



7º Programa-Quadro de Investigação e  
Desenvolvimento Tecnológico  
(2007-2013)



## O Tema Energia: destaques

Teresa Bertrand  
Amélia Areias  
Paula Galvão

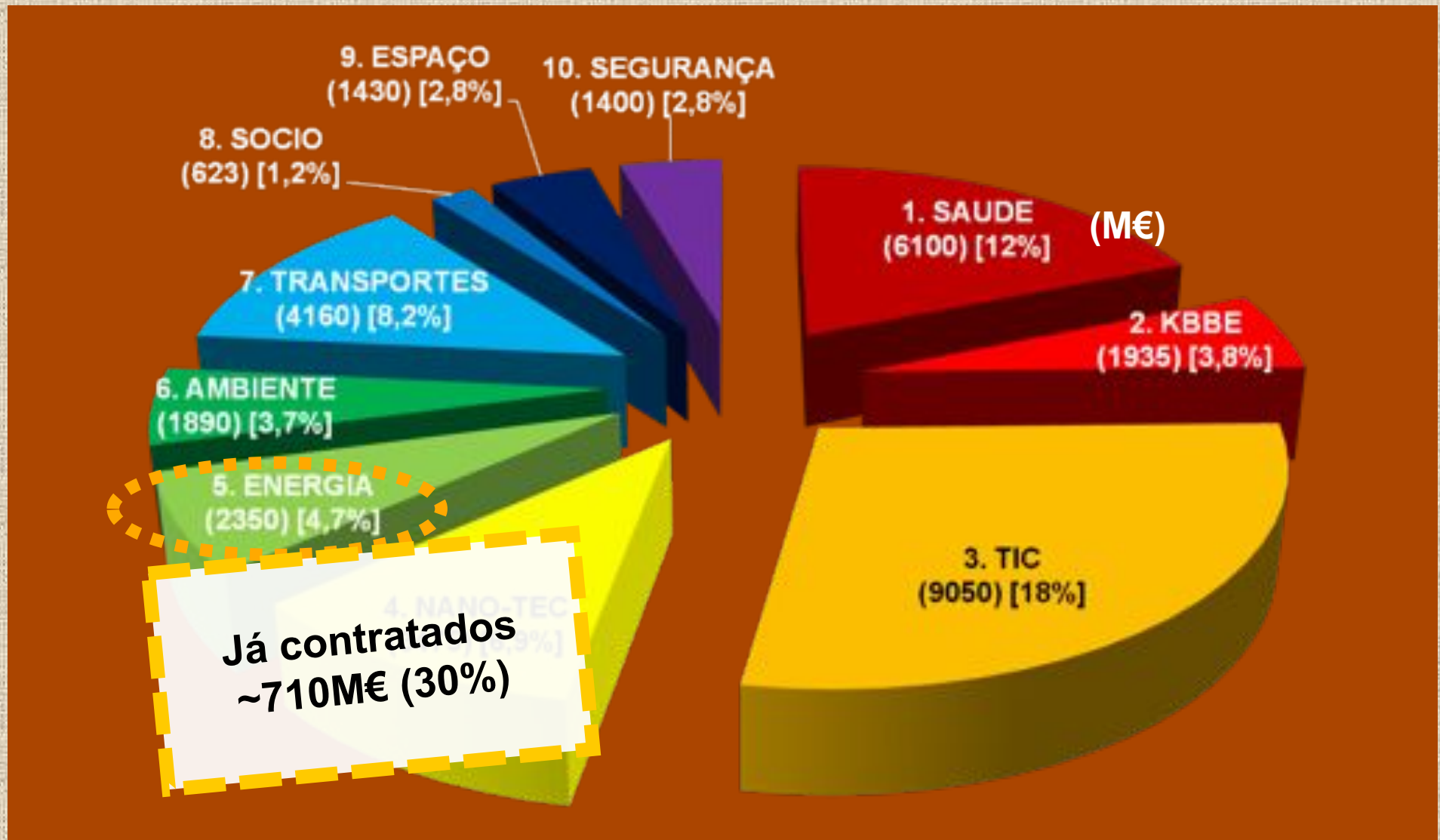
Pontos de Contacto Nacional  
Tema Energia

Oportunidades de financiamento no 7ºPQ para os  
Temas Energia, Ambiente e Progr. Esp. Pessoas

16 Setembro 2010, Universidade de Évora



## 10 TEMAS no Programa Específico "COOPERAÇÃO"



## Quem já participa no 7ºPQ/Energia?

### Empresas:

A. Silva Matos, SGPS  
AoSol Energias Renováveis, S.A.  
EDP Gestão da Produção de Energia, S.A.  
EDP Inovação, S.A.  
Eneólica - Energias ren. e ambiente, S.A.  
Estaleiros Navais de Peniche, S.A.  
Galp Energia, SGPS, S.A.  
Redes Energéticas Nacionais, SGPS, S.A.  
Tecneira, Tecnologias Energéticas, S.A.  
Tejo Energia, S.A.  
Valorsul, S.A.  
Hidropower - Projectos e Construções Lda  
Instituto de Soldadura e Qualidade  
Kymaner – Tecnologias Energéticas, Lda.  
Necton, S.A.

### Centros de I&D:

Instituto de Engenharia Mecânica - Pólo IST (IDMEC)  
INESC Porto  
Instituto de Sistemas e Robótica (ISR-UC)  
Laboratório Nacional Energia Geologia (LNEG)  
Centro de Energia das Ondas (Wave-C)

### Universidades:

Escola Sup. de Tecnologia de Setúbal  
Instituto Superior Técnico  
Universidade de Évora  
Universidade do Algarve  
Universidade do Minho

### Outros:

Agência de Inovação  
Fundação da FCT / UNL  
Fundação Gomes Teixeira (UP)  
Instituto Hidrográfico  
Município de Peniche

## **OBJECTIVOS para 2020:**

- 20% penetração de renováveis
- 20% redução de emissões de GEE
- 20% maior eficiência energética

No final de 2007, COM lançou o SET-PLAN\*, que traçou o caminho para alcançar estes objetivos.

\*SET-Plan: Strategic Energy Technology Plan

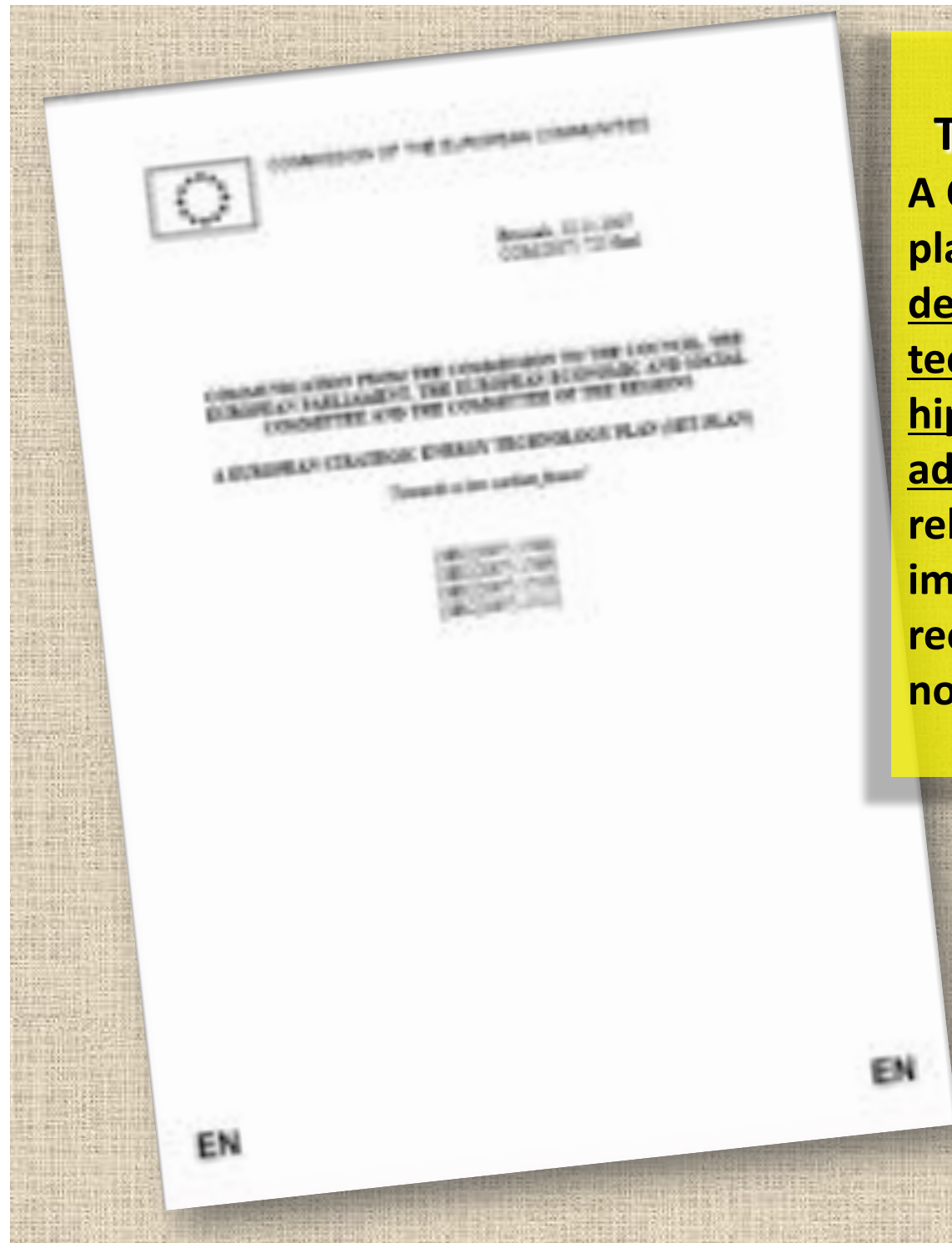
[http://ec.europa.eu/energy/technology/set\\_plan/set\\_plan\\_en.htm](http://ec.europa.eu/energy/technology/set_plan/set_plan_en.htm)

Gestão repartida:

DG-RTD: Projectos de I&D de longa duração

DG-ENERGIA: Projectos de médio-curto prazo e demo

[http://ec.europa.eu/research/energy/index\\_en.cfm](http://ec.europa.eu/research/energy/index_en.cfm)



**SET Plan: Strategic Energy Technology Plan (22 Nov. 2007)**  
A Comissão Europeia apresenta um plano estratégico para acelerar o desenvolvimento e aplicação de tecnologias de energia hipocarbónicas, com custo-benefício adequado. Este plano inclui medidas relacionadas com o planeamento, implementação, afectação de recursos e cooperação internacional no sector das tecnologias de energia.



# Elementos do SET-Plan :

## Planeamento estratégico:

- **Steering Group**  
(Delegados: Prof. Paulo Ferrão, Dr. José Perdigoto)
- **Sistema de Informação (SETIS)**

<http://setis.ec.europa.eu/>

## Implementação:

- **European Industrial Initiatives (EIIs)**  
Eólico, Solar, Rede Eléctrica, CCS >> lançadas 3 Junho 2010  
Bioenergia, Fissão Nuclear >> Nov2010?
- **Iniciativa Smart Cities**  
Edifícios, Redes energéticas, Transportes
- **European Energy Research Alliance (EERA)**
- **Pilhas de Combustível e Hidrogénio (FCH-JU:500M€ + 5.000M€)**

IP/09/1431

Bruxelas, 7 de Outubro de 2009

## Investir no futuro: Comissão apela a um investimento adicional de 50 mil milhões de euros em tecnologias hipocarbónicas

A Comissão Europeia convidou as autoridades públicas, as empresas e investigadores a conjugarem esforços para desenvolver até 2020 tecnologias necessárias para fazer face às alterações climáticas, garantir o aprovisionamento energético da UE e assegurar a competitividade das economias europeias. Numa proposta intitulada «investir no desenvolvimento de tecnologias hipocarbónicas», a Comissão estima que nos próximos dez anos será necessário um investimento adicional de 50 mil milhões de euros na investigação de tecnologias energéticas, triplicando – de 3 para 8 mil milhões de euros – o investimento actual da União Europeia. Trata-se de um passo em frente na aplicação do Estratégico Europeu para as Tecnologias Energéticas (Plano SET), tecnologia da política da UE em matéria de energia e clima, equacionadas várias fontes de financiamento, provenientes dos sectores público e privado, a nível nacional e comunitário, que, utilizadas coordenadamente, ajudarão também a impulsionar um sector industrial em crescimento e a criar emprego.

O Comissário Europeu responsável pela Ciência e Investigação, Janez Potočnik, afirmou: «É urgente reforçar o investimento na investigação de tecnologias para que a Europa possa realizar com menores custos o processo de transição para as etapas que se seguem. Com as estimativas hoje apresentadas, pretende fazer do Plano SET um trampolim para uma economia hipocarbónica só será possível reunindo recursos públicos e privados de uma forma eficaz. Aumentar hoje os investimentos inteligentes na investigação científica é uma oportunidade para desenvolver novas formas de crescimento, tornar mais eficiente a economia europeia e assegurar a competitividade da UE quando se sair da crise».

Andris Piebalgs, Comissário responsável pela Energia, afirmou: «As anteriores revoluções industriais provaram que as tecnologias certas podem transformar de forma positiva o modo como vivemos. Temos hoje uma oportunidade única para mudar um modelo energético baseado na poluição e em combustíveis fósseis



COMMISSION OF THE EUROPEAN COMMUNITIES

Bruxelas, 7 de Outubro de 2009  
COM(2009) 174 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Investing in the Development of Low Carbon Technologies  
(SET-Plan)

SEC(2009) 1431  
SEC(2009) 1431  
SEC(2009) 1431  
SEC(2009) 1431

Em 7 Outubro 2009, a COM identifica as necessidades de investimento no SET-Plan...

EN

EN

# **SET-Plan**

## **Tecnologias de energia para 2020**

**Investimento adicional necessário:**  
**~50.000M€**

- **Eólico (6.000M€)**
- **Solar (PV: 9.000M€ + CSP: 7.000M€)**
- **Bioenergia (9.000M€)**
- **CCS (13.000M€)**
- **Rede Eléctrica (2.000M€)**
- **Fissão Nuclear (7.000M€)**
- **Smart Cities (11.000M€)**





COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 7.12.2009  
SEC(2009) 1284

COMMISSION STAFF WORKING DOCUMENT

Accompanying document to the

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN  
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL  
COMMITTEE AND THE COMMITTEE OF THE REGIONS

on Investing in the Development of Low Carbon Technologies  
(LED-Plan)

A TECHNOLOGY ROADMAP

COMMISSION (2009) 1284  
SEC(2009) 1284  
SEC(2009) 1284  
SEC(2009) 1284

EN

EN

## Roadmap (Plano de Acção) para as tecnologias hipo- carbónicas até 2020

... e também um *Roadmap* para  
esses investimentos.

# EIIs: Planos de Implementação 2010-2012



No início de 2010 são apresentados os Planos de Implementação 2010-2012 para as Iniciativas Industriais Europeias

# As Plataformas Tecnológicas Europeias e outros interlocutores privilegiados

EII /Sector	Interlocutor	Site
Eólico	TPWind	<a href="http://www.windplatform.eu">www.windplatform.eu</a>
Solar PV	EPIA	<a href="http://www.epia.org">www.epia.org</a>
Solar CSP	ESTELA	<a href="http://www.estelasolar.eu">www.estelasolar.eu</a>
Rede Eléctrica	Associação de TSOs, Associação de DSOs	<a href="http://www.entsoe.eu">www.entsoe.eu</a> N.D.
Bioenergia	EBTP	<a href="http://www.biofuelstp.eu">www.biofuelstp.eu</a>
CCS	ZEP	<a href="http://www.zeroemissionsplatform.eu">www.zeroemissionsplatform.eu</a>
Fissão Nuclear	SNETP	<a href="http://www.snetp.eu">www.snetp.eu</a>
Smart Cities	- Covenant of Mayors - Brigitte Bach AIT Energy Department	<a href="http://www.eumayors.eu">www.eumayors.eu</a> <a href="mailto:Brigitte.bach@ait.ac.at">Brigitte.bach@ait.ac.at</a> Workshop em Setembro2010!
Hidrogénio e PC	New Energy World (Industry Grouping)	<a href="http://www.fchindustry-jti.eu">www.fchindustry-jti.eu</a>



**Lançamento das  
primeiras EIIs  
Eólico, solar,  
rede eléctrica, CCS  
**3-4 Junho 2010****

[www.setplan-conference2010.es](http://www.setplan-conference2010.es)

HOME ABOUT SET-PLAN PROGRAMME REGISTRATION PRACTICAL INFO PRESENTATIONS PHOTO GALLERY

# Strategic Energy Technology Plan conference 2010

A Belgian EU Presidency conference  
15 & 16 November, Brussels

## SET-Plan conference 2010, Brussels

The SET-Plan conference 2010 will report on the progress of all action lines of the European Commission's SET-Plan, officially launch the European industrial initiatives for bio-energy and nuclear energy and kick-off the international dimension of the SET-Plan.

The SET-Plan 2010 conference gathers a broad range of stakeholders including the research community, the industry, the financial community, policy makers and international partners.

Join and grasp the opportunity to contribute to the future of energy technology in Europe.

### Practical info

WHERE  
15 & 16 November 2010

WHERE  
Grosses-Saal Meeting Centre

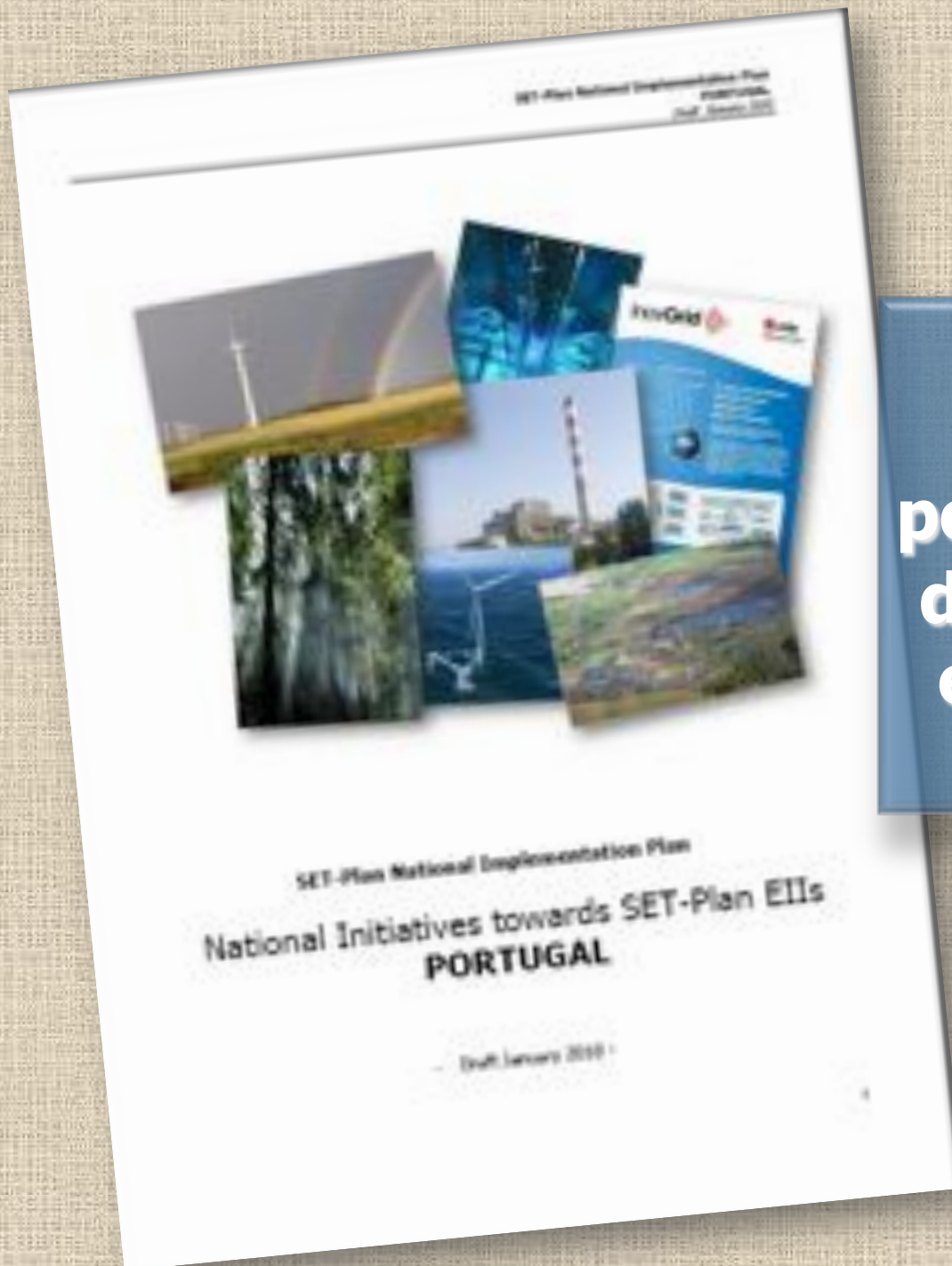
Register here

Links

Contact

**Lançamento das EIIs  
Bioenergia, Nuclear  
15, 16 Novembro 2010**

<http://www.setplan2010.be/>



**Portugal  
identificou  
possíveis projectos  
de demonstração  
em linha com as  
EIIs**



**4 programas conjuntos a lançados em Junho 2010:**

- Fotovoltaico
- Eólico
- Geotérmico
- Smart Grids

- Home
- Aims and Philosophy
- Governance Structure
- (EERA). The key objective implementing Joint Research Integrating activities and complementarities and sym
- Newsletters
- Contact to EERA
- Downloads
- Legal Notice
- Login

ologies by conceiving and  
(SET) plan by pooling and  
and maximising

... of the EERA will be on the  
results from fundamental  
n research.

... ing partners of the EERA  
events sector. In response,  
... the initiative to found the  
... by the European Commission.



**Membro fundador**

## Common EU Roadmap and Implementation Plan

Public funding partners	Project typology	Instruments
EC	High EU added value	FP, CIP-IEE
EC and MS	Large projects, EU added value, shared interests	FP (ERA-NET+), coordinated calls, Art 185...
MS and MS	Localised shared interests	NER300, ad-hoc arrangements, EERA etc
MS	Supporting domestic industry	national programmes, NER300, structural funds
EIB	Large projects	EIB loans, RSFF, guarantees, equity

**Common EU reporting, monitoring  
and assessment – KPIs**

**Tipo de projecto  
nas EIIs**

**Vs.**

**Instrumento de  
financiamento**



6. Reiterates its request to ensure adequate financing to support clean, sustainable and efficient low carbon energy technologies, which amounts in total to at least EUR 2 billion per annum of the EU budget being spent in addition to FP7 and CIP from 2010 onwards; calls, in this context, for the urgent establishment of a funding timetable by the Commission and the Member States of the resources they will commit to ensure that funds start flowing from 2010;

## TEXTS ADOPTED

at the sitting of  
Thursday  
11 March 2009



UNDERLINES that given the scale of the public and private funding required for the medium term, inter alia for the financing of major demonstration projects, an increase in the proportion of public investment at EU level may be needed, which should therefore be given due consideration in the budget review and the negotiations regarding the next Financial framework, without prejudice to the outcome of negotiations.

## PRESS

Mar 10 14:00:00 - Mar 10 18:00:00 - Tel: +33 (0)3 20 37 52 11 - Fax: +33 (0)3 20 37 52 12  
[www.europa.europa.eu/press/press.htm](http://www.europa.europa.eu/press/press.htm)



**EII Teams:  
Representantes Nacionais para 3 iniciativas industriais europeias**



**Ana Estanqueiro, LNEG**  
Energia eólica



**António Joyce, LNEG**  
Solar PV

**João Peças Lopes,**  
INESC-Porto  
Rede Eléctrica



**João Farinha Mendes,**  
LNEG  
Solar CSP



**Francisco Gírio, LNEG**  
Bioenergia

**Luis Costa, DGEG**  
CCS



**Energia**  
**Os concursos abertos:  
tópicos e destaques**

## WP2011/Energia: 8 calls, ~30 tópicos, 260M€

Call	Orçamento (M€)	Deadline
<b>Parte 1: DG-RTD</b> <b>Projectos de investigação</b>	74	16 Novembro 2010 (1ª fase)
<b>Parte 2: DG-ENERGIA</b> <b>Projectos de Demonstração</b>	137	7 Abril 2011
<b>Call conjunta com NMP</b> <b>(fotovoltaico)</b>	25* (En:10)	25 Novembro 2010
<b>Call coordenada com Japão (Solar)</b>	5	25 Novembro 2010
<b>Intercâmbio de investigadores</b> <b>(Japão e EUA)</b>	3	16 Novembro 2010
<b>"Ocean of tomorrow"</b>	45* (En: 10)	18 Janeiro 2011
<b>EeB – Energy-Efficient Buildings</b>	85,5* (En:20)	2 Dezembro 2010
<b>ERA-NETs Geotermia, Oceanos</b>	4	22 Fevereiro 2011

\* Total posto a concurso, incluindo outros Temas envolvidos

**SOLAR EII  
Fotovoltaico**

**Concentration photovoltaics (CPV)  
and ultra-high efficiency solar cells  
and modules / EU-Japan Coordinated Call**

**5M€**

**Development and up-scaling of innovative photovoltaic cell processes and architectures to pilot-line scale for industrial application, Coordinated call with NMP**

**25M€**

**Productivity and cost optimization issues for the manufacturing of photovoltaic systems based on concentration**

**10M€**

**Development and demonstration of standardized building components**

**10M€**



**SOLAR EII  
CSP**

**Thermal energy storage for CSP plants**

**Advanced heat transfer fluids for CSP technology**

**12M€**



**EII EÓLICO**

**30M€**

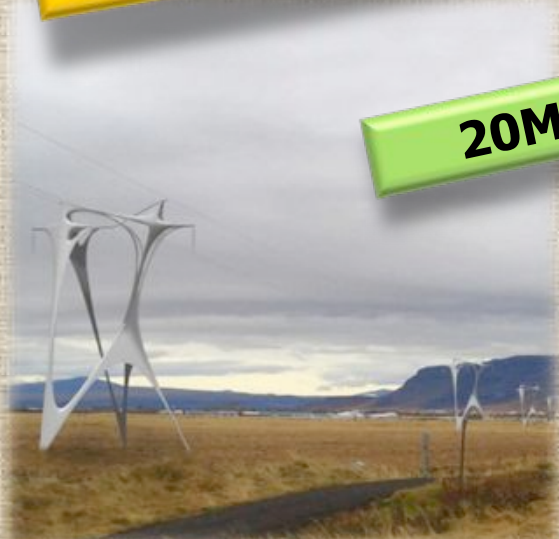
**Demonstration of innovative off-shore wind electricity generation structure**

**Development of design tools for off-shore Wind farm clusters**

**5M€**



**EII  
ELECTRICITY  
GRID**



**20M€**

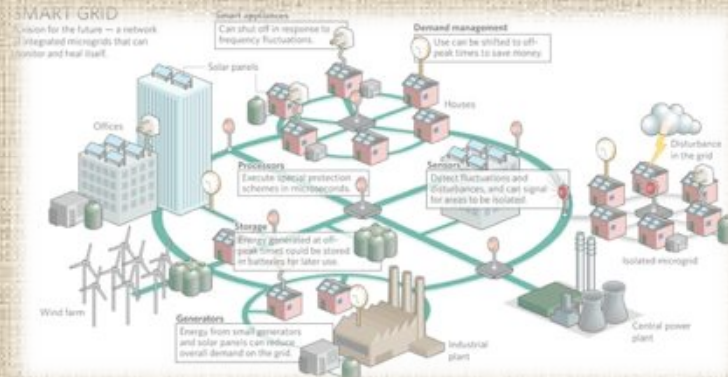
**Innovative tools for the future coordinated and stable operation of the pan-European Electricity transmission system**

**Innovative strategies and tools for the reliability assessment of the pan-European electricity transmission network**

**Network of projects developing the future European electricity networks (CSA)**

**Storage and balancing  
variable electricity supply  
and demand**

**30M€**





**EII CCS**

**High-efficiency post-combustion solvent-based capture processes**

**Understanding the long-term fate of geologically stored CO<sub>2</sub>**

**Optimising the integration of CO<sub>2</sub> capture into power plants**

**Improving efficiencies and reducing GHG emissions through CO<sub>2</sub> capture in industrial applications other than power generation**

**Support to the European CCS Demonstration Project Network**



**30M€**

**EII  
BIOENERGIA**

**Development of  
new or improved  
standardised sustainable  
bio-energy carriers**

**15M€**



# SMART CITIES

**Energia solar-térmica:**

**Materials for thermal storage systems**

**Advanced compact storage systems**

**10M€**



## Outros tópicos sobre eficiência energética:

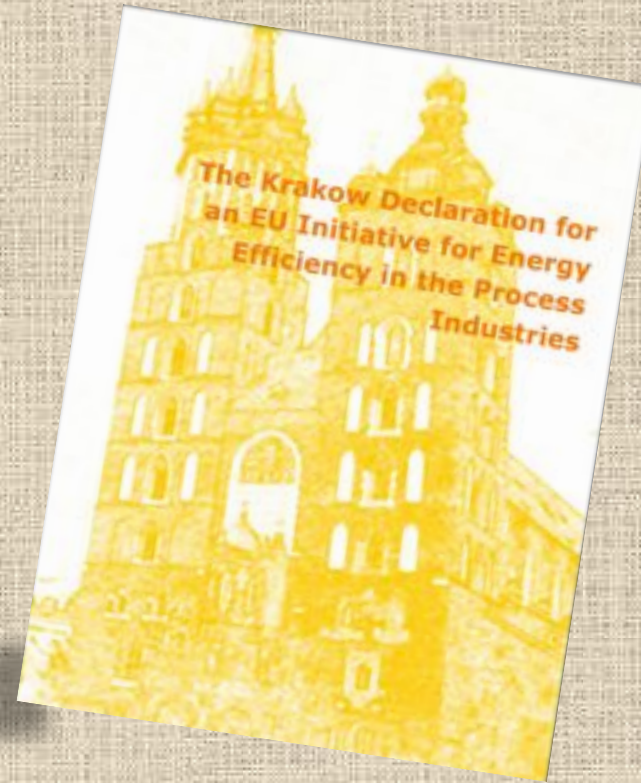
**Energy efficiency demonstration in manufacturing industry**

**15M€**

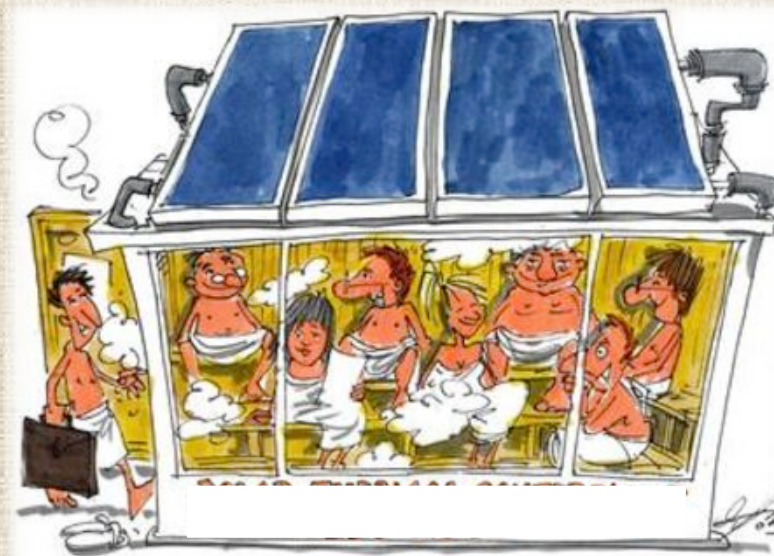
<http://www.uii-co2.com/krakow>



**Energy efficiency in low-carbon industrial parks**



Outros tópicos de  
**RENEWABLES FOR  
HEATING AND COOLING**  
(LOW/MEDIUM TEMPERATURE  
SOLAR THERMAL ENERGY)



**Revisiting solar-thermal systems for using breakthroughs in  
scientific and technological fields**

**Low/Medium temperature solar thermal systems for industrial  
process heat**

**10M€**

Tópico em  
**CLEAN COAL TECHNOLOGIES**  
(CONVERSION TECHNOLOGIES FOR  
ZERO EMISSION POWER GENERATION)



**Optimisation of IGCC\* technologies for use with high ash content coal.**

*\*Integrated Gasification Combined Cycle*

**5M€**

# JOINT CALL 'THE OCEAN OF TOMORROW' JOINING RESEARCH FORCES TO MEET CHALLENGES IN OCEAN MANAGEMENT

## •Multi-use offshore platforms (14M€)

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



- Marine microbial diversity – new insights into marine ecosystems functioning and its biotechnological potential

**45M€**

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

## **Support to the international cooperation in energy research:**

### **Pilot International Researcher Exchange in the field of energy research (US and Japan)**



**3M€**



# European Economic Recovery Plan



**Em Novembro 2008, a COM lançou o Plano Europeu de Recuperação Económica (EERP) para apoiar I&D em sectores industriais em crise**

## Contribuição das DGs e montantes para as três Iniciativas do EERP

Budgets (M€)	NMP	INFSO	TRANS-PORT	ENERGY	ENV	TOTAL FP7	TOTAL PPP
Factories of the future	400	200 +45				600 +45	1,200
Energy-efficient Buildings	250	100 +5		125	25	500 +5	1,000
Green Cars	60	120	220	50	50	500	1,000
<b>TOTAL</b>	<b>710</b>	<b>420 +50</b>	<b>220</b>	<b>175</b>	<b>75</b>	<b>1,600 +50</b>	<b>3,200</b>

**FP7 – Research Budget 2010-2013**

**A Plataforma Europeia de  
Construção (ECTP) e a Associação  
"E2B: Energy Efficient Buildings"  
têm grande envolvimento na  
Iniciativa Energy Efficient  
Buildings (EeB)**



**Roadmap 2010-2013  
disponível em  
[http://www.ectp.org/  
groupe2/params/ectp/  
36D1191v1\\_EeB\\_Roadmap.  
pdf](http://www.ectp.org/groupe2/params/ectp/36D1191v1_EeB_Roadmap.pdf)**



## Possíveis tópicos a concurso na EeB, call 20 Julho 2010 (WP2011)

Tema	Tópico	Orçamento (M€)
<b>ICT</b>	ICT for energy-efficient buildings and spaces of public use – CP	19
<b>ICT</b>	ICT for energy-efficient buildings and spaces of public use – CSA	1
<b>NMP</b>	Materials for new energy efficient building components with reduced embodied energy	40
<b>NMP</b>	New efficient solutions for energy generation, storage and use related to space heating and domestic hot water in existing buildings	
<b>NMP</b>	Energy saving technologies for buildings envelope retrofitting	
<b>NMP</b>	Geo-clusters approach to support European energy-efficiency goals	
<b>Ambiente</b>	Technologies for ensuring, monitoring and/or controlling a high quality indoor environment particularly in relation to energy efficient buildings	5
<b>Ambiente</b>	Operational guidance for Life Cycle Assessment studies of the Energy Efficient Buildings Initiative	0,5
<b>Energia</b>	Demonstration of very low energy new buildings	20
<b>Total:</b>		<b>85,5</b>

## Tópico a publicar no tema Energia

### Topic EeB.ENERGY.2011-1: Demonstration of very low energy new buildings

**Contents/scope:** The objective is to demonstrate in the building sector, high energy efficient innovative technologies and measures resulting to very low energy new buildings. The performance calculation should take into account all types of energy use: consumption for space heating and cooling, water heating, air conditioning, as well as consumption of electricity, including lighting. In any case this total annual energy consumption of the building(s) should not exceed 60 kWh/m<sup>2</sup>/year (primary energy). Both residential and non-residential buildings are addressed.

A systemic approach is expected in the measures to be taken. All elements and systems of the building that could contribute to a better energy efficiency and sustainability through integrated design and planning should be envisaged, including heat recovery technologies and very efficient water/waste management. Building Information Modeling (BIM) and other methods of integrated project delivery should be used. The project shall use innovation in technology, design, planning, operation or systems integration.

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

The project could contain a single building or a number of buildings, located in one or more countries. In the latter case, the added value of the joint demonstration effort should be

# **Pilhas de Combustível e Hidrogénio**

## **Próximo concurso da FCH-JU**

***(Fuel Cell and Hydrogen Joint Undertaking)***

**Publicação: 18 Junho 2010**

**Orçamento: 89,1M€**

**Deadline para  
submissão de  
propostas:  
13 Outubro 2010**





**7th Framework Programme - FP7 (2007-2013)  
Energy Research Information Day - 2011 calls  
Brussels, 8 July 2010**

Charlemagne Building  
Rue de la Loi 170  
B-1040 Brussels  
Belgium

A number of energy-related calls for proposals under FP7 published on 30 July 2010:

**FP7-ENERGY-2011-1:** general call focusing on research horizon

**FP7-ENERGY-2011-2:** general call focusing on research horizon and on demonstration

**FP7-ENERGY-2011-JAPAN:** coordinated call with Japan

**FP7-OCEAN-2011:** call on ocean research organised by the 2 - Food, Agriculture and Fisheries, and Biotechnology, and 7 - Transport

**FP7-ENERGY-2011-EXCHANGE:** call for International Exchange in the field of energy research (US)

[http://ec.europa.eu/research/conferences/2010/energy\\_infoday/infoday\\_energy\\_en.htm](http://ec.europa.eu/research/conferences/2010/energy_infoday/infoday_energy_en.htm)

**“Info-days” organizados pela  
Comissão Europeia,  
8 e 9 Julho 2010**

[http://ec.europa.eu/research/industrial\\_technologies/lists/events-fp7-information-day-2010\\_en.html](http://ec.europa.eu/research/industrial_technologies/lists/events-fp7-information-day-2010_en.html)



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**Delegados Nacionais:**

**Paulo Ferrão, IST**

**Helder Gonçalves, LNEG**

**National Contact Points (NCP):**

**Amélia Areias, GPPQ: [amelia.areias@gppq.mctes.pt](mailto:amelia.areias@gppq.mctes.pt)**

**Paula Galvão, GPPQ: [paula.galvao@gppq.mctes.pt](mailto:paula.galvao@gppq.mctes.pt)**

**(Teresa Bertrand, GPPQ: [teresa.bertrand@gppq.mctes.pt](mailto:teresa.bertrand@gppq.mctes.pt) >> [teresa.bertrand@energyin.pt](mailto:teresa.bertrand@energyin.pt) )**



**Gabinete de Promoção do 7.º  
Programa-Quadro de I&DT**

**<http://www.gppq.mctes.pt>**

**Toda a informação sobre o 7º PQ:**

**<http://cordis.europa.eu>**