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Energy in FP7

Overview of FP7 Energy Theme with the emphasis on 2009 calls

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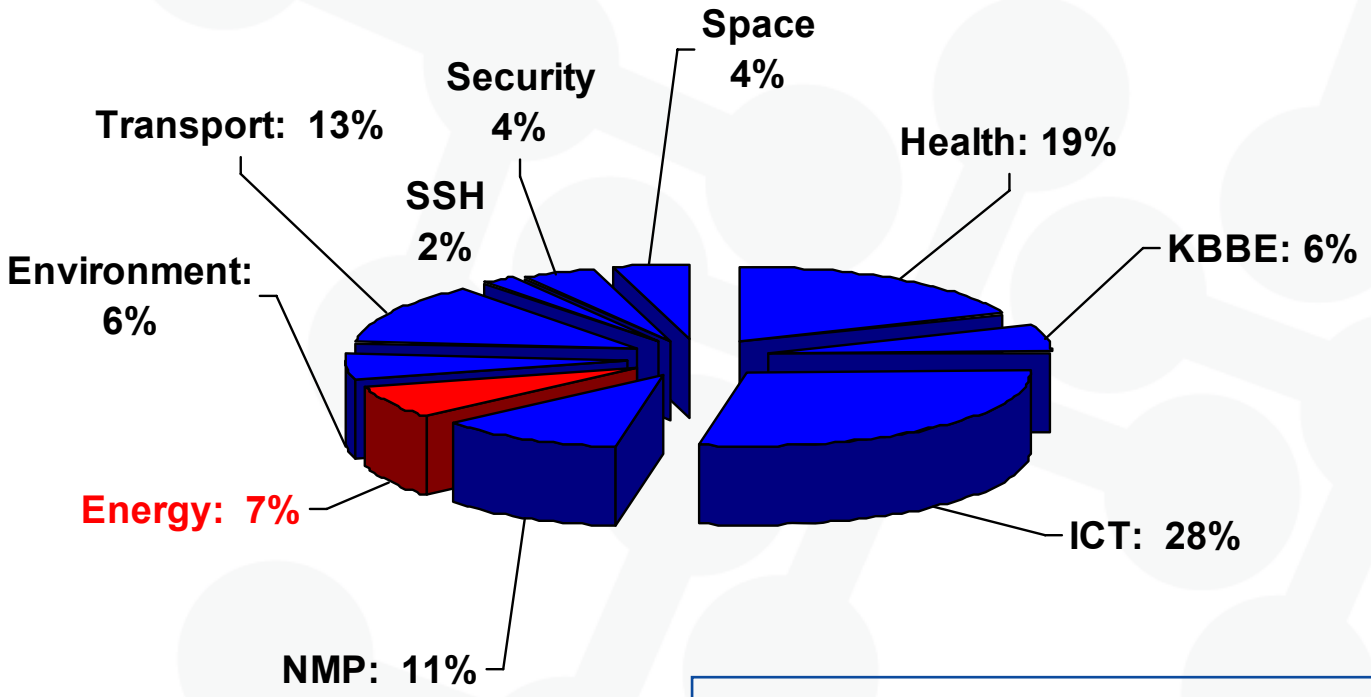
Energy in FP7 COOPERATION Programme

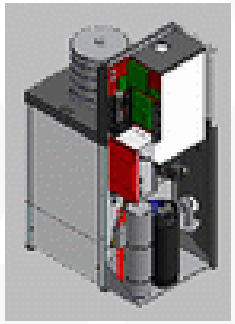


COOPERATION 32 413 mln euro
Energy 2 350 mln euro

Energy in FP7

1. Hydrogen and fuel cells
2. Renewable electricity generation
3. Renewable fuel production
4. Renewables for heating and cooling
5. CO2 capture and storage technologies for zero emission power generation
6. Clean coal technologies
7. Smart energy networks
8. Energy efficiency and savings
9. Knowledge for energy policy making
10. Horizontal programme actions

1. Hydrogen and fuel cells



Fuel cells

- physical and chemical aspects of FC

Hydrogen production

- materials and processes for hydrogen production

2. Renewable electricity generation

Photovoltaics (photovoltaic equipment manufacturing, standardized and tested building components)

Biomass (gasificaton, biomass co-firing, agriculture and forest wastes, energy crops)

Wind (on and off-shore wind power plants)

Geothermal (exploitation of high-temperature resources, feasibility and sustainability of EGS technology, corrosion and scaling)

Concentrated solar power (optical and thermal efficiency of the solar components, cost reduction, lower water consumption, more efficient land use)

Ocean (technological improvements in new components and system designs)

Hydro (cost-efficiency of hydropower plants, in particular smaller systems)

3. Renewable fuel production

First generation biofuels from biomass (Biodiesel, bioethanol from starch and sugar crops, biomethane from anaerobic digestion of dedicated energy crops and waste)

Second generation fuel from biomass (lignocellulosic ethanol, syngas gas based fuels, pyrolysis-oil based biofuels)

Biorefinery (processing of biomass into a spectrum of value-added products - chemicals, materials, food and feed)

Biofuel use in transport

4. Renewables for heating and cooling

Low/medium temperature **solar thermal energy** (using plastic materials, sea water desalination)

Biomass

Geothermal energy

5. CO2 capture and storage technologies for zero emission power generation

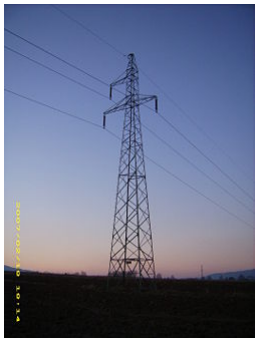
CO2 Capture (optimize and develop capture techniques)

CO2 Storage (geological CO2 storage)

6. Clean coal technologies

Conversion technologies for zero emission power generation (combustion, gasification, as well as on the application of fluidized bed technologies)

Coal-based poly-generation (energy carriers: hydrogen, liquid and gaseous fuels)



7. Smart energy networks

Development of Inter-Active Distribution Energy Networks

(advantages

of renewable energies, distributed generation)

Pan-Europan Energy Networks (electricity & gas)

8. Energy efficiency and saving

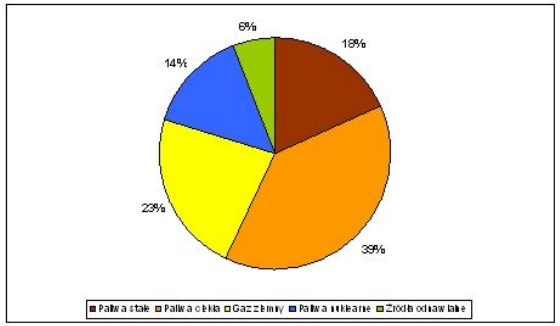
Efficient energy use in manufacturing industry

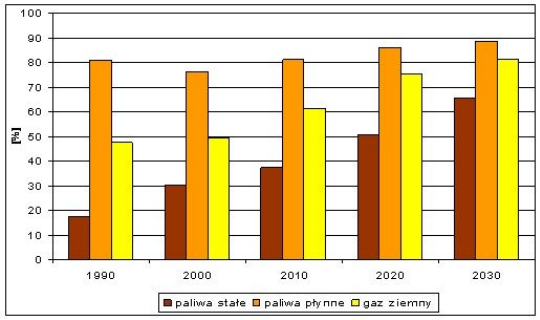
High efficiency **poly-generation** (combination of electricity, heat, cooling, and biofuels (solid, liquid or gaseous) - for energy and materials applications as well as

Renewable energy supply and energy efficiency in buildings: eco-buildings

CONCERTO - renewables and energy efficiency in local communities

CIVITAS-plus – cleaner and better transport i cities





9. Knowledge for energy policy making

Tools, methods and models (databases and scenarios) to assess the main economic and social issues related to energy technologies (security of supply, environment, society, competitiveness of the energy industry, public acceptability etc.)

10. Horizontal programme actions

Trans-national co-operation among NCPs

FET – Future Emerging Technologies

Support to indicated important conferences

Energy calls 2009

FP7-ENERGY-2009-1

General call focusing on research with a long-term horizon

Deadline: 25 November 2008

FP7-ENERGY-2009-2

General call focusing on research with a short- and medium-term horizon and on demonstration

Deadline: 29 April 2009

FP7-ENERGY-2009-3

Call for coordination and support actions

Deadline: 25 November 2008

FP7-2009-BIOREFINERY

Joint call including

- **Theme 2** - Knowledge Based Bio-Economy
- **Theme 4** - Nano-Material Programme
- **Theme 5** - Energy
- **Theme 6** - Environment

Deadline: 2 December 2008

FP7-ENERGY-2009-1

Call publication: 3 September 2008
Deadline: 25 November 2008
Budget: 83 million euro
Evaluation: two-step procedure

Activity / Area	Project type	Budget (mln euro)	No of topics
Area 2.1. Photovoltaics Area 2.5. Concentrated Solar Power	CP	26	2
Area 2.4. Geothermal Area 2.9. Cross cutting issues Activity 3. Renewable Fuel Production	CP, CSA	22	5
Activity 5. CO2 capture and storage Technologies for zero emission power generation	CP	23	3
Activity 7. Smart energy networks	CP	12	2

Area	Topic	Project type	Suggestions
Activity 2. Renewable electricity generation			
Area 2.1. Photovoltaics	2.1.1. Efficiency and material issues for thin film photovoltaics	CP	SME, Chinese partners
Area 2.4. Geothermal	2.4.1. Understanding and mitigation of induced seismicity associated with geothermal field development	CP(1)	Industrial partners (involved in EGS)
Area 2.5. Concentrated Solar Power	2.5.1. Key components for Concentrated Solar Power	CP	Industrial partners
Area 2.9. Cross Cutting Issues	2.9.1: Deep off-shore multi-purpose platforms for wind/ocean energy conversion	CP	Industrial partners
	2.9.2: Coordination activities on offshore platforms	CSA-CA	Industrial partners

Area	Topic	Project type	Suggestions
Activity 3. Renewable fuel production			
Area 3.2. Second generation fuel from biomass	3.2.1. Algal and other suitable non-food aquatic biomass feedstock for 2nd generation biofuel production	CSA-CA (1)	Up to 18 months
	3.2.2:. Biowaste as feedstock for 2nd generation	CP	SME, Indian partners
Activity 5. CO2 Capture and storage technologies for zero emission power generation			
Area 5.1. CO2 Capture	5.1.1: Innovative capture techniques	CP	CSLF partners
Area 5.2. CO2 storage	5.2.1: Safe and reliable geological storage of CO2	CP	CSLF partners
	5.2.2: Towards an infrastructure for CO2 transport and storage	CP	CSLF partners

Area	Topic	Project type	Suggestions
Activity 7. Smart energy networks			
Area 7.3. Cross Cutting Issues	7.3.1: HTS Devices for Electricity Networks	CP	
	7.3.2: High density /rapid release energy storage	CP	SME
	7.3.3.: Strategic impact of the roll-out of electric and plug-in hybrid vehicles on grid infrastructure	CP	

FP7-ENERGY-2009-2

Call publication: 3 September 2008
Deadline: **29 April 2009**
Budget: 100 million euro
Evaluation: single step procedure

Activity / Area	Project type	Budget (mln euro)	No of topics
Activity 2. Renewable electricity generation	CP	28	2
Activity 4. Renewables for heating and cooling	CP	15	2
Activity 6. Clean coal technologies	CP	10	1
Activity 7. Smart energy networks	CP	35	1
Activity 8. Energy efficiency and savings	CP	10	1
Activity 9. Knowledge for energy policy making	CSA-CP	2	1

Area	Topic	Project type	Suggestions
Activity 2. Renewable electricity generation			
Area 2.1. Photovoltaics	2.1.2. Solar Photovoltaics: Manufacturing and product issues for thin-film photovoltaics	CP(2)	Industry partners, technology suppliers
Area 2.2. Biomass	2.2.1. Biomass to electricity from energy crops and recovered fuels	CP(2)	
Activity 4. Renewables for heating and cooling			
Area 4.1. Low/medium temperature solar thermal energy	4.1.1. Low/medium temperature Solar thermal systems for industrial Process Heat	CP(2)	Industry partners, technology suppliers
Area 4.5. Cross cutting issues	4.5.1.: Hybrid systems based on solar thermal heating/cooling, backed up by biomass or geothermal to compensate heat load intermittence	CP(1-3)	Industry partners, technology suppliers

Area	Topic	Project type	Suggestions
Activity 6. Clean coal technologies			
Area 6.1. Conversion technologies for zero emission power generation	6.1.1.: Efficiency increases in existing and new build pulverised coal power plants with a view to CCS	CP(2)	Industry partners, technology suppliers
Activity 7. Smart energy networks			
Area 7.1. Development of inter-active distribution energy networks	7.1.1: Optimisation of the electricity grid with large scale renewables and storage	CP(2)	Transmission System Operators, industry partners, technology suppliers

Area	Topic	Project type	Suggestions
Activity 8. Energy efficiency and saving			
Area 8.1. Efficient energy use in manufacturing industry	8.1.1.: Energy efficiency in energy intensive industry	CP(2)	Industry partners
Activity 9. Knowledge tools for energy-related policy making			
Area 9.2. Scientific support o policy	9.2.1.: European scientific multidisciplinary "think-tank" to support energy policy and to assess the potential impacts of its measures	CSA-CP	Universities, research centers, industry representative organisations

„predominant demonstration component”

Demonstration

- Demonstration activities means activities designed to prove the viability of new technologies that offer a potential economic advantage, but which cannot be commercialized directly (e.g. testing of product like prototypes)
- The demonstrated technologies, concepts or systems must go beyond existing state-of-the-art at European level and must have potential for wider replication and commercial exploitation in the future (before 2020) at European level

Predominant demostration component:

70% demonstration, including costs for tests and supportive measurements
20% research and development activities
5% dissemination and promotion of project results
2% training
7% project management

FP7-ENERGY-2009-3

Call publication: 3 September 2008
Deadline: **25 November 2008**
Budget: 5.5 million euro
Evaluation: single step procedure

Area	Topic	Project type	Suggestions
Activity 2. Renewable electricity generation			
Area 2.1. Photovoltaics	2.1.3. Support to the coordination of stakeholders' activities in the field of Photovoltaics	CSA-SA	
Activity 3. Renewable fuel production			
Area. 3.7. Cross cutting issues	3.7.1. Support to the coordination of stakeholders' activities in the field of Biofuels	CSA-SA	
Activity 5. CO2 Capture and storage technologies for zero emission power generation			
Area 5&6.2. Cross cutting and regulatory issues	5&6.2.1 Support to the coordination of stakeholders' activities in the field of Zero Emission Energy Production	CSA-SA	
Activity 7. Smart energy networks			
Area 7.3. Cross cutting issues and technologies	7.3.4. Support to the coordination of stakeholders' activities	CSA-SA	

FP7-2009-BIOREFINERY

FP7-2009-BIOREFINERY_CP

Evaluation: two-step procedure
Budget: 55 million euro

FP7-2009-BIOREFINERY_CSA

Evaluation: single-step procedure
Budget: 2 million euro

Call publication: 3 September 2008
Deadline: **2 December 2008**
Budget: 57 million euro

Joint call:

- **Theme 2** - Food, agriculture and fisheries, biotechnology (KBBE)
- **Theme 4** - Nanosciences, nanotechnologies, materials and new production technologies (NMP)
- **Theme 5** - Energy
- **Theme 6** - Environment

Activity / Area	Topic	Project type
ACTIVITY KBBE 3: LIFE SCIENCES, BIOTECHNOLOGY AND BIOCHEMISTRY FOR SUSTAINABLE NON-FOOD PRODUCTS AND PROCESSES		
KBBE-2009-3-7-01	Sustainable Biorefineries	CP
KBBE-2009-3-7-02	Enhancing exchange of information, synergies and cross-fertilisation between projects in the field of Biorefineries	CSA-CP
ACTIVITY NMP 4: INTEGRATION OF TECHNOLOGIES FOR INDUSTRIAL APPLICATIONS		
NMP-2009-4.0-1	Sustainable Biorefineries	CP
NMP-2009-4.0-2	Enhancing exchange of information, synergies and cross-fertilisation between projects in the field of Biorefineries	CSA-CP

Activity / Area	Topic	Project type
ACTIVITY ENERGY 3: RENEWABLE FUEL PRODUCTION		
ENERGY.2009.3.3.1	Sustainable Biorefineries	CP
ENERGY.2009.3.3.2	Enhancing exchange of information, synergies and cross-fertilisation between projects in the field of Biorefineries	CSA-CP
ACTIVITY ENV 3: ENVIRONMENTAL TECHNOLOGIES		
ENV.2009.3.3.2.2	Sustainable Biorefineries	CP
ENV.2009.3.3.2.3	Enhancing exchange of information, synergies and cross-fertilisation between projects in the field of Biorefineries	CSA-CP

Topic	Project type	Suggestions
Sustainable Biorefineries	CP	Industrial partners, SME, research organizations, end-users, civil society organizations Opportunities of international cooperation and address international integration
Enhancing exchange of information, synergies and cross-fertilisation between projects in the field of Biorefineries	CSA-CP	Balanced partnership from all scientific domains involved (biotechnologies-agriculture-food, energy, environment and industrial technologies) Industrial partners

Criteria of eligibility

1. Proposal submission to the Commission before the deadline given in the call text
2. Proposal involves at least the minimum number of participants
3. Proposal is complete (i.e. both the requested administrative forms (part A) and the proposal description (part B) are present)
4. The content of the proposal relates to the topic(s) and funding scheme(s), including any special conditions, set out in those parts of the relevant work programme

Criteria of evaluation

Project type	Scientific and/or technological **excellence**	Quality and efficiency of the **implementation** and the management	The potential **impact** through the development, dissemination and use of project results
All funding schemes	Soundness of concept, and quality of objectives	• Appropriateness of the management structure and procedures • Quality and relevant experience of the individual participants	Contribution, at the European [and/or international] level, to the expected impacts listed in the work programme under relevant topic/activity
Collaborative projects	• Progress beyond the state-of-the-art • Quality and effectiveness of the S/T methodology and associated work plan	• Quality of the consortium as a whole (including complementarity, balance) • Appropriateness of the allocation and justification of the resources to be committed (budget, staff, equipment)	Appropriateness of measures for the dissemination and/or exploitation of project results, and management of intellectual property.

Criteria of evaluation

Project type	Scientific and/or technological **excellence**	Quality and efficiency of the **implementation** and the management	The potential **impact** through the development, dissemination and use of project results
Co-ordination & Support Actions - CA	• Contribution to the co-ordination of high quality research • Quality and effectiveness of the co-ordination mechanisms, and associated work plan	• Quality of the consortium as a whole (including complementarity, balance) [for SA: only if relevant] • Appropriateness of the allocation and justification of the resources to be committed (budget, staff, equipment)	Appropriateness of measures for spreading excellence, exploiting results, and dissemination knowledge, through engagement with stakeholders, and the public at large.
Co-ordination & Support Actions - SA	Quality and effectiveness of the support action mechanisms, and associated work plan		

Thank you for attention

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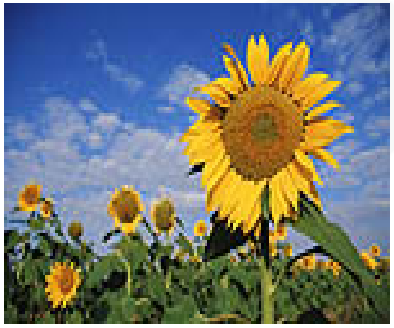

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