



Directorate-General  
for Energy  
and Transport



EUROPEAN  
COMMISSION

# **FP7 – Energy – Demonstration part of the Work programme 2009**

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# Demonstration part of the call 2009

- **Description of Energy and Climate Change policy**
- **Description of the problems in the MS**
- **Contribution of demonstration to address these problems**



# European Energy and Climate Change Policy

- **Binding Targets for 2020**
  - » **20% CHG emission reduction (ref = 1990)**
  - » **20% Renewable Energy Sources**
  - » **of which 10% Bio-fuels (of all transport fuels)**
- **Targets for 2020 (non-binding)**
  - » **20% Energy Efficiency**



# Actual trends for Energy and CO2 show alarming growth

	Period	Energy Consumption	CO2 emissions
EU-27 *	2005 - 2020	+ 7 %	+ 5 %
EU-27 *	2005 - 2030	+ 11 %	+ 5 %
World **	2005 - 2020	+ 30 %	+ 25 %
World **	2005 - 2030	+ 60 %	+ 50 %

\* Source: European Energy and Transport; Trends to 2030; update 2007, European Commission

\*\* Source: IEA 2007

# How to curb trends ?

## Approach based on 3 legs:

- **Technology push**  
(Industry, FP7, national programmes)
- **Market Pull**  
(CIP, ETS, national measures, etc)
- **Legislation for RES, EE, etc.**



# Strategic Energy Technology Plan (SET-plan)

- **Technologies with highest European added value**
- **Technologies with most impact,**
- **Willingness of sectors to work together**



# Strategic Energy Technology Plan (SET-plan)

- **Establishes a European Energy Technology Policy**
- **Recognises urgent need for**
  - » **paradigm shift of the energy market**
  - » **significant and short term impact on energy market**



# European Council supports SET-plan

- **Council Conclusions (Spring 2008):**  
*« The Council invites the Commission to implement the relevant Community programmes in support of the goals of the SET plan »*
- **FP7, CIP and IEE are specifically mentioned in the Council conclusions**



# FP 7, demonstration and SET plan

- **FP7 = important tool for new Energy and Climate Change policy**
- **SET plan has started shaping FP7:**
  - **Demo 2007: 42 topics**
  - **Demo 2008: 18 topics**
  - **Demo 2009: 8 topics**



# What is Demonstration?

- **Basic research and pilot phases are finished**
- **Industrial led projects**  
**with significant potential and impact**  
**on 20-20-20 targets before 2020**
- **Research only if industrial partners determine the need for research during demonstration**  
**(typically less than 20%)**



# How to achieve significant impact in the short term ?

- **Appropriate industrial leadership**
- **Appropriate number of participants**
- **Address financial and technical risk**
- **Significant impact for 2020 objectives**  
(convincing impact plan will be part of evaluation)
- **High replication/deployment potential**  
(convincing replication plan will be part of evaluation)



# Predominant **D**emonstration:

## Typical budget repartition for eligible costs

<b>Demonstration</b>	<b>about 70 %</b>
<b>Research and Development</b> including - Monitoring - Dissemination - Promotion activities	<b>up to about 25 %</b>
<b>Management</b>	<b>up to about 7%</b>



# Call 2009: 8 topics are opened

**2.1 Photovoltaics** (thin film)

**2.2 Biomass to electricity** (> 10 MWth)

*3.3 Bio-refineries (led by DG RTD)*

**4.1 Solar thermal** (for industrial process heat)

**4.5 Solar thermal-biomass-geothermal** (Hybrid systems)

**6.1 Clean Coal** (with a view to CCS)

**7.1 Wind-Grid integration**

**8.1 Energy Efficiency in energy intensive industry**

**9.2 SET-Plan Think Tank**



# Call 2009: Indicative EC Budget: 100 M€

	Indicative budget (EC contribution)	Approx nr projects
2.1 Photovoltaics	28 M€	1-2
2.2 Biomass to electricity		1-2
4.1 Solar thermal in industry	15 M€	1-2
4.5 Hybrid systems Solar thermal - biomass - geothermal		1-3
6.1 Clean Coal	10 M€	1-2
7.1 Wind - Grid integration	35 M€	1-2
8.1 Energy efficiency in energy intensive industry	10 M€	1-2
9.2 SET-Plan think tank	2 M€	1



## Area 2.1 Photovoltaics: Thin film Photovoltaics

### Scope:

to achieve higher manufacturing throughputs and yields  
reduce materials and energy use  
reduce their overall cost

### Funding scheme:

Collaborative project with predominant demonstration

### Expected impact:

to accelerated market development and market uptake

### Additional information:

This activity is coordinated with the research work on efficiency and material issues.

Up to two projects will be funded



## Area 2.2

### Biomass to electricity

#### Scope:

Co-generation (compulsory; size > 10 MWth)  
Complete sustainable chain of supply and conversion

#### Funding scheme:

Collaborative project with predominant demonstration

#### Expected impact:

increase overall efficiency  
Reduce costs

#### Additional information:

High electricity to heat ratio will receive priority  
Up to two projects will be funded



## Area 4.1 Solar thermal for industrial process heat

### Scope:

Development of new collectors (range 80 to 250°C)  
Integration into industrial heat process systems

### Funding scheme:

Collaborative project with predominant demonstration

### Expected impact:

demonstrate that solar thermal heating is a secure and reliable supply source and complementary to conventional heat production process at competitive costs

### Additional information:

Integration into industrial is compulsory.  
Up to two projects will be funded.



## Area 4.5. Solar thermal Hybrid systems

### Scope:

demonstrate innovative hybrid systems for heating/cooling  
Primary source: solar thermal; a appropriate biomass, geothermal, heat pumps (ground source) and storage shall be integrated

### Funding scheme:

Collaborative project with predominant demonstration

### Expected impact:

Achieve close to 100 % RES supply

Reduce costs,

Improve technology reliability and environmental impact.

### Additional information: A maximum of three projects will be funded:

one for Solar Thermal + Biomass;

one for Solar Thermal + Geothermal;

one for the combination of all three sources



## Area 6.1 Clean Coal

### Scope:

Development and demonstration of innovative solutions in components and/or overall processes in pulverized coal power plants (with a view to CCS).

Relevant participation of key industrial partners and technology suppliers is required.

### Funding scheme:

Collaborative project (research and demonstration)

### Expected impact:

Increase net efficiency of more than 45% in CCS mode.

### Additional information:

Up to two projects will be funded.



## Area 7.1 Wind-Grid integration

### Scope:

- enable the uptake of larger amounts of renewable electricity, especially from large wind parks;
- match the variable supply with a varying demand
- Integrate direct and indirect storage into grid management

### Funding scheme:

Collaborative project with predominant demonstration

### Expected impact:

Increase efficiency, stability and security of the grid

### Additional information:

Relevant participation of TSOs and of appropriate key industrial partners or technology suppliers is required

EU-wide scale is required

Up to two projects will be funded



# Area 8.1 Energy Efficiency in energy intensive industry

## Scope:

- significant improvement of energy intensity of the processes
- reduction of energy embedded in products.
- Site optimisation integrating several industries or processes will receive priority.

## Funding scheme:

Collaborative project with predominant demonstration

## Expected impact:

to move to low carbon manufacturing

## Additional information:

Relevant participation of the appropriate key industrial partners is required.

Up to two projects will be funded.



## Area 9.2

# SET-Plan Think Tank

### Scope:

The 20-20-20 targets for 2020 call for paradigm shift on energy systems for RES and EE. Multidisciplinary grouping of experts in the fields of energy, economics, engineering academics, trade, legal, industry to provide input for policy alternatives and options. The work programme will analyse policy alternatives, against sustainability, security of supply and competitiveness. The topics should be developed in the context of the SET Plan

**Funding scheme:** Coordination action

### Expected impact:

to improve the knowledge support to policy making and assess policy options

### Other information:

Consortium could include universities, research centres and industry representatives; max 1 project will be supported



# Call 2009

## Timing of demonstration (one-stage evaluation)

- Call launched 3 Sept 2008
- Info Day in Brussels 24-25 Sept 2008
- Deadline for submission 29 April 2009
- Evaluation June 2009
- Info to proposers Summer 2009
- Start of negotiation After summer 2009
- Start of contracts End 2009



**Thank you for your attention**

