market standards.

Detailed information should be provided on the building(s) existing envelope and its current energy use and the energy efficiency measures to be applied should also be described extensively. The gross floor area of the building(s) should be specified together with the targeted annual energy use per m² (kWh/m²/year, broken down by space heating, cooling, domestic hot water heating, lighting, etc)

In addition to the technical measures to be undertaken, additional accompanying measures affecting the future operation of the building (e.g. behavioural changes, post occupancy evaluation) should also be clearly addressed.

The energy use should achieve at least the national limit values for new buildings according to the applicable legislation based on the Energy Performance of Buildings Directive (for 2010).

A holistic approach is expected in the measures to be taken and all elements and systems of the building that could contribute to its becoming more energy efficient should be envisaged. The space heat use (kWh/m²/year) should be reduced by about 75%.

The project(s) should have a high potential of replication contributing to large scale market deployment before 2020; a dissemination and market deployment programme should be included in the proposal. The detailed metering/monitoring programme should last at least for one year, however, longer term commitment and programmes of the building operators (e.g. in continuous monitoring and/or guarantees of performance to the tenants) would give an added value to the proposal.

Funding scheme: Collaborative Project.

Expected impact:

- Large scale market deployment in retrofitting of buildings before 2020
- Accelerate the retrofitting uptake of low efficient building stock.
- Offer cost effective highly energy efficient retrofitting practices.
- Accelerate the market uptake of the most innovative ICT tools for efficient buildings management
- Create best practice examples for the construction sector based on innovation and competitiveness, with benefits for the citizens and the environment.
- Contribute to raise the performance standards and regulations on European, national and local level, in the construction industry and building sector, through the best practice examples.

Additional information:

- In addition to the detailed description of the buildings and the measures to be taken, it is strongly suggested for participants to complete and include in the proposals the Building Energy Specification Tables (BEST) summarising this information for every type of building proposed. The template for the BEST table can be downloaded from the following web address:
ftp://ftp.cordis.europa.eu/pub/fp7/docs/wp/cooperation/energy/e_best_2010_en.xls
- 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 in area 8.1.2. 'Energy efficiency in Buildings' is based on additional energy efficiency measures in buildings. The grant will be composed of a combination of:
 - the typical reimbursement of eligible costs, and
 - flat rate financing determined on the basis of scale of unit costs only for the demonstration part of the buildings.

- The scale of unit cost of Community financial contribution is fixed to EUR 100 /m² eligible costs and thus EUR 50 /m² Community contribution.
 - The eligible cost per building used in the projects are fixed costs.
 - The total of Community financial contribution based on scale of unit costs may not exceed EUR 6 million for one demonstration site.
 - The evaluation of the proposals will also take into account the degree of excellence and innovation of the technology used and the most cost effective practices (euros/efficiency gain; euros/CO₂ reduction, kWh/m²/year saved). For this reason, the above figures should be indicated in the proposal.
 - Up to four (4) projects will be supported.
- ***Open in call:*** FP7-2010-NMP-ENV-ENERGY-ICT-EeB

AREA ENERGY.8.2: HIGH EFFICIENCY POLY-GENERATION

In this Area, no topics are open in calls published in this work programme.

AREA ENERGY.8.3: LARGE-SCALE INTEGRATION OF RENEWABLE ENERGY SUPPLY AND ENERGY EFFICIENCY IN BUILDINGS: ECO-BUILDINGS

In this Area, no topics are open in calls published in this work programme.

AREA ENERGY.8.4: INNOVATIVE INTEGRATION OF RENEWABLE ENERGY SUPPLY AND ENERGY EFFICIENCY IN LARGE COMMUNITIES: CONCERTO

In this Area, no topics are open in calls published in this work programme.

AREA ENERGY.8.5: INNOVATIVE STRATEGIES FOR CLEAN URBAN TRANSPORT: CIVITAS-PLUS

In this Area, no topics are open in calls published in this work programme.

AREA ENERGY.8.6: SOCIO-ECONOMIC RESEARCH AND INNOVATION

Tenders for Socio-economic research are described in section 5.4 OTHER ACTIONS

AREA ENERGY.8.7: THEMATIC PROMOTION AND DISSEMINATION

In this Area, no topics are open in calls published in this work programme.

ACTIVITY ENERGY.9: KNOWLEDGE FOR ENERGY POLICY MAKING

Development of tools, methods and models to assess the main economic and social issues related to energy technologies. Activities will include the building of databases and scenarios for an enlarged EU and the assessment of the impact of energy and energy-related policies on security of supply, environment, society, competitiveness of the energy industry and issues of public acceptability. Of particular importance is the impact of technological progress on Community policies. Activities will include scientific support for policy development.

AREA ENERGY.9.1: KNOWLEDGE TOOLS FOR ENERGY-RELATED POLICY MAKING

In this Area, no topics are open in calls published in this work programme.

AREA ENERGY.9.2: SCIENTIFIC SUPPORT TO POLICY

In this Area, no topics are open in calls published in this work programme.

ACTIVITY ENERGY.10: HORIZONTAL PROGRAMME ACTIONS

The topics described in the section have a horizontal character not linked specifically to any particular technology.

AREA ENERGY.10.1 CALL "THE OCEAN OF TOMORROW" - JOINING RESEARCH FORCES TO MEET CHALLENGES IN OCEAN MANAGEMENT

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

The European Union has taken up this challenge and established a new integrated maritime policy, of which the 'European Strategy for Marine and Maritime research'¹ is a fundamental part. The strategy highlights the importance of integration between established marine and maritime research disciplines in order to reinforce excellence in science and to reconcile the growth of sea-based activities with environmental sustainability as highlighted in the European Marine Framework Directive 2008/56/C. In particular, the Commission announced the launch of a joint call under FP7 on major research topics requiring a cross-thematic approach.

The aim of the call 'The ocean of tomorrow: Joining research forces to meet challenges in ocean management' is to improve our understanding and the predictive capacity concerning how marine ecosystems respond to a combination of natural and anthropogenic factors. Also how rapid environmental changes will affect the full range of goods and services provided by the oceans and the development measures that could be developed to mitigate or adapt to these changes. Research addressed in the call will be of cross-thematic nature, integrating in a

¹ Com (2008) 534 final, 3.9.2008 - Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: A European Strategy for Marine and Maritime Research : A coherent European Research Area framework in support of a sustainable use of oceans and seas

coherent way marine and maritime research domains in order to reach an impact that a single Theme of the Cooperation programme could not attain on its own.

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

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

Topic OCEAN.2010 -1: Quantification of climate change impacts on economic sectors in the Arctic

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

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

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

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

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

Expected Impacts:

- Providing a foundation for the sustainable development of human activities, with a minimal impact on the sensitive Arctic environment (e.g. noise affecting marine mammals, fisheries, shipping, accident risk and consequence, soot, pollution,);
- Quantifying climate change impacts at macro and meso-economic levels and in key economic sectors in the Arctic, using an integrated and trans-sectoral approach;
- Understanding the economic and social impact of climate changes in the Arctic region, and assess the risks and opportunities in relation to climate change;

Providing a scientific foundation to support governance, geopolitics, ecosystem conservation, and socio-economic issues necessary for sustainability in relation to the expected increase in human activities in the Arctic region including with a forward-looking perspective an assessment of the state and evolution of the Arctic environment in relation to economic activities to contribute to formulation of appropriate EU policies

Open in call: FP7-OCEAN-2010

Topic OCEAN.2010-2 Vectors of changes in ocean and seas marine life, impact on economic sectors

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

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

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

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

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

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

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

Expected impact:

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

Open in call: FP7-OCEAN-2010

Topic OCEAN.2010-3 Sub-seabed carbon storage and the marine environment

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

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

account of general site characteristics such as storage type, water depth, etc... Public perception of sub-seabed carbon storage should also be assessed.

The project shall take account of knowledge accumulated in ongoing CO₂ storage experiments in Europe. The participation of industrial partners operating - or planning to operate – sub-seabed CO₂ storage sites is crucial to the implementation of the project. Because sub-seabed carbon storage is a global issue, the participation of one or several partners (funded under their national budget) from either Japan, Australia or the US would maximise the impact of the project. This will be considered in the evaluation. A multi-disciplinary approach and a multi-sectoral partnership are considered essential to achieving the expected impacts.

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

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

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

Expected impacts:

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

Open in call: FP7-OCEAN-2010

AREA ENERGY 10.2 Other Horizontal actions

Topic ENERGY.2010.10.2-1: Future Emerging Technologies for Energy Applications (FET)

Technical content/scope: The development of energy technologies is often impeded by bottlenecks which require the development and application of basic science and cross-cutting technologies. Also, real breakthroughs in the energy sector come quite often from progress in basic materials science that underpins energy technologies due to the radical upgrade in the properties of the materials. This topic aims at ensuring a genuine chance for 'emerging ideas' to be funded. It is to provide rewards for '*high risk / high impact*' science and to vigorously promote multi-disciplinarity. Research should embrace a wide spectrum of novel technologies and novel materials for energy applications should have tangible objectives beyond 'Increased Understanding' and be ahead of conventional approaches, be highly novel, very ambitious, with an orientation towards long-term innovation. Projects should try reaching a clearly

defined scientific goal and/or proof of concept of a new basic technology, which in either case has the potential to open up new fields of enquire and lies well beyond what is considered state of the art at international level. Research that constitutes a technology demonstration or a combination of existing technologies or finally any research directed towards hypothetical phenomena, with no plausible or convincing evidence as to their real or potential existence is not within the scope of this topic.

Funding scheme: Collaborative Project.

Additional Information: This is a pre-competitive topic where cooperation with top class research groups from Third Countries can boost the impact of the project. Projects will involve effective partnership, from different scientific disciplines and/or different technological sectors, in order to work across traditional boundaries. They should demonstrate effective management and research flexibility. This will be considered in the evaluation.

Project under this call may request an EC contribution of maximum EUR 3 Million. This is an eligibility criterion.

Expected impact: To explore new paths leading to highly innovative novel technologies for energy applications and to contribute to the establishment of a strong scientific and technical base for European science and technology in emerging areas of energy research. The potential impact on the energy system has to be clearly demonstrated, already in the first stage proposal.

Open in call: FP7-ENERGY-2010-FET

Topic GC-ENERGY 2010.10.2-2: Materials, technologies and processes for sustainable automotive electrochemical storage applications

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

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

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

The environmental sustainability of each developed solution shall be assessed via life cycle assessment studies carried out according to the International Reference Life Cycle Data System (ILCD) Handbook².

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

² http://lca.jrc.ec.europa.eu/EPLCA/Deliverables/ILCD_handbook.htm

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

At the same level of quality resulting from the evaluation by independent experts, priority for funding should be given to proposals that allow covering of this topic as completely as possible.

Work on fuel cells is excluded since it is already covered in the related JTI, but synergies of specific storage chemistries and architectures with fuel cell vehicle applications showing performance beyond the call targets can be covered.

Funding scheme: Collaborative Project.

Expected impact: Establishing the basis for a world level European automotive battery and electrochemical capacitors industry, with significant contributions to lead the market in the area of recycling³. Fostering the constitution of interdisciplinary consortia. The expected impact has to be credibly motivated in terms of performance, cost, recyclability and life-cycle sustainability. Quantitative targets for lithium-based energy storage technologies include cost reduction down to a system level target value⁴ of maximum 150€/kWh for mass production and improvement of safety and energy density up to at least 200 Wh/kg. For electrochemical capacitors the corresponding targets are respectively a cost reduction down to a maximum of 10€/kW and a specific power of at least 25kW/kg with an energy density of at least 10 Wh/kg. Advanced chemistries batteries should target energy densities of at least 300 Wh/kg.

Open in Call: FP7-2010-GC-ELECTROCHEMICAL-STORAGE

³ A Lead Market Initiative for Europe, <http://ec.europa.eu/enterprise/leadmarket/recycling.htm>.

⁴ All targets are at end of life, cell level for mass produced elements unless otherwise specified.

5.3 IMPLEMENTATION OF CALLS

Call title: Energy Call Part 1

- **Call identifier:** FP7-ENERGY-2010-1
- **Date of publication:** 30th July 2009 ⁵
- **Deadline:** 15th October 2009 at 17.00.00, (Brussels local time)⁶
- **Indicative budget ⁷:** EUR 54 million from the 2010 budget⁸

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

- by up to 10% of the total value of the indicated budget for this call; and
- the repartition of the sub-budgets awarded within this call, following the evaluation of projects, may also vary by up to 10% of the total value of the indicated budget.

- **Indicative Budget**

	Indicative budget ⁹
ENERGY.2: RENEWABLE ELECTRICITY GENERATION ENERGY.3: RENEWABLE FUEL PRODUCTION ENERGY.8: ENERGY EFFICIENCY AND SAVINGS	EUR 35 million
ENERGY.5: CO ₂ CAPTURE AND STORAGE TECHNOLOGIES FOR ZERO EMISSION POWER GENERATION ENERGY.7: SMART ENERGY NETWORKS	EUR 19 million

- **Topics called:**

Activity/ Area	Topics called	Funding Schemes
ACTIVITY ENERGY.2: RENEWABLE ELECTRICITY GENERATION		
AREA ENERGY.2.1: PHOTOVOLTAICS	ENERGY.2010.2.1-1: Further development of very thin wafer based c-Si photovoltaics	Collaborative Project

⁵ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

⁶ The Director-General responsible may delay this deadline by up to two months.

⁷ A reserve list will be constituted if there are a sufficient number of good quality proposals. It will be used if extra budget becomes available.

⁸ Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority.

⁹ A reserve list will be constituted if there are a sufficient number of good quality proposals. It will be used if extra budget becomes available.

AREA ENERGY.2.3: WIND	ENERGY.2010.2.3-1: Cross-sectoral approach to the development of very large offshore wind turbines	Collaborative Project
AREA ENERGY.2.5: CONCENTRATED SOLAR POWER	ENERGY.2010.2.5-1: Dry-cooling methods for multi-MW sized concentrated solar power plants	Collaborative Project
	ENERGY.2010.2.5-2: Main CSP components for high-temperature operation	Collaborative Project
ACTIVITY ENERGY.3: RENEWABLE FUEL PRODUCTION		
AREA ENERGY.3.5: ALTERNATIVE ROUTES TO RENEWABLE FUEL PRODUCTION	ENERGY.2010.3.5-1: Liquid or gaseous fuel production using direct biological conversion of solar radiation	Collaborative Project
ACTIVITY ENERGY.5: CO₂ CAPTURE AND STORAGE TECHNOLOGIES FOR ZERO EMISSION POWER GENERATION		
AREA ENERGY.5.1 CO₂ CAPTURE	ENERGY.2010.5.1-1: Demonstration of advanced CO ₂ capture concepts	Collaborative Project
AREA ENERGY.5.2: CO₂ STORAGE	ENERGY.2010.5.2-1: CCS - storage site characterisation	Collaborative Project
	ENERGY.2010.5.2-2: Trans-national cooperation and networking in the field of geological storage of CO ₂	Coordination and Support Action (coordinating action).
	ENERGY.2010.5.2-3: CCS – site abandonment.	Collaborative Project
ACTIVITY ENERGY.7: SMART ENERGY NETWORKS		
AREA ENERGY 7.3: CROSS CUTTING ISSUES AND TECHNOLOGIES	ENERGY.2010.7.3-1: Energy storage systems for power distribution networks.	Collaborative Project
ACTIVITY ENERGY.8: ENERGY EFFICIENCY AND SAVINGS		
AREA ENERGY.8.1: EFFICIENT ENERGY USE IN THE MANUFACTURING INDUSTRY AND BUILDING SECTOR	ENERGY.2010.8.1-1: Valorisation of low temperature heat	Collaborative Project

- **Eligibility conditions**

- The eligibility criteria for this call are set out in Annex 2 to the 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 below¹⁰:

¹⁰ MS = Member States of the EU; AC = Associated country. Where the minimum conditions for an indirect action are satisfied by a number of legal entities, which together form one legal entity, the latter may be the sole participant, provided that it is established in a Member State or Associated country.

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 (coordinating action)	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.

- The eligibility criteria apply to both first and second stage proposals.

At stage 2, only information provided in part A of the proposal will be used to determine whether the proposal is eligible with respect to budget thresholds and/or minimum number of eligible participants.

• **Evaluation procedure:**

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

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

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

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

- A two stage submission and evaluation procedure will be used.

Evaluation criteria and thresholds for stage 1 proposals:

The first stage proposal should focus on the S&T content and on clear identification of the intended results. Information on the consortium composition and the estimated financial resources involved should also be provided.

Stage 1 proposals are evaluated on the basis of their **S/T quality**

	Minimum threshold
S/T quality	3/5

A list of proposals for 250% of the available budget will be invited to proceed to stage 2 at the condition that they reach the minimum threshold as above. If there is a tie between the proposals with the lowest mark to enter the list of proposals to proceed to stage 2, all those proposals with the same mark will be added to the list.

They will be evaluated remotely with the consensus session being held in Brussels. Stage 1 proposals shall be submitted at the closure date mentioned above.

Coordinators of retained proposals in stage 1 ('go' proposals) will be invited to submit a complete proposal that will be then 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 is 11.03.2010.

Evaluation criteria and thresholds for stage 2 proposals:

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 half-point scores. Successful proposals must pass the minimum thresholds as follows:

	Minimum threshold
S/T quality	4/5
Implementation	3/5
Impact	3,5/5
Overall threshold required	12/15

The procedure for prioritising proposals with equal scores is described below

At the Panel stage, proposals with equal overall scores will be prioritised, in contrast to Annex 2, according to their scores for the Quality criterion. If they are still tied, they will be prioritised according to their scores for the Impact criterion. If any proposals are still tied, then overall work programme coverage will be used to decide the priority order.

The following points will be considered in the evaluation

Topic ENERGY.2010.2.1-1: Efficiency and material issues for thin-film photovoltaics:

The active participation of relevant industrial partners, in particular SMEs, is essential to maximise impact of the project.

Topic ENERGY.2010.2.3-1: Cross-sectoral approach to the development of very large offshore wind turbines: The active participation of stakeholders involved in harsh environment industrial developments is essential to achieving the full impact of the project.

Topic ENERGY.2010.2.5-1: Dry-cooling methods for multi-MW sized concentrated solar power plants: The active participation of relevant industrial partners is essential in order to achieve the maximum impact of the project.

Topic ENERGY.2010.2.5-2: Main CSP components for high-temperature operation: The active participation of relevant industrial partners is essential to achieving the full impact of the project.

Topic ENERGY.2010.3.5-1: Liquid or gaseous fuel production using direct biological conversion of solar radiation: The participation of top class research groups from US and Japan could maximise the impact of this precompetitive topic.

Topic ENERGY.2010.5.2-3: CCS – site abandonment. The active participation of relevant partners from the Carbon Sequestration Leadership Forum, in particular the U.S., could add to the scientific and/or technological excellence of the project(s) and/or lead to an increased impact of the research to be undertaken.

Proposals will not be evaluated anonymously.

• **Indicative evaluation and contractual timetable:**

Evaluation stage 1 proposals: November/December 2009

Evaluation stage 2 proposals: March/April 2010. Evaluation results: estimated to be available within two months after the closure date. A reserve list of projects might be established.

• **Consortia agreements:** Participants in Collaborative Projects are required to conclude a consortium agreement; participants in coordination and support actions are encouraged, but not required, to conclude a consortium agreement.

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

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

Call title: Energy Call Part 2

- **Call identifier:** FP7-ENERGY-2010-2
- **Date of publication:** 30th July 2009¹¹
- **Deadline:** 4th March 2010 at 17.00.00, (Brussels local time)¹²
- **Indicative budget**¹³: EUR 126,4 million from the 2010 budget¹⁴

All budgetary figures and in particular the repartition of the sub-budgets awarded within this call are indicative. The final budget awarded to this call, following the evaluation of projects, may vary by up to 10% of the total value of the call.

Activity	Indicative Amount (EUR million)
ACTIVITY ENERGY.2: RENEWABLE ELECTRICITY GENERATION	41,4
ACTIVITY ENERGY.3: RENEWABLE FUEL PRODUCTION	15
ACTIVITY ENERGY.4: RENEWABLES FOR HEATING AND COOLING	15
ACTIVITY ENERGY.6: CLEAN COAL TECHNOLOGIES and CROSSCUTTING ACTIONS BETWEEN ACTIVITY 5 and 6.	20
ACTIVITY ENERGY.7: SMART ENERGY NETWORKS	35

- **Topics called:**

Activity/ Area	Topics called	Funding Schemes
ACTIVITY ENERGY.2: RENEWABLE ELECTRICITY GENERATION		
AREA ENERGY.2.3: WIND	ENERGY.2010.2.3-2: Support to the coordination of stakeholders' activities in the field of wind energy	Coordination and Support Action (supporting action)
AREA ENERGY.2.9: CROSS CUTTING ISSUES	ENERGY.2010.2.9-1: Demonstration of innovating multipurpose solar plants	Collaborative Project with a predominant demonstration component
ACTIVITY ENERGY.3: RENEWABLE FUEL PRODUCTION		

¹¹ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

¹² The Director-General responsible may delay this deadline by up to two months.

¹³ A reserve list will be constituted if there are a sufficient number of good quality proposals. It will be used if extra budget becomes available.

¹⁴ Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority.

AREA ENERGY.3.4 NEW ENERGY CROPS	ENERGY.2010.3.4-1: Biofuels from algae	Collaborative Project
ACTIVITY ENERGY.4: RENEWABLES FOR HEATING AND COOLING		
AREA ENERGY.4.2: BIOMASS	ENERGY.2010.4.2-1: Demonstration of a new generation of boilers and stoves	Collaborative Project with a predominant demonstration component
AREA ENERGY.4.5: CROSS-CUTTING ISSUES	Topic ENERGY.2010 4.5-1: Support to the coordination of stakeholders' activities in Renewables for Heating and Cooling	Coordination and Support Action (supporting action)
ACTIVITY ENERGY.6: CLEAN COAL TECHNOLOGIES		
AREA ENERGY.6.1: CONVERSION TECHNOLOGIES FOR ZERO EMISSION POWER GENERATION	ENERGY.2010.6.1-1: Efficiency Improvement of Oxygen-based combustion	Collaborative Project
ACTIVITY ENERGY.5&6: CROSS-CUTTING ACTIONS BETWEEN ACTIVITIES ENERGY.5 AND ENERGY.6		
AREA ENERGY.5&6.2: CROSS CUTTING AND REGULATORY ISSUES	ENERGY.2010.5&6.2-1: Extending the value chain for GHG emissions other than CO ₂	Collaborative Project
ACTIVITY ENERGY.7: SMART ENERGY NETWORKS		
AREA ENERGY.7.1: DEVELOPMENT OF INTER-ACTIVE DISTRIBUTION ENERGY NETWORKS	ENERGY.2010.7.1-1: Large scale demonstration of smart distribution networks with distributed generation and active customer participation	Collaborative Project with a predominant demonstration component.

Eligibility conditions

- The eligibility criteria for this call are set out in Annex 2 to the work programme. 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 below¹⁵:

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 (coordinating action)	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.

Evaluation procedure:

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

- 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 procedure.
- Proposals will not be evaluated anonymously.

The procedure for prioritising proposals with equal scores is described below:

Ranked lists of proposals will be established for each activity. At the Panel stage, proposals with equal overall scores will be prioritised according to their scores for the Quality criterion. If they are still tied, they will be prioritised according to their scores for the Impact criterion. If any proposals are still tied, then overall work programme coverage will be used to decide

¹⁵ MS = Member States of the EU; AC = Associated country. Where the minimum conditions for an indirect action are satisfied by a number of legal entities, which together form one legal entity, the latter may be the sole participant, provided that it is established in a Member State or Associated country

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

Particular requirements for participation, evaluation and implementation:

Where required in the topic description, 'predominant' demonstration component requires that the elements described in section 5.2 are taken into account.

Where indicated in the topic description that the participation of SMEs represents an added value or they are particularly welcome, the SMEs participation will be considered in the evaluation.

The following points will be considered in the evaluation

ENERGY.2010.2.3-2: Support to the coordination of stakeholders' activities in the field of wind energy. Up to one project might be funded

ENERGY.2010.2.9-1: Demonstration of innovating multipurpose solar plants. Up to two projects may be supported

ENERGY.2010.3.4-1: Biofuels from algae: The overall sustainability approach will be an important element in the evaluation. Industrial leadership of the projects and the demonstration of the full chain from algae cultivation to biofuel production is essential to maximise the impact of the project. Projects based on the supply and utilisation of carbon dioxide generated from fossil fuel installations will not be considered eligible for support. Up to three projects demonstrating the production of biofuel from algae shall be supported.

ENERGY.2010.4.2-1: Demonstration of a new generation of boilers and stoves: Strong weight will be put on convincing market deployment strategies. The quality of the market deployment plan will be an important element in the evaluation. Up to three projects will be supported.

ENERGY.2010 4.5-1: Support to the coordination of stakeholders' activities in Renewables for Heating and Cooling: Up to one project may be funded.

ENERGY.2010.5&6.2-1: Extending the value chain for GHG emissions other than CO₂: The active participation of partners from emerging economies and the demonstration of the technologies in these countries would be highly beneficial and will likely increase the impact of the project. It is envisaged that a maximum of one project could be funded under this topic.

ENERGY.2010.7.1-1: Large-scale demonstration of smart electricity distribution networks with distributed generation and active customer participation: Significant and committed Distribution Systems Operators (DSO) participation is essential to maximising the impact of the project. Up to three projects may be funded.

Indicative evaluation and contractual timetable: Evaluations are expected to be carried out in April 2010. It is expected that the negotiations for the short-listed proposals will open by May 2010.

Consortium agreements: Participants in Collaborative Projects are required to conclude a consortium agreement; participants in coordination and support actions are encouraged, but not required, to conclude a consortium agreement.

Forms of grant: The forms of grant and maximum reimbursement rates which will be offered are specified in Annex 3 to the Cooperation work programme. In accordance with Annex 3 of this work programme, this call provides for the possibility to use flat rates to cover subsistence costs incurred by beneficiaries during travel carried out within grants for indirect actions. For further information, see the relevant Guides for Applicants for this call. The applicable flat rates

are available at the following website: http://cordis.europa.eu/fp7/find-doc_en.html under 'Guidance documents/Flat rates for daily allowances'.

Call title: Energy FET Call

- **Call identifier:** FP7-ENERGY-2010-FET¹⁶
- **Date of publication:** 30 July 2009¹⁷
- **Deadline:** 15th October 2009 at 17.00.00, Brussels local time¹⁸
- **Indicative budget**¹⁹: EUR 18 million from the 2010 budget²⁰

The final budget awarded to this call, following the evaluation of projects, may vary by up to 10% of the total value of the call.

- **Topics called:**

Activity/ Area	Topics called	Funding Schemes
ACTIVITY ENERGY.10: HORIZONTAL PROGRAMME ACTIONS		
	ENERGY.2010.10.2-1: Future Emerging Technologies for Energy applications (FET)	Collaborative Project

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 below²¹:

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.

- The eligibility criteria apply to both first and second stage proposals.

At stage 2, 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 following additional eligibility criterion applies in this call: Projects under this call shall have a maximum requested EC contribution of EUR 3 million. This is an eligibility criterion – proposals above this limit will not be evaluated.

Evaluation procedure:

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

¹⁶ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

¹⁷ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication

¹⁸ The Director-General responsible may delay this deadline by up to two months.

¹⁹ 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.

²⁰ Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority.

²¹ MS = Member States of the EU; AC = Associated country. Where the minimum conditions for an indirect action are satisfied by a number of legal entities, which together form one legal entity, the latter may be the sole participant, provided that it is established in a Member State or Associated country.

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

The 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).

- A two stage submission and evaluation procedure will be used.

Evaluation criteria and thresholds for stage 1 proposals:

Stage 1 proposals are evaluated on the basis of the following two criteria: **S/T quality and Impact**. For each criterion marks from 0 to 5 will be given, with the possibility of half-point scores.

	Minimum threshold
S/T quality	3/5
Impact	3/5

A list of proposals for 250% of the available budget will be invited to proceed to stage 2 provided they pass the minimum thresholds above. If there is a tie between the proposals with the lowest mark to enter the list of proposals to proceed to stage 2, all those proposals with the same mark will be added to the list.

They will be evaluated remotely with the consensus session being held in Brussels. Stage 1 proposals shall be submitted at the closure date mentioned above.

Coordinators of retained proposals in stage 1 ('go' proposals) will be invited to submit a complete proposal that will be then 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 is 11.03.2010.

Evaluation criteria and thresholds for stage 2 proposals:

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 half-point scores. Successful proposals must pass the minimum thresholds as follows:

	Minimum threshold
S/T quality	4/5
Implementation	3/5
Impact	4/5
Overall threshold required	12/15

Proposals will not be evaluated anonymously.

The procedure for prioritising proposals with equal scores is described below :

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

criterion, and then by their scores for the Implementation criterion. If any proposals are still tied, then overall Work Programme coverage will be used to decide the priority order.

The following points will be considered in the evaluation

This is a pre-competitive topic where cooperation with top class research groups from Third Countries can boost the impact of the project. Projects will involve effective partnership, from different scientific disciplines and/or different technological sectors, in order to work across traditional boundaries. They should demonstrate effective management and research flexibility.

Indicative evaluation and contractual timetable:

Evaluation Stage 1 proposals: November/December 2009.

Evaluation stage 2 proposals: March/April 2010.

Evaluation results: estimated to be available within two months after the closure date. A reserve list of projects might be established.

Consortia agreements: Participants are strongly encouraged to conclude a consortium agreement.

The forms of grant and maximum reimbursement rates for projects funded through the Cooperation work programme are given in Annex 3. 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: ENERGY - EU India Call

- **Call identifier:** FP7-ENERGY-2010-INDIA
- **Date of publication:** 30 July 2009²²
- **Deadline:** On 30th November 2009 at 17.00.00 (Brussels local time)²³ and, for the coordinated project funded by the Indian authorities, on 30th November 2009 at 17.00.00 (Indian time), according to the respective requirements of the EC and the Indian Department of Science and Technology (DST).
- **Indicative budget**²⁴: EUR 5 million from the 2010 budget²⁵.
- All budgetary figures given in this work programme are indicative. The final budget awarded to this call, following the evaluation of projects, may vary by up to 10% of the total value of the call.
- An equivalent budget for the call is expected from the Indian DST.
- **Topics called:**

Activity/ Area	Topics called	Funding Schemes
ACTIVITY ENERGY.2: RENEWABLE ELECTRICITY GENERATION		
AREA ENERGY.2.1: PHOTOVOLTAICS	ENERGY.2010.2.1-2: Development of novel materials, device structures and fabrication methods suitable for thin film solar cells and TCOs including organic photovoltaics. EU - India Call	Collaborative Project
	ENERGY.2010.2.1-3: Development of new concentrator modules and field performance evaluation of Concentrated PV systems - EU-India Call	Collaborative Project
AREA ENERGY.2.5: CONCENTRATED SOLAR POWER	ENERGY.2010.2.5-3: Small scale steam engine powered by Linear Fresnel Reflector (LFR) system-Development of prototype - EU-India Call	Collaborative Project

Eligibility conditions

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

²² The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

²³ The Director-General responsible may delay this deadline by up to two months.

²⁴ 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.

²⁵ Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority.

- The minimum number of participating legal entities required for this call is summarised in the table below²⁶:

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.

Additional eligibility criterion

Proposals which do not include coordination with an Indian project will be considered ineligible. Therefore, the EC proposals must identify and include a detailed explanation of the coordinated Indian proposal submitted in parallel to DST.

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

Evaluation procedure

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

- 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).

- A single-stage submission and evaluation procedure will be used.
- Proposals will not be evaluated anonymously.
- The procedure for prioritising proposals is described below:

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.

The following points will be considered in the evaluation

The active participation of relevant industrial partners and industrial research centres as well as the exchange of researchers between European Indian participants are deemed necessary for achieving the expected impact.

²⁶ MS = Member States of the EU; AC = Associated country. Where the minimum conditions for an indirect action are satisfied by a number of legal entities, which together form one legal entity, the latter may be the sole participant, provided that it is established in a Member State or Associated country.

To ensure a project implementation that reflects a genuine EU-India cooperation, priority in evaluation will be given to proposals involving properly coordinated research activities between Europe and India in the research plan of the two coordinated projects.

The proposals will be evaluated by a panel including both European and Indian experts.

- **Additional selection criterion**

Proposals will be selected on the condition that their corresponding coordinated Indian project is also selected for funding by the DST.

- **Indicative evaluation and contractual timetable:**

Evaluations are expected to be carried out in January 2010 (Individual, consensus and panel phase of the evaluation will all be carried out within one week in Brussels). It is expected that the negotiations for the short listed proposals will open by April 2010. Negotiations will be carried out in parallel by the EC and DST in order to have a simultaneous start of the respective grant agreements.

- **Consortium agreements:**

Participants in the EC Collaborative Project are required to conclude a consortium agreement prior to grant agreement.

- **Coordination agreements:**

Participants in the EC Collaborative Project are required to conclude a coordination agreement with the participants in the coordinated project funded by the DST.

- **Other points**

Forms of grant and maximum reimbursement rates for projects funded through the Cooperation work programme are given in Annex 3 of this 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'.

- **Up to three projects will be supported under this call.**

Call title: "The ocean of tomorrow" call

- **Call identifier:** FP7-OCEAN-2010
- **Date of publication:** 30 July 2009²⁷
- **Deadline:** 14 January 2010 at 17.00.00, Brussels local time²⁸
- **Indicative budget**²⁹: EUR 34 million from the 2010 budget of which:
 - EUR 9 million from Theme 2 – Food, Agriculture and Fisheries, and Biotechnology (KBBE)
 - EUR 6 million from Theme 5 – Energy
 - EUR 10.5 million from Theme 6 – Environment (including climate change)
 - EUR 7.5 million from Theme 7 – Transport (including Aeronautics)
 - EUR 1 million from Theme 8 – Socio-economic Sciences and the Humanities

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

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

- **Topics called**

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

Theme / Activity / Area implementing jointly 'The ocean of tomorrow' Location of the call and topics descriptions	Topics called	Funding Scheme
Theme 2 – Food, Agriculture and Fisheries, and Biotechnology Area 2.1.5 Call "The ocean of tomorrow"–	OCEAN.2010-1 Quantification of climate	Collaborative Project (large scale)

²⁷ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

²⁸ The Director-General responsible may delay this deadline by up to two months.

²⁹ Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority.

<p>Joining research forces to meet challenges in ocean management</p>	<p>change impacts on economic sectors in the Arctic</p>	<p>integrating project)</p>
<p>Theme 5 – Energy</p> <p>Area ENERGY.10.1 Call "The ocean of tomorrow" – Joining research forces to meet challenges in ocean management</p>	<p>OCEAN.2010-2</p> <p>Vectors of changes in marine life, impact on economic sectors</p>	<p>Collaborative Project (large scale integrating project)</p>
<p>Theme 6 – Environment (including climate change)</p> <p>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)</p> <p>Activity 7.2.8 Call "The ocean of tomorrow" - Joining research forces to meet challenges in ocean management</p> <p>Theme 8 – Socio-economic Sciences and Humanities</p> <p>Activity 8.8 Horizontal Actions</p> <p>Call "The ocean of tomorrow" – Joining research forces to meet challenges in ocean management</p>	<p>OCEAN.2010-3</p> <p>Sub-seabed carbon storage and the marine environment</p>	<p>Collaborative Project (large scale integrating project)</p>

- **Indicative budget per topic**

Topic code	Topic title	Indicative budget 30
OCEAN.2010-1	Quantification of climate change impacts on economic sectors in the Arctic	EUR 11 million

30 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.

OCEAN.2010-2	Vectors of change in marine life, impact on economic sectors	EUR 12.5 million
<u>OCEAN.2010-3</u>	Sub-seabed carbon storage and the marine environment	EUR 10.5 million

A maximum of one project per topic will be funded.

- **Eligibility conditions**

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

- The minimum number of participating legal entities required for this funding scheme is set out in the Rules for Participation. They are summarised in the table below³¹:

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

- The following additional eligibility criteria apply in this call:

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

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

- **Evaluation procedure**

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

- 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).

³¹ MS = Member States of the EU; AC = Associated country.

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

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

Evaluation criteria and threshold:

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

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

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

The following points will be reflected in the evaluation:

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

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

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

- **Indicative evaluation and contractual timetable**

- Evaluation results: four months after the relevant deadline mentioned above.
- Grant agreements signature: it is estimated that the first grant agreements related to this call will come into force at the end of 2010.

- **Consortia agreements**

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

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

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

- Call identifier: FP7-2010-NMP-ENV-ENERGY-ICT-EeB
- Date of publication: 30 July 2009³²
- Deadline: 3 November 2009³³ at 17.00.00 (Brussels local time).
- Indicative budget^{34 35}: EUR 65 million from the 2010 budget of which:
 - EUR 30 million from Theme 4 – Nanosciences, Nanotechnologies, Materials & New Production Technologies
 - EUR 15 million from Theme 3 – Information and Communication Technologies (ICT)
 - EUR 15 million from Theme 5 – Energy
 - EUR 5 million from Theme 6 – Environment (including Climate Change)
- **Topics called:**

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

Activity/ Area	Topics called	Funding Schemes	Budget
NMP – Nanosciences, nanotechnologies, Materials and new Production			
EeB.NMP.2010-1	New nanotechnology-based high performance insulation systems for energy efficiency	<i>Collaborative projects</i>	30
EeB.NMP.2010-2	New technologies for energy efficiency at district level		
Environment (including Climate Change)			
EeB.ENV.2010-.3.2.4-1	Compatible solutions for improving the energy efficiency of historic buildings in urban areas	<i>Collaborative projects</i> ³⁶	5

³² The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication

³³ The Director-General responsible may delay this deadline by up to two months

³⁴ 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.

³⁵ Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority

³⁶ Up to one project will be supported.

Energy			
EeB.ENERGY.2010.8.1-2	Demonstration of Energy Efficiency through Retrofitting of Buildings	<i>Collaborative projects</i> ³⁷	15
ICT – Information and Communication Technologies			
EeB-ICT-2010-10.2	ICT for energy-efficient buildings and spaces of public use - a) targeted outcomes	<i>Collaborative projects (STREP only)</i>	14
EeB-ICT-2010-10.2	ICT for energy-efficient buildings and spaces of public use - b) targeted outcomes	<i>Coordination and support actions (CSA)</i>	1

- **Eligibility conditions**

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

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

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

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

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

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

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

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

- **Evaluation procedure**

A one-stage submission procedure will be followed.

³⁷ Up to 4 projects will be supported.

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

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

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

See also Annex 2: Eligibility and evaluation criteria for proposals and priority order for proposals with the same score³⁸.

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

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

- **Indicative evaluation and contractual timetable:**

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

- **Consortia agreements**

Consortia agreements are required for *all* actions.

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

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

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

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

- Successful proposals will be asked to follow a common monitoring data structure, using a common methodology, in order to feed the relevant Commission data bases (e.g. CONCERTO data base).
- The form of grant applied in area 8.1.2. 'Energy efficiency in Buildings' is based on additional energy efficiency measures in buildings. The grant will be composed of a combination of:

³⁸ For the NMP Programme, and in contrast with Annex 2, at Panel stage, the priority order of the proposals with equal overall scores will be established in accordance with their scores for the S/T Quality criterion. If they are still tied, they will be prioritised according to their scores for the Impact criterion. If proposals are still tied, they will be prioritised on the basis of the work programme coverage.

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

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

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

Call title: Sustainable automotive electrochemical storage

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

Date of publication: 30 July 2009³⁹

Deadline: 14 January 2010 at 17.00.00 (Brussels local time)⁴⁰.

Indicative budget ^{41, 42}: EUR 25 million from the 2010 budget of which:

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

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

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

Topics called

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

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

³⁹ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

⁴⁰ The Director-General responsible may delay this deadline by up to two months.

⁴¹ 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.

⁴² Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority.

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

Eligibility Conditions

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

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

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

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

Evaluation procedure

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

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

Particular requirements for participation, evaluation and implementation

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

Indicative Evaluation and contractual timetable

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

Consortia agreements

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

Use of flat rates for subsistence costs:

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

5.4 OTHER ACTIONS

The activities described in this section fall outside of the mainstream 'calls for proposals' means of implementation of the work programme. Funds will be made available to support the following activities

- Two public procurements.
- Contributions to the IEA
- Grants to named beneficiaries⁴³:
- Expert appointment

a) Public procurements

Two public procurements planned for 2010 are shown in the table below:

Subject (Indicative title)	Indicative Budget in Euros ⁴⁴	Expected duration	Indicative timetable
Dissemination and optimisation of the results of activities in Community research	One contract 3 million	3 years	Third quarter 2010
Assessment of FP7	One contract 500 000	18 months	Third quarter 2010

Their main objectives will be

- Dissemination and optimisation of the results of activities in Community energy research. Valorisation of results from research and demonstration projects is fundamental to progress towards the work programme objectives. The aim would be to develop and establish an internet based Virtual Centre that would work as knowledge platform presenting in a structured way and analysing at scientific and political level the results from projects or clusters of projects. The scope would be primarily Community and Member States/Associated countries funded projects, but international projects (outside the EU) would be included when relevant. The Virtual Centre will disseminate both project (fact sheets, projects profiles, results sheets, etc...) and sector level (sector report, clusters, etc...) information, including the development appropriate reporting tools. It will be coordinated with SETIS, the information system of the SET-Plan.

- Assessment of FP7 Energy

Provide by 2012 a first assessment of the implementation of FP7 in order to provide an input to the ex ante impact assessment of FP8.

⁴³ Funding Scheme Coordination and Support Activity, in accordance with Article 14(b), and (c), 17 and 27(5) of the FP7 Rules for Participation.

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

b) International Energy Agency

The Commission represents the European Community in the Implementing Agreements (hereinafter 'IAs') concluded under the framework of the International Energy Agency where it participates in activities in certain areas of energy research.

The Commission will make annual financial contributions required by its participation, up to a total amount of EUR 400 000. The annual financial contributions will be paid to the entities responsible for managing the respective agreements. The table below shows only those IAs for which the financial contribution will be paid from the budget of this part of the Cooperation work programme. It is not an exhaustive list of all of the IAs to which the Commission participates.

The Commission may participate in additional activities agreed under the IAs mentioned above or in any other existing or future IA and in any other activities of the IEA where such participation is in the interest of the Community, in line with the objectives and priorities of the present work programme, and within the limits of the budgetary provisions. The table below will be updated in any future modifications of the work programme.

IEA Implementing Agreements financed under the Energy work programme⁴⁵⁴⁶:

Implementing Agreement	Date IA signed by the European Commission	Estimated Annual EC Contribution in nominal currency	Estimated Annual EC Contribution in Euro
IEA Implementing Agreement for Co-operation in the Research and Development of Wind Turbine Systems	Commission signature in 1996. Extended until 2013.	USD 18 500	EUR 16 800
IEA Implementing Agreement for the Establishment of a Project on Solar Power and Chemical Energy Systems	Commission signature in 1998. Expires in 2011.	EUR 5 250	EUR 5 250
Programme to Develop and Test Solar Heating & Cooling Systems	Commission signature in 1979. Expires in 2009 Extension Procedure under way.	USD 8 000	EUR 7 000
IEA Implementing Agreement for a Programme of Research, Development and Demonstration on Bioenergy	Commission signature in 1995. Expires in 2009. Extension Procedure under way.	USD 86 680	EUR 80,000

⁴⁵ As a contribution from the Community in accordance with Article 108 (2) (d) of the Financial Regulations applicable to the General Budget of the European Communities.

⁴⁶ Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority

Implementing Agreement	Date IA signed by the European Commission	Estimated Annual EC Contribution in nominal currency	Estimated Annual EC Contribution in Euro
IEA Geothermal Implementing Agreement	Commission signature in 1997. Extended until 2012.	USD 14 000	EUR 12 700
IEA Implementing Agreement on Photovoltaic Power System Programme	Commission signature in 1992. Extended until 2012.	EUR 9 350	EUR 9 350
IEA Implementing Agreement for the establishment of IEA Coal Research	Commission signature in 1989. Extended until 2013.	GBP 64 300	EUR 80 000
IEA Implementing Agreement for a Co-operative Programme on Technologies Relating to Greenhouse Gases derived from Fossil Fuel Use	Commission signature in 1991. Expires in 2011.	GPB 58500	EUR 75 000
IEA Implementing Agreement for a Co-operative Programme on Ocean Energy Systems (OES)	Commission signature in 2002. Expires in 2011.	EUR 7 000	EUR 7 000

c) Grants to named beneficiaries

Support to the European Energy Research Alliance (EERA-SET Plan)

Contents/scope: The SET plan which was adopted by the Commission on 22 November 2007 proposes the creation of a European Energy Research Alliance, whose first priority will be defragmentation of existing efforts. On the 27th October 2008, a representative group of leading European research institutes took the initiative to found the EERA with the close collaboration and support of the European Commission.

A Support Action funding scheme from EC is now envisaged to foster the process of setting up and implementing the strongest possible EERA. The EC contribution will be devoted in particular to the co-funding of an EERA permanent secretariat. This process, expected to have a long lasting structuring effect on the potential of the European Research to support the 2020 & 2050 climate and energy policy objectives, should be supported by efficient administrative management and communication activities:

(1) Administrative activities include the organisation and management of high level workshops to explore the potential to work together and to define the possible EERA Joint Programmes. The Secretariat also ensures the organisation, management and follow up of conferences and meetings among EERA participants as well as of the annual General assembly.

(2) Communication activities will focus on facilitating the flow and exchange of information within the SET-plan Stakeholders (Research Institutes, Universities, international partners,

SETIS) and others partners (EIs, KiCs, ETPs, JTIs), on the development and maintenance of IT tools (EERA website), as well as on the preparation of information leaflets, brochures, reports and other relevant documents.

Funding scheme: Coordination and Support Action.

The EC contribution will be implemented as a grant to five named beneficiaries: the five current members of the EERA secretariat. It will be evaluated in accordance with the standard FP7 evaluation criteria (including weight and thresholds) and sub-criteria, together with an eligibility, selection and award criteria for the funding scheme as set out in Annex 2 of this work programme.

Additional eligibility criteria: The EC contribution will not represent more than 50% of the total cost of the secretariat and is limited to a maximum of EUR 1 000 000 over 3 years.

The 5 named beneficiaries and the respective EC contributions for this grant are:

Energy research Centre of the Netherlands (ECN)

P.O. Box 1
1755 ZG Petten
The Netherlands
EC Contribution: Up to EUR 165 000

Ente per le Nuove tecnologie, l'Energia e l'Ambiente (ENEA)

Lungotevere Thaon di Revel, 76
00196 Rome
Italy
EC Contribution: Up to EUR 165 000

Commissariat à l'Energie Atomique (CEA)

Bâtiment le ponant
Rue Leblanc, 25
75015 Paris
France
EC Contribution: Up to EUR 165 000

Helmholtz-Gemeinschaft Deutscher Forschungszentren / Helmholtz Association (HGF)

Anna-Louisa-Karsch-Straße 2
10178 Berlin
Germany
EC Contribution : Up to EUR 330 000

Nationallaboratoriet for Bæredygtig Energi ved Danmarks Tekniske Universitet – DTU (Risø – DTU) (National Laboratory for Sustainable Energy at the Technical University of Denmark)

Technical University of Denmark
Frederiksborgvej 399
P.O. Box 49
DK-4000 Roskilde
EC Contribution: Up to EUR 165 000

Support to the Belgian Presidency Conference on the European Strategic Energy Technology Plan (SET-Plan).

Belgium will be organising the 'EU Technology Summit The conference will take place in Belgium during the Belgian presidency.

The EC contribution will be implemented as a grant through a support action, funding scheme: *Coordination and support action (supporting)*, to a named beneficiary. It will be evaluated in accordance with the standard FP7 evaluation criteria (including weight and thresholds) and sub-criteria, together with an eligibility, selection and award criteria for the funding scheme as set out in Annex 2 of this work programme.

Funding scheme: Coordination and Support Action. (supporting)

Additional eligibility criteria: The EC contribution will not represent more than 50% of the total cost of the conference and is limited to a maximum of EUR 175 000

The named beneficiary for this grant is:

Flemish Government
Department of Economy, Science and Innovation (EWI)
Koning Albert II-laan 35 b 10
1030 Brussels, Belgium

d) External expertise

- Group(s) of external experts for policy relevant analyses and forward looking reflection on energy research. Group(s) of external experts will be established to provide analyses of past activities in policy relevant areas and to advise on or support the design and implementation of Community Research Policy. The indicative budget for this activity is EUR 100 000.

Funding scheme: CSA, experts appointment, public procurement.

Indicative budget for the Energy Theme for the 2010 work programme⁴⁷

Call/ activity	RTD Million EUR	TREN Million EUR
FP7-ENERGY-2010-1	50	4
FP7-ENERGY-2010-2	15	111,4
FP7-ENERGY-2010-FET	18	
FP7-OCEAN-2010	5	1
FP7-ENERGY-2010-INDIA	5	
FP7-2010-NMP-ENV-ENERGY- ICT-EeB		15
FP7-2010-GC- ELECTROCHEMICAL STORAGE	5	
General Activities (see Annex 4)	1,55	0,34
Other		
Monitoring and review costs	0,3	1
Other Actions⁴⁸	3, 13	1,950
Evaluation costs	1,2	0,8
Estimated total budget allocation	104,18	135,49

⁴⁷ Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority.

⁴⁸ As set out in Section 5.4 of the work programme.

Summary of budget allocation to general activities for 2010 (cf. Annex 4):

	DG RTD EUR	DG TREN EUR
Cordis	294 534	284 212
Eureka/Research Organisations	13 049	12 592
COST	1 198 982	
Strat. Oriented Support actions	42 875	41 373
Total	1 549 440	338 177

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

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

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 actions not implemented through calls for proposals may vary by up to 10% of the indicated budgets for these actions.