



Co-operation Specific Programme Energy Theme

**European Commission
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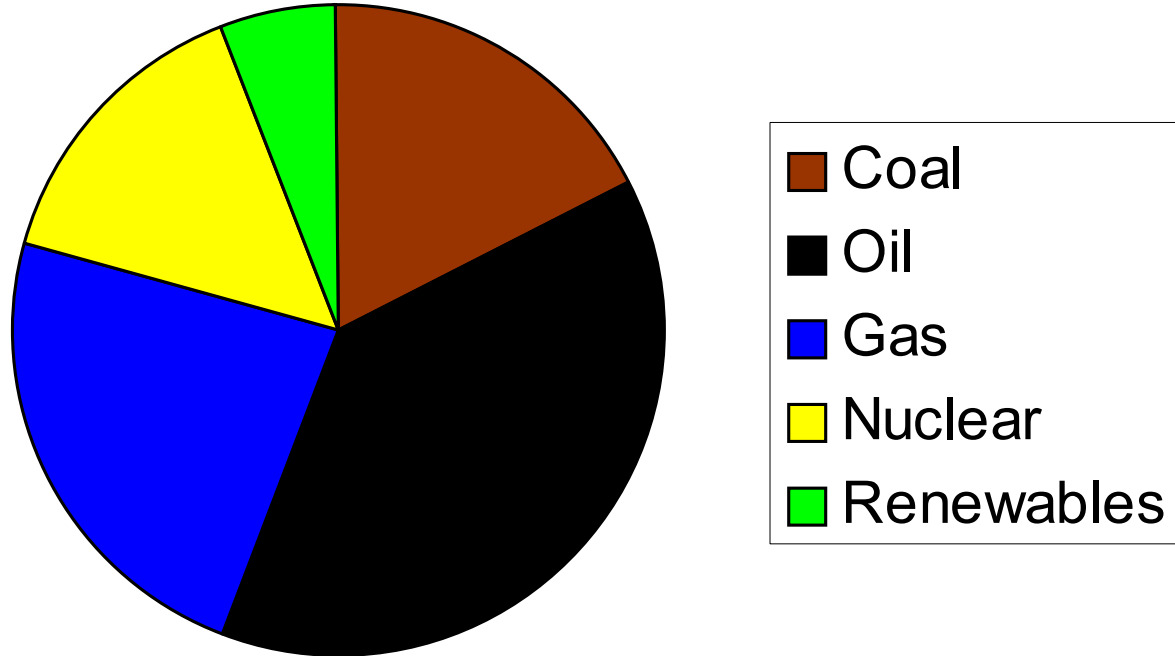
Launching FP7 – Conference for Information Multipliers – Brussels, 7-8 February 2007



Contents

- Context, in short
- Related policy initiatives, in short
- EU energy Technology Platforms
- Co-operation / Energy Theme : Overview
- Co-operation / Energy Theme : RTD&D, activity per activity
- Some advice

Context : EU energy mix (1700 Mtep)



Oil: 37%

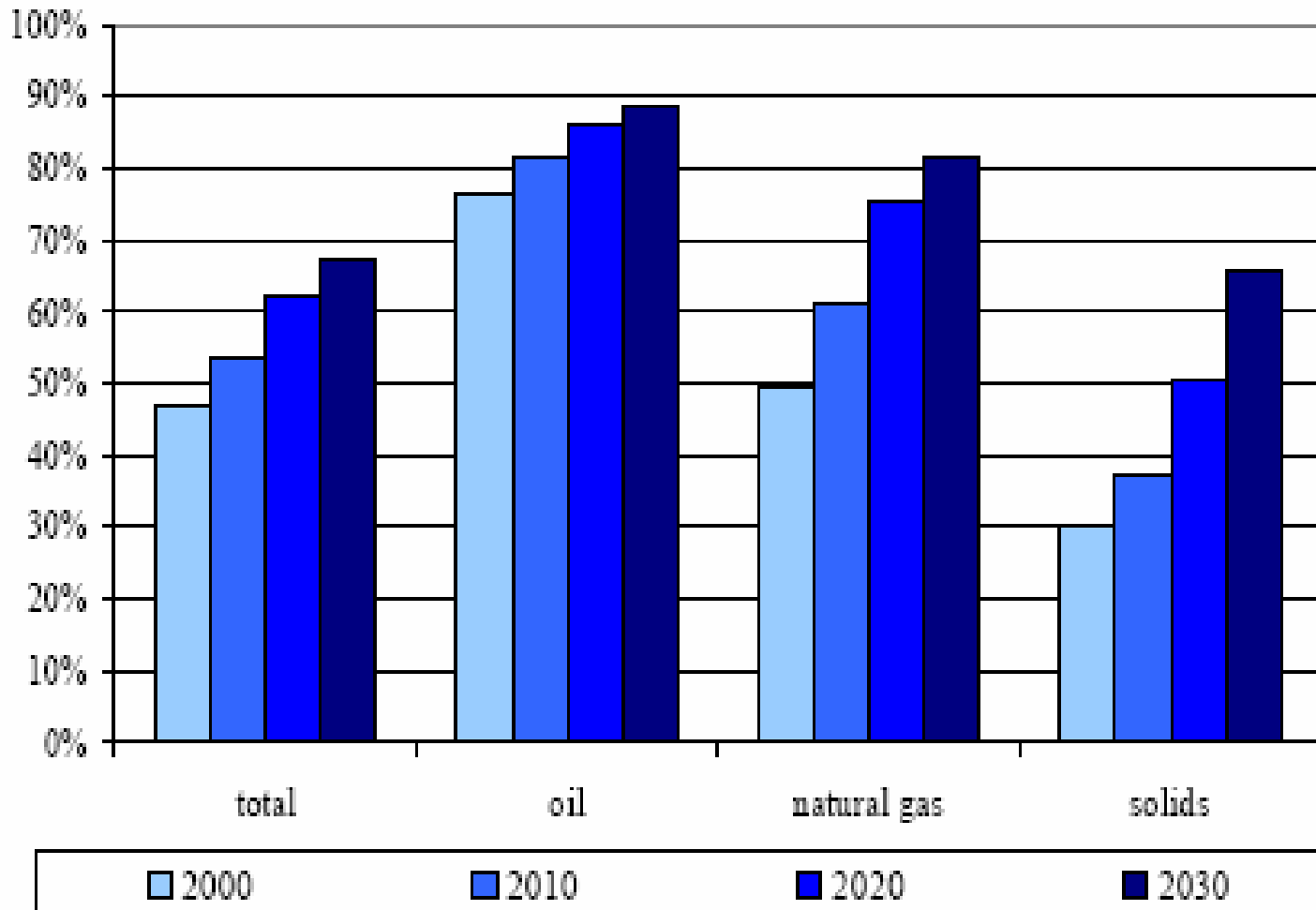
Gas: 24%

RES: 6% (60% biomass, 30% hydro, 10% new RES)

Coal: 18%

Nuclear: 15%

Context : EU energy imports



Context : nothing is perfect

Nuclear - cost, waste and social
acceptability

Coal - CO₂ and other pollutant emissions

Oil and gas - limited resources and prices

Renewables - intermittent and costly

EU Policy Initiatives

- **Green Paper** of March 2006 on “A European Strategy for Sustainable, Competitive and Secure Energy”
- **Energy Package** of January 2007 including the following statements:
 - Technology is a key element in achieving the Green Paper triangle
 - *Unbundling* in the internal energy market (tbc)
 - Some EU targets:
 - 20% of greenhouse gas emissions reduction by 2020
 - 20% of energy efficiency improvement by 2020
 - 20% of renewable energy sources in the energy mix by 2020

EU Energy Technology Platforms

- **Hydrogen and Fuel cells**
- **Biofuel**
- **Photovoltaics**
- **Solar**
- **Wind**
- **SmartGrids**
- **Zero emission fossil fuel power plants**

Co-operation Specific Programme

THEMES

1. Health
2. Food, agriculture and biotechnology
3. Information and communication technologies
4. Nanosciences, nanotechnologies, materials and new production technologies
5. Energy (2.3 Billion €)
6. Environment (including climate change)
7. Transport (including aeronautics)
8. Socio-economic sciences and the humanities
9. Security and space

Energy theme : Overall objective

- **Adapting the current fossil-fuel based energy system into a more sustainable one,**

less dependent of imported fuels,

based on a diverse mix of energy sources and carriers, with particular attention being paid to

lower and non-CO2 emitting energy technologies, combined with enhanced energy efficiency and conservation.

- **To address the pressing challenges of security of supply and climate change, whilst increasing the competitiveness of Europe's industries.**



Energy Theme : Overview

Note : 9 “activities” implemented jointly by DG RTD and TREN

Hydrogen and fuel cells

**CO2 capture and storage
technologies for zero
emission power generation**

**Renewable
electricity
generation**

**Clean coal
technologies**

**Renewable
fuel production**

**Smart energy
networks**

**Renewables
for heating and cooling**

**Energy savings
and energy efficiency**

Knowledge for energy policy making

Energy Theme : Organisation of WP

- **The legal basis** for the overall scope and objectives and, broadly speaking the subjects to be covered, is the Cooperation Specific Programme
- **Calls** based on Work Programmes, which can be revised annually as required
- **Nomenclature:**
 - ➔ Theme (Energy)
 - ➔ Activity (correspond to the nine bullet points of the SP)
 - ➔ Area (intended to be stable throughout FP7, but with flexibility)
 - ➔ Topic (subjects open for proposals in the calls, only in the year in question)

Energy Theme : Important elements

- **SMEs** participation
- **Dissemination** actions
- **International cooperation** – opening to third countries and specific actions (SICA)
- **Future and emerging technologies** – now within the Energy theme
- **Coordination** of non-Community research programmes (ERA-NET) – now within the Energy themes
- **Integration of socio-economic** dimension and societal concerns, gender and ethical issues

Energy Theme : Call

- **Twin calls for RTD (Research focus) and TREN activities (Demonstration focus) based on joined WP**
- **Collaborative Projects (small-medium or large) and Coordination and Support Actions**
- **In 2007, single stage submission and evaluation procedure**
- **For each topic: content/scope; funding scheme; expected impact; any other pertinent information**
- **Generally, an indication of expected project size and the number of projects that might be funded**
- **Competition within and across all topics – not all topics might be funded, depending upon quality of proposals**
- **Expected impact – will be used during the evaluation, as described at area/topic level**

Energy Theme : 2008 Call

2008-RTD:

- Important topics complementary to those in the first call;
- Areas not well covered by the outcome of the first call;
- Opportunities for Future and Emerging Technologies (FET), ERA NETs and Specific International Cooperation Actions (SICA)

2008-TREN, inter alia:

- "Large-scale Integration of Renewable Energy Supply and Energy Efficiency in Buildings: Eco-Buildings" (Area ENERGY.8.3)
- "Innovative Integration of Renewable Energy Supply and Energy Efficiency in large Communities: CONCERTO" (Area ENERGY.8.4)
- Gas networks (in Activity ENERGY.7)

Evaluation Criteria and Thresholds

- S&T quality (concept, objectives, methodology) – min. 3/5
- Implementation (consortium, management, resources) – min. 3/5
- Impact (in relation to 'expected impact' statements) – min. 3/5

OVERALL THRESHOLD : 10/15

Max. reimbursement rates of Eligible Costs

	Research and technological development (*)	Demonstration activities	Management of the consortium activities	Other activities (**)
Network of excellence	50% 75% (***)		100%	100%
Collaborative project	50% 75% (***)	50%	100%	100%
Coordination and support action			100% (****)	100% (****)

(*) includes operational activities directly related to the protection of foreground and coordination of research activities.

(**) Other activities means any "specific activity" covered by Annex I.

(***) For non profit public bodies, secondary and higher education establishments, research organisations and SMEs

(****) The reimbursement of indirect eligible costs may reach a maximum 7% of the direct eligible costs.

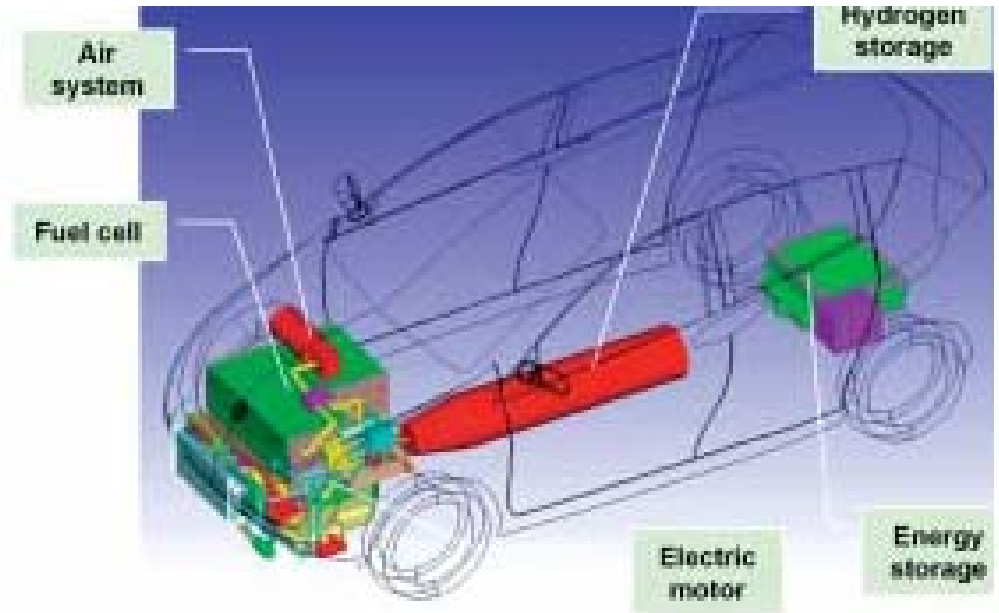
Activity 1 :

Hydrogen and Fuel Cells

- **Drafted on the assumption that the Commission will propose to the Council a Joint Technology Initiative (JTI) on hydrogen and fuel cells**
- **Industrial research, demonstration and cross-cutting activities will be implemented through the future JTI**
- ✓ **WP for 2007 covers fundamental research and pre-normative research**
- ✓ **Implementation Plan of the Hydrogen and Fuel Cells Technology Platform**
- ✓ **International cooperation with IPHE (International Partnership for Hydrogen Economy) countries is encouraged**

Areas

- Fuels cells
- Hydrogen supply
- Cross-cutting issues and horizontal activities



Call	RTD			TREN	
	S-M CP	Large CP	CSA	CP	CSA
Funding scheme					
First call topics	8	0	0	0	0

Activity 2 : Renewable Electricity Production

- **Raising the share of renewable electricity in Europe**
- **Objectives:**
 - Significantly reduce costs
 - Increase overall conversion efficiency
 - Enhance process reliability
 - Reduce environmental impact
- **Emphasis on PV, Wind and Biomass**
- ✓ **Links with PV, Wind and SmartGrids Technology Platforms**

Renewable Electricity Prod.

Areas

- Photovoltaics
- Biomass
- Wind
- Geothermal
- Concentrated solar thermal
- Ocean
- Hydro
- Cross-cutting issues



Call	RTD			TREN	
Funding scheme	S-M CP	Large CP	CSA	CP	CSA
First call topics	14	2	5	14	1

Activity 3 : Renewable Fuel Production

- **Raising the share of renewable fuels**
- **Objectives:**
 - To deliver ‘source to user’ carbon benefits
 - To improve conversion and energy efficiency, enhance technology integration and use of feedstock
- **Emphasis on new types of biofuels, integration of production paths and biorefineries**
- ✓ **Links with Biofuels, Forest-based Sector, Sustainable Chemistry and Hydrogen Technology Platforms, Plants for the future**
- ✓ **Link with « Food, agriculture and Biotechnology « Theme »**

Renewable Fuel Prod.

Areas

- **First generation biofuels**
- **Second generation biofuels**
- **Biorefinery**
- **Biofuels from energy crops (not open in 2007)**
- **Alternative routes to renewable fuel production**
- **Biofuels use in transport**
- **Cross-cutting issues**



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Call	RTD			TREN	
	S-M CP	Large CP	CSA	CP	CSA
Funding scheme					
First call topics	6	1	4	5	2

Activity 4 : Renewables for Heating and Cooling

- **To expand the potential for renewable heating and cooling in different regional conditions**
 - **Industrial applications, dedicated and district heating and cooling, building integration, heat storage**
 - **New markets, novel equipment**
- ✓ **Advice from Solar Thermal Technology Platform**

Renewables for Heating and Cooling

Areas

- **Low/medium temperature solar thermal energy**
- **Biomass (not open in 2007)**
- **Geothermal energy**
- **Cross-cutting issues**



Call	RTD			TREN	
	S-M CP	Large CP	CSA	CP	CSA
Funding scheme					
First call topics	0	0	0	7	0

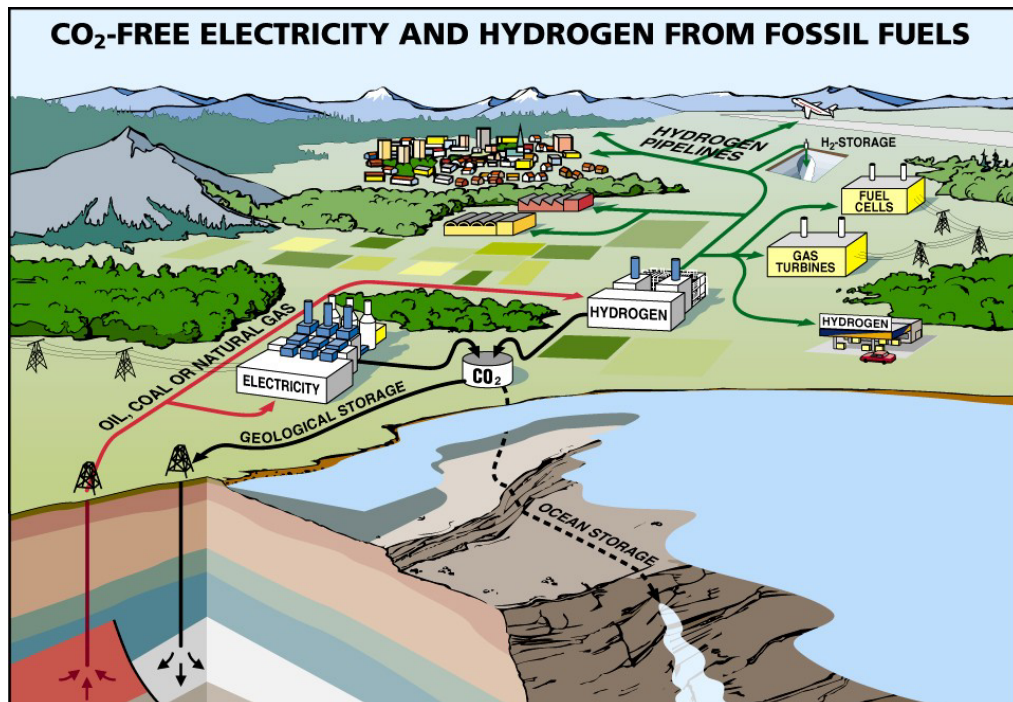
Activities 5&6 : CO₂ Capture and Storage / Clean Coal Technologies

- **Technologies for Zero Emission Power Generation**
 - **Reduced environmental impact for fossil fuel-based power plants**
 - **Large-scale demonstrations of integrated, cost-efficient solutions in the near future**
 - **Sustainable coal concept**
-
- ✓ **Input from the Technology Platform for Zero Emission (ZEP)**
 - ✓ **Complementarity with the Research Fund for Coal and Steel**
 - ✓ **Continued involvement in the CSLF international cooperation initiative (Carbon Sequestration Leadership Forum)**

CO₂ Capture and Storage

Areas

- CO₂ capture
- CO₂ storage

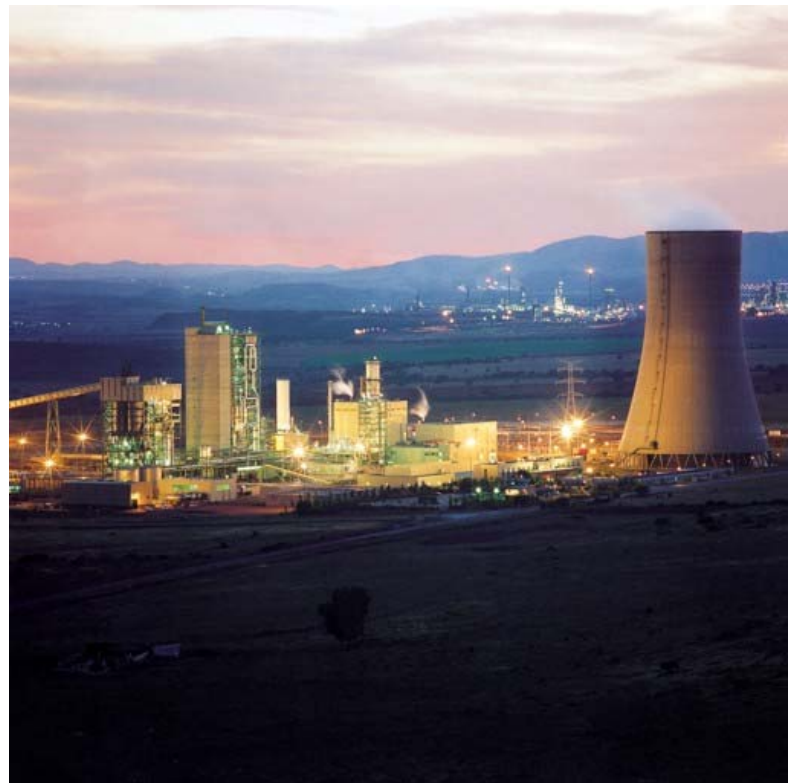


Call	RTD			TREN	
	S-M CP	Large CP	CSA	CP	CSA
Funding scheme					
First call topics	3	2	0	0	0

Clean Coal Technologies

Areas

- **Conversion technologies for zero emission power generation**
- **Coal-based polygeneration**



Call	RTD			TREN	
Funding scheme	S-M CP	Large CP	CSA	CP	CSA
First call topics	0	0	0	2	0

Cross-cutting Actions for CCS and Clean Coal

Areas

- Power generation technologies for integrated zero emission solutions
- Cross-cutting and regulatory issues

Call	RTD			TREN	
Funding scheme	S-M CP	Large CP	CSA	S-M CP	CSA
First call topics	0	1	3	2	1

Activity 7 : Smart Energy Networks

- **Increasing the efficiency, flexibility, safety, reliability and quality of European energy networks within the context of an integrated European energy market**
 - Electricity networks
 - ✓ interactive service network
 - ✓ large-scale integration of renewables and distributed generation
 - Gas networks - to be covered in the next call
- ✓ **Strategic research agenda of the SmartGrids technology platform**
- ✓ **Advice from Coordination Actions**

Smart Energy Networks

Areas

- **Development of interactive distribution energy networks**
- **Pan-European energy networks**
- **Cross-cutting issues and technologies**



Call	RTD			TREN	
	S-M CP	Large CP	CSA	CP	CSA
Funding scheme					
First call topics	2	2	2	2	0

Activity 8 : Energy Efficiency and Savings

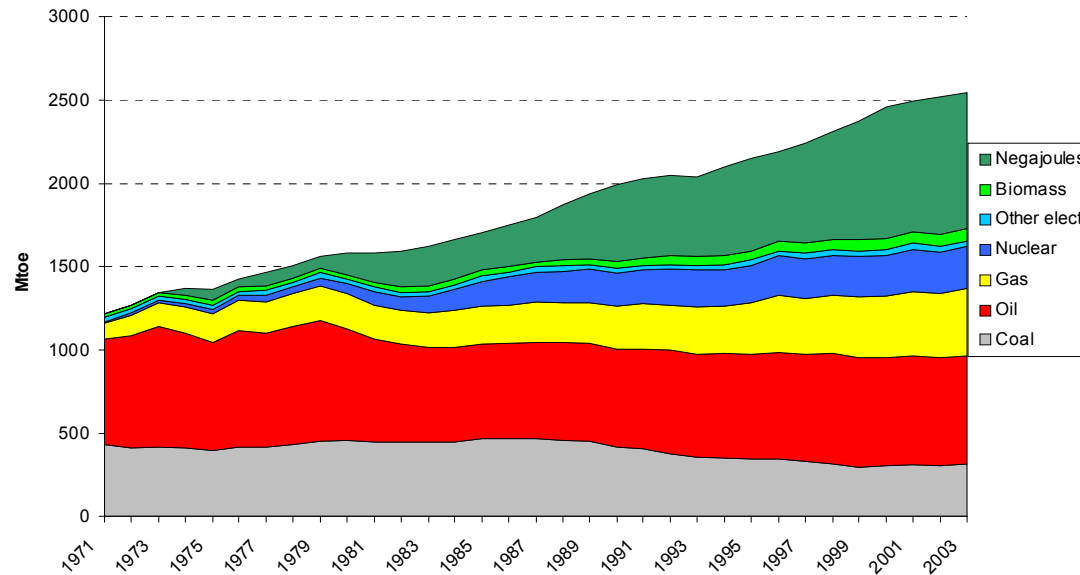
- **Optimisation, validation and demonstration of new concepts and technologies for transport, buildings, services and industry**
 - **Renewable energy Sources, polygeneration, demand management**
 - **Large scale demonstrations supported by research for development of technologies and component**
- ✓ **Aims to facilitate the implementation of buildings, cogeneration, eco-design and efficiency and energy savings directives**

Energy Efficiency & Savings

Areas

- Efficient energy use in the manufacturing industry
- High efficiency polygeneration
- Eco-buildings (not open in 2007)
- CONCERTO (energy efficiency and renewables) – not open in 2007
- CIVITAS Plus (clean and efficient transport)
- Socio-economic research and innovation
- Thematic promotion and dissemination

Development of the primary energy demand and of “negajoules” - EUR 25
 (“negajoules” : energy savings calculated on the basis of 1971 energy intensity)



Call	RTD			TREN	
	S-M CP	Large CP	CSA	CP	CSA
Funding scheme					
First call topics	0	0	0	5	3

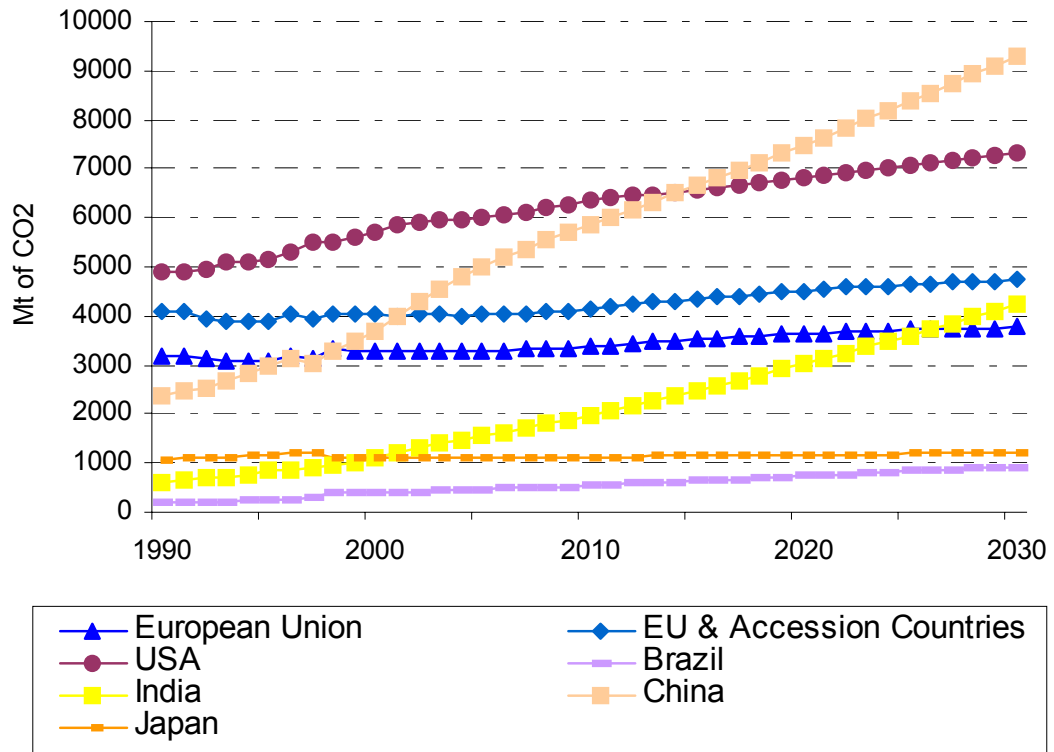
Activity 9 : Knowledge for Energy Policy Making

- **Development of tools, methods and models to assess the main economic and social issues related to energy**
- **Impact Assessment of energy-related policies**
- **Impact of technological progress on EU policies**

Knowledge for Energy Policy Making

Areas

- Knowledge tools for energy-related policy making
- Scientific support to policy

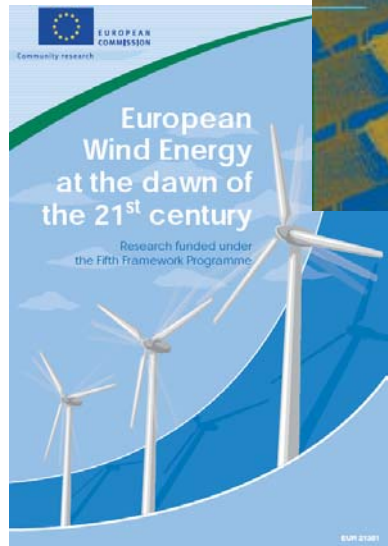
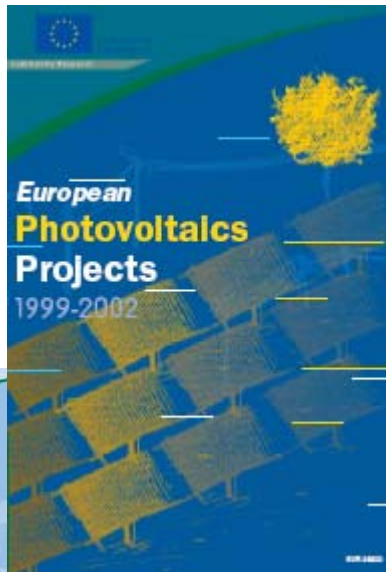


Call	RTD			TREN	
	S-M CP	Large CP	CSA	CP	CSA
Funding scheme					
First call topics	4	0	1	0	1

Horizontal Programme Actions

- ERA Net (International co-operation, Co-ordination between national and European Energy RTD programmes)
- Co-operation among NCPs
- Impact of FP7 Energy projects

Some advice



- Take part in our Info-days
- Get in touch with your NCP and other intermediaries
- Look at the EU “List of Projects” and the TP reports
- Be aware that drafting a proposal and establishing the right consortium takes time, particularly as co-ordinator
- Read carefully the Call & WP (topic, funding scheme, number of participants, size of the project, etc.)

The first calls have been published
the **22 December 2006**
and the deadline is the **3 May 2007**

Reference:

FP7-ENERGY-2007-1-RTD
FP7-ENERGY-2007-2-TREN

<http://cordis.europa.eu/en/home.html>