
FCH JU organisation and programmes

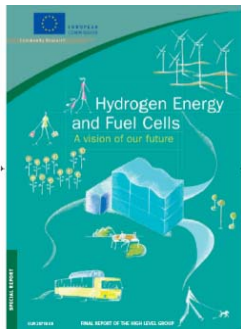
Rolf Rosenberg

**European SOFC stakeholders workshop
November 26 and 27 in the National Palace of Culture, Sofia**



Towards the FCH JU

VISION
**Hydrogen Energy
And Fuel Cells**
(2003)

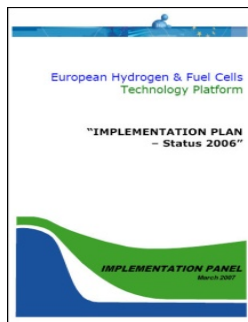


STRATEGY
**Strategic Research Agenda
Deployment Strategy
Strategic Overview**
(2005)



**Final approval by the Council for
Competitiveness by May 30!**

IMPLEMENTATION
Implementation Plan
(March 2007)



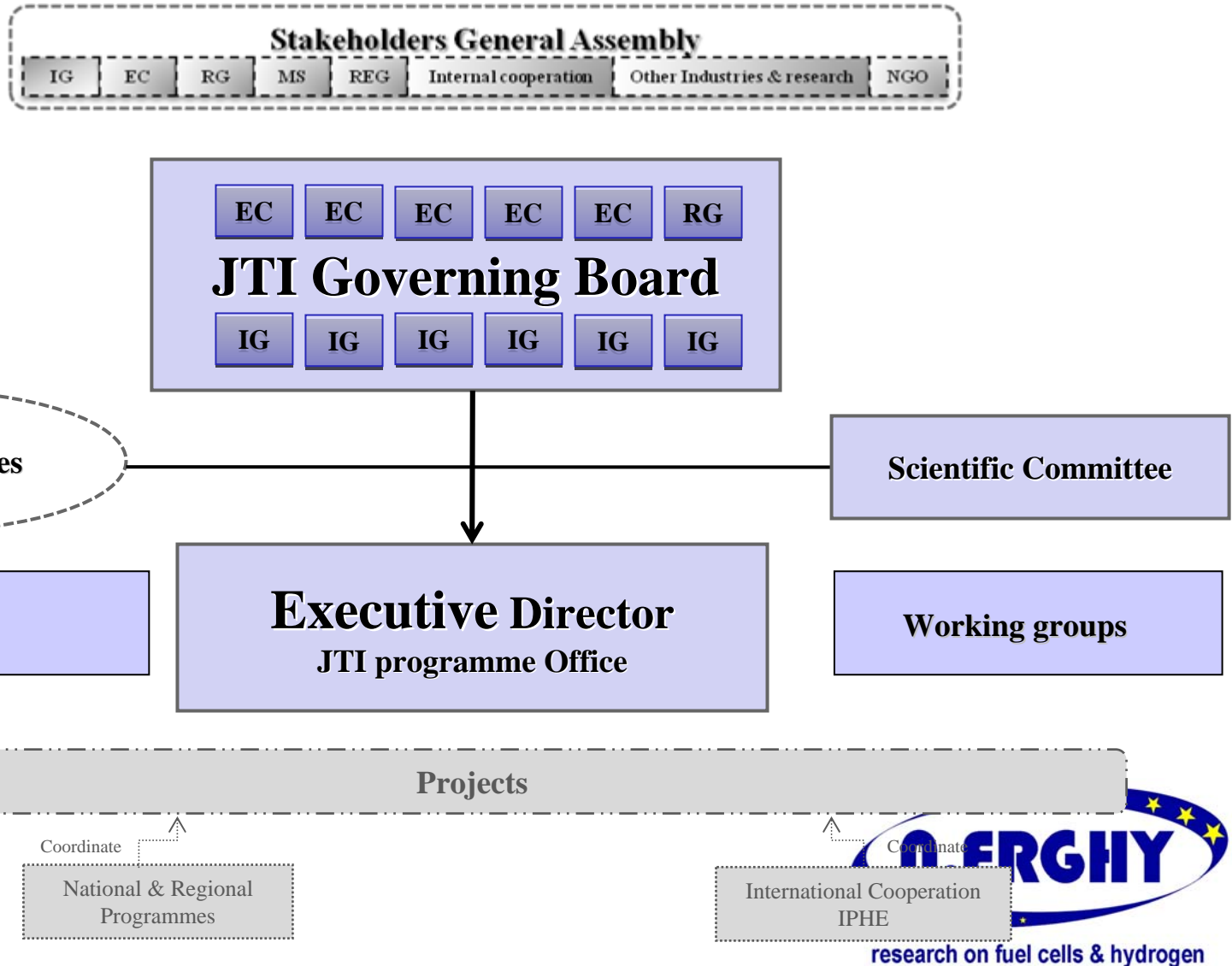
Documents available at:
www.hfpeurope.org/hfp/keydocs



FCH JU facilitating European collaboration

- Establish and execute long-term strategy
- Facilitate collaboration between industry and research
- Overcome fragmented research activities
- Co-ordinate upstream and market driven research
- Collaborate and coordinate with national and regional activities

FCH JU Organisation



THE EUROPEAN INDUSTRY GROUPING

FOR A FUEL CELLS AND HYDROGEN JOINT TECHNOLOGY INITIATIVE



fuel cells & hydrogen for sustainability

Established 28 March 2008

64 members May 2008

<http://www.fchindustry-jti.eu/members.asp>

The Board members of the JTI Industry Grouping

“Become a pro active part of the engine that will accelerate the deployment of fuel cells and hydrogen technologies!”



From left to right: Alberto Ravagni, Jonathan Lewis, Agustin Escardino, Peter Froeschle (representing Herbert Kohler), Herbert Wancura, Gijs Van Breda Vriesman

Members of the JTI Industry Grouping

50 companies, including 14 small and micro businesses (1/2)



Members of the JTI Industry Grouping

50 companies, including 14 small and micro businesses (2/2)



N.ERGHY in the FCH Joint Undertaking

✓ Established 17 March 2008

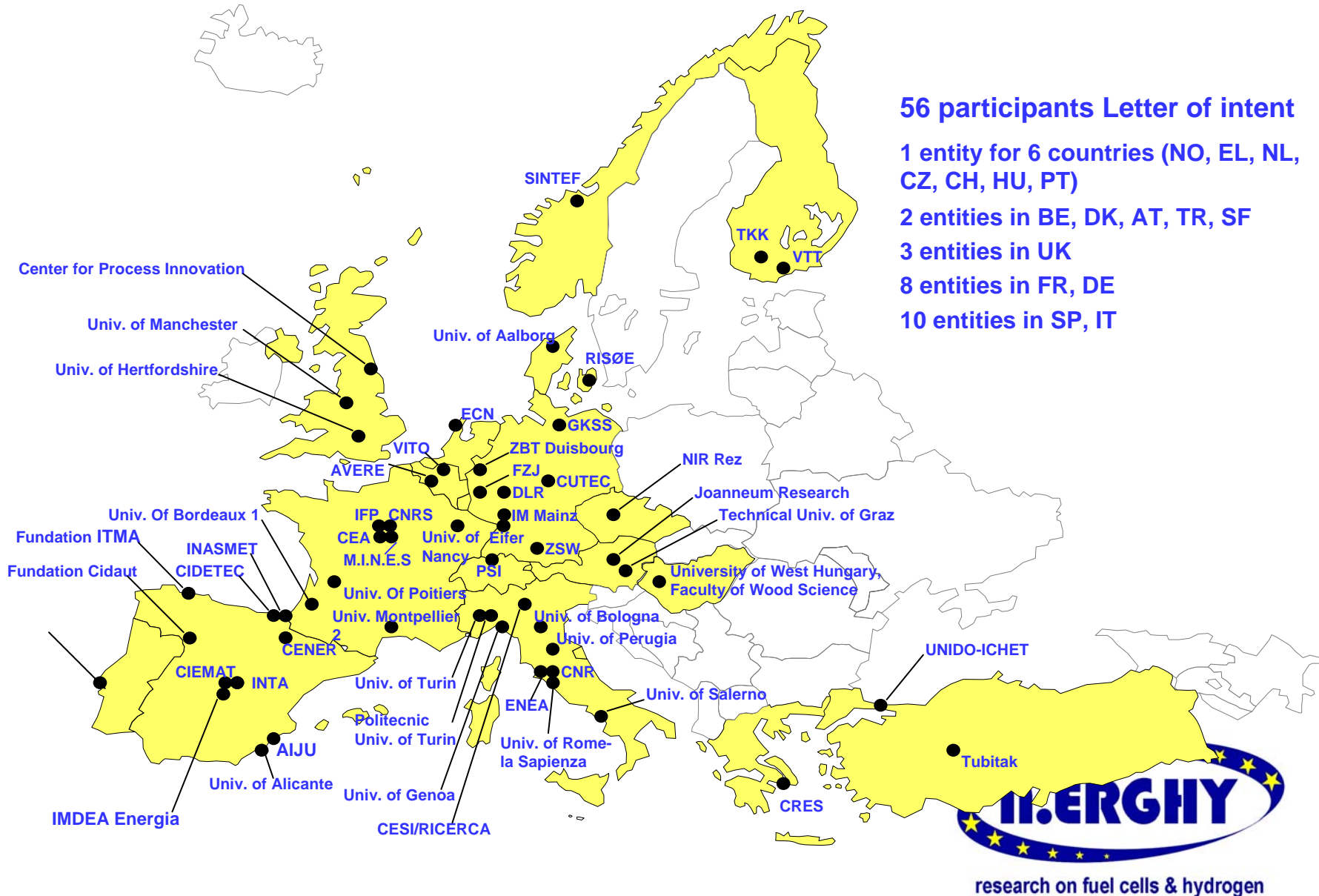


research on fuel cells & hydrogen



research on fuel cells & hydrogen

51 members in October 2008





Total: 46 out of 56

€ 215.205 M€
(46 participants)

1801 persons
(45 participants)



Forschungszentrum Jülich in der Helmholtz-Gemeinschaft



N.ERGHY Board



Chairman
P. Lucchese

**Vice-Chair &
Treasurer**
V. Antonucci

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IDA 2 Chair**
C. Sattler

**Responsible
IDA 3 Chair**
R. Rosenberg

**IDA 4 Chair
Education**
F. De Bruijn

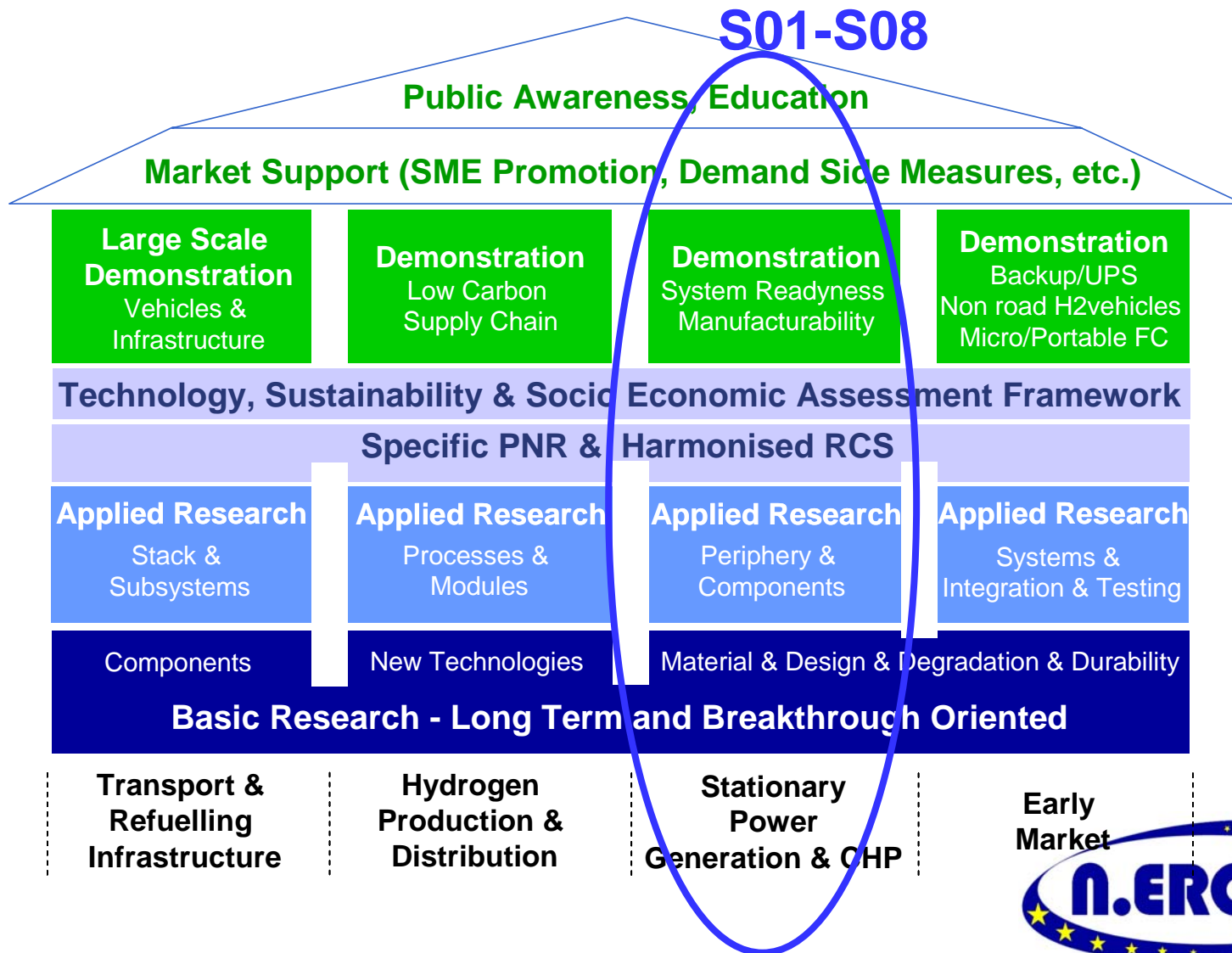


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Why to join IG or RG

- One partner in a project have to be JU member
- Preferably the coordinator is JU member
- Advanced information about calls
- Ability to influence contents of call

MAIP structure



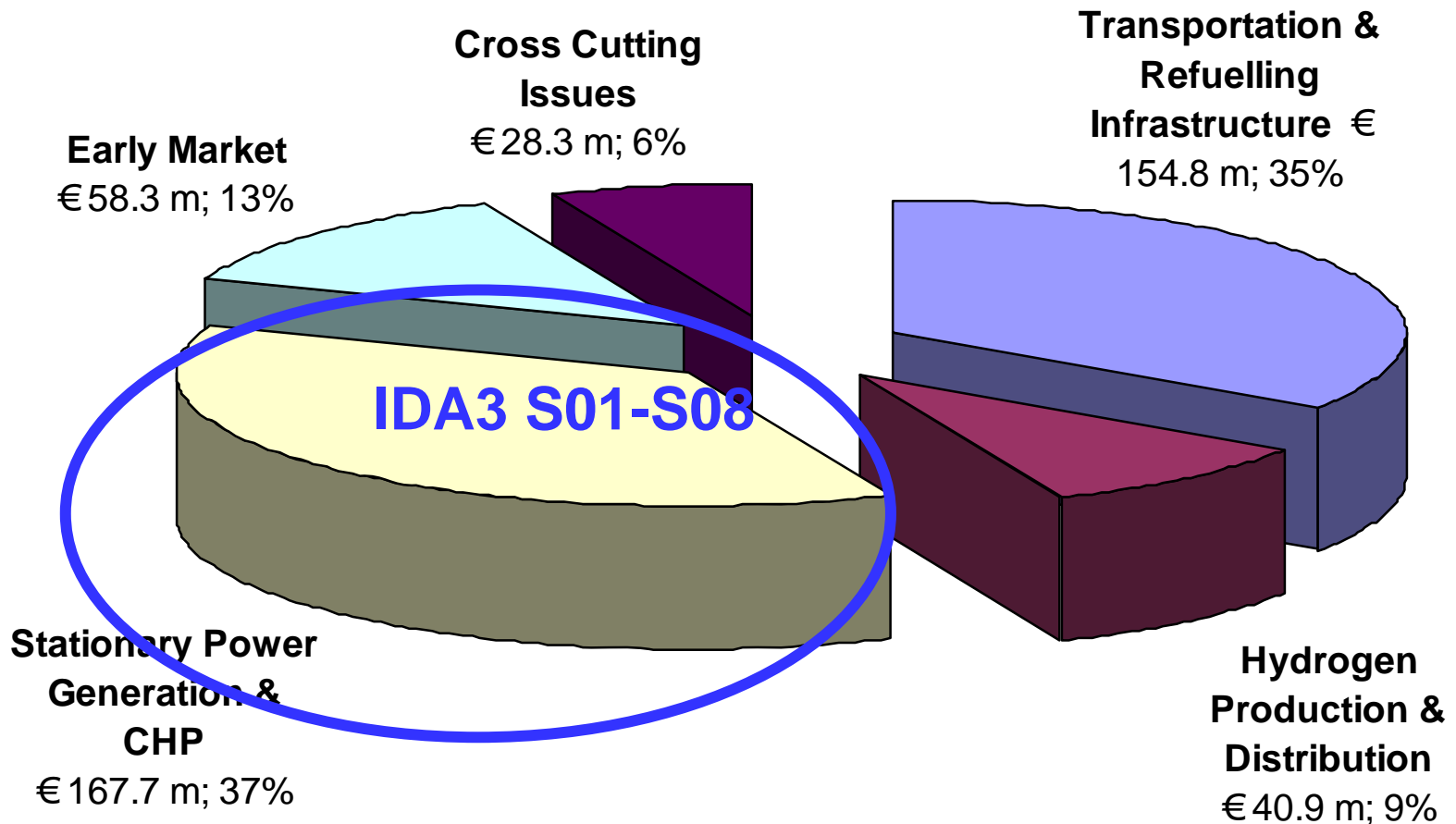
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MAIP targets

- Target date 2010
- 3 – 7 MW electrical capacity installed for pre-commercial demonstration phase
- Target date 2015
- 100 MW electrical capacity installed
- Cost of
 - 5 000 - 6 000 €/kW for Micro CHP FC
 - 1,500 - 2,500€/kW for commercial/industrial units

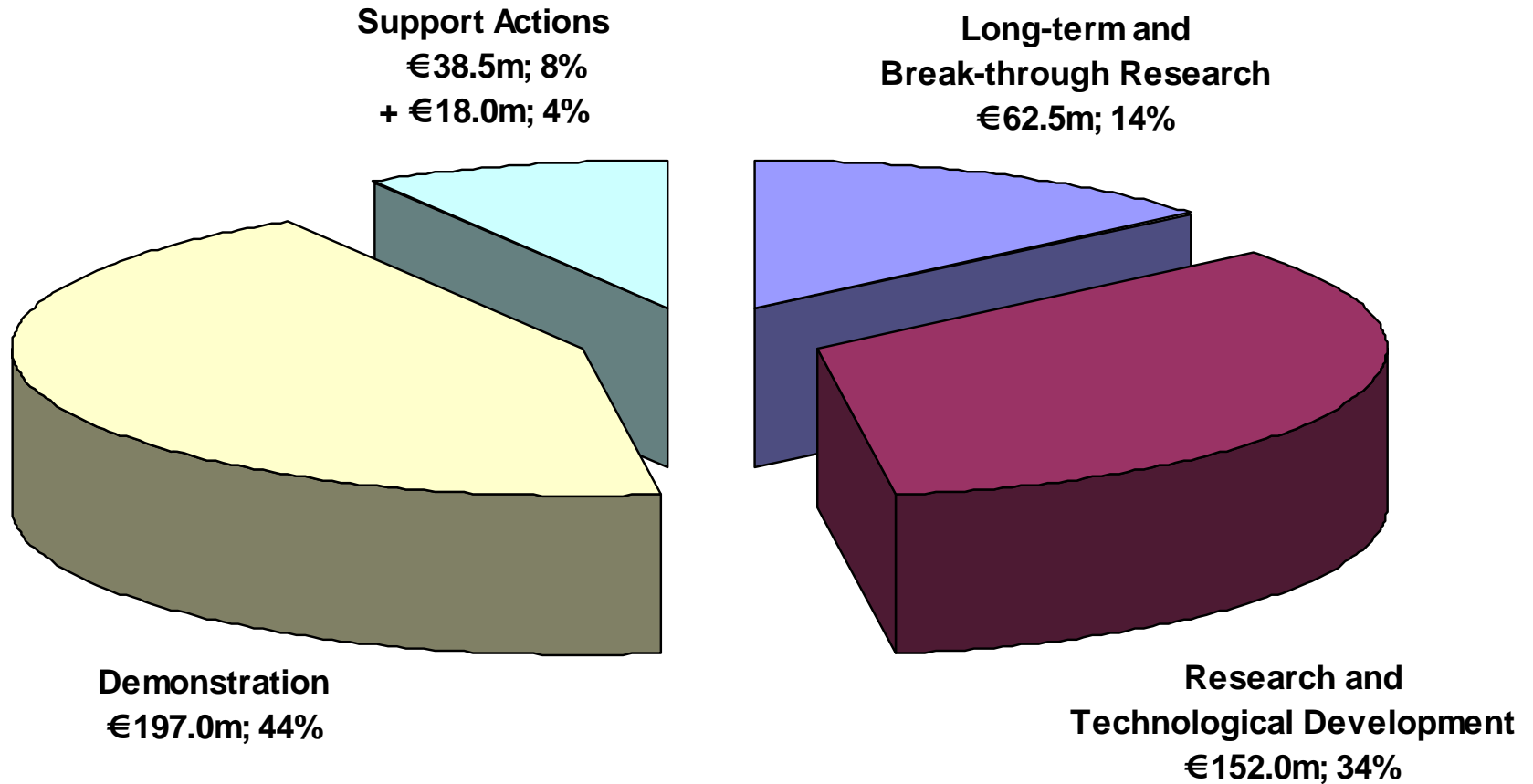


MAIP Budget



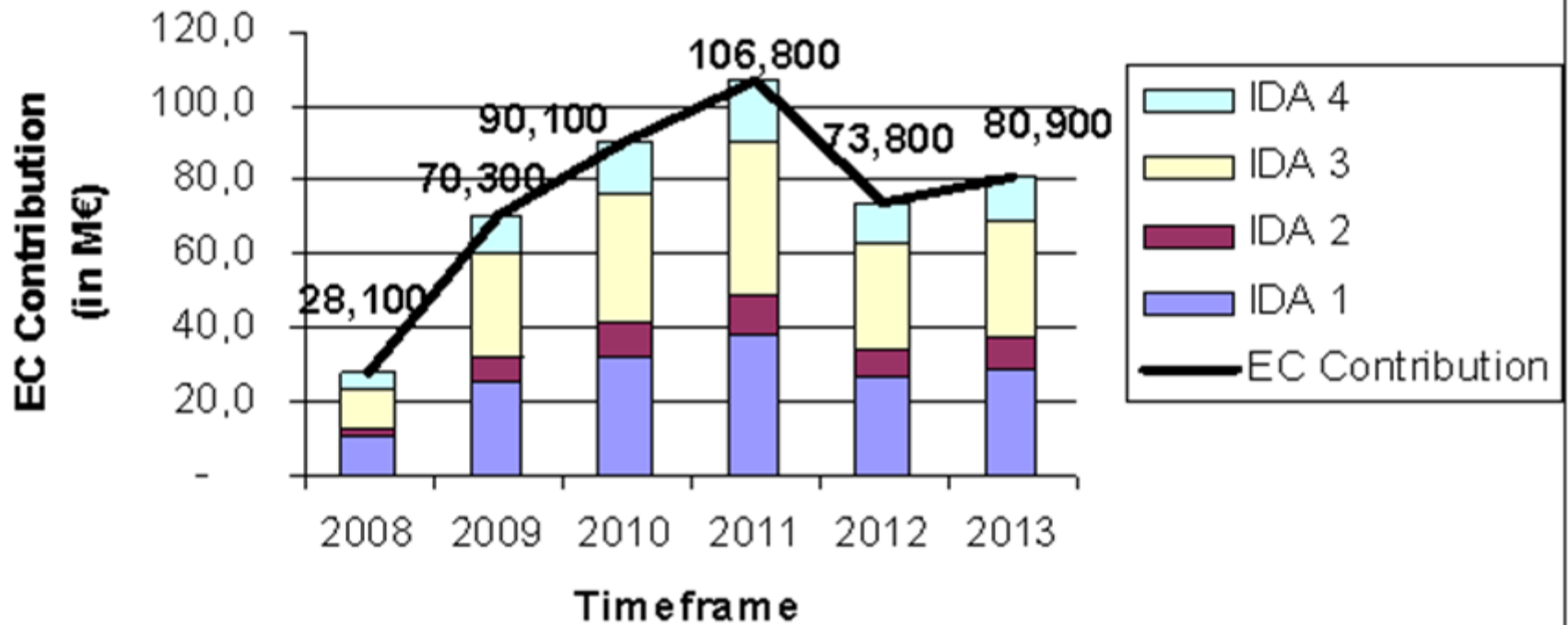
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MAIP Budget by category



MAIP Budget by year

JTI - Operational Budget Breakdown 2008-2013



Funding principles

Type of organisation	Type of Activity		
	RTD	Demonstration	Other
Industry (other than SME)	CP: max. 50% CSA: max. 50%	CP: max. 50% CSA: max. 50%	CP: 50% CSA: 50%
SME	CP: max. 75% CSA: max. 50%	CP: max. 50% CSA: max. 50%	CP: 75% CSA: 50%
Non-profit public-bodies, universities & higher education establishments, non-profit Research organisations	CP: max. 75% CSA: max. 50%	CP: max. 50% CSA: max. 50%	CP: 75% CSA: 50%

Funding schemes:
 CP: Collaborative project
 CSA: Coordination and support action

- Reimbursement of indirect costs: A maximum of 20% of the direct eligible costs
- FCH JU Financial contribution: If decreases in funding rates are needed to comply with the matching principles (the industry contribution shall at least match the Community's contribution) these shall be fair and balanced proportionally. Therefore, the percentage to be reduced shall be the same for all participants, all funding schemes, and all type of activities.



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MAIP S- Stationary Power Generation & CHP

No.	Activity	C at	Rationale	FCH JU
S01	Market capacity build	D	a.) Large scale demonstration of application readiness of MCFC, PEM-FC b.) Demonstration of proof of concept of SOFC.	€38.2 m
S02	Technical & manufacturing validation	D	Applied research on suitable production methods and processes in order to ensure high quality production of critical stack components of SOFC.	€26.6 m
S03	Component & system improvement	A R	Applied research on components and system improvements in order to meet application relevant functional and performance criteria of PEM-FC, MCFC	€35.7 m
S04	Degradation & lifetime fundamentals	B R	Long-term basic research in order to identify relevant factors and parameters with impact on degradation and lifetime of stacks, SOFC, PEM-FC and MCFC.	€10.1 m



MAIP S- Stationary Power Generation & CHP

S05	System application readiness	A R	Applied research in order to prove application relevant system performance, robustness and life time of PEM-FC and MCFC.	€28.7 m
S06	New materials for solutions	B R	Basic research on development and design of new materials in order to improve performance and stability of SOFC.	€ 9.7m
S07	Controls, modelling, diagnostics and analysis	A R	Applied research in order to establish a scientific methodology, plus tools, controls and diagnostics for safe degradation and lifetime prediction of SOFC, PEM-FC and MCFC.	€13.6 m
S08	Next generation designs	B R	Basic research on advanced single SOFC cell and stack design in order to meet performance, endurance, robustness and cost targets.	€ 4.7m
S09	Investigation of market application targets for best planning	S AR	Pan-European investigation of market application targets for stationary fuel cells - from residential, through commercial to industrial - in order to gain application relevant, specifically quantified benchmarks and targets as a planning base.	€ 0.4m



S-Support Activities to be included in Activities S1-S8

S	PNR on H2 devices for residential CHP	S	Pre-normative research on hydrogen devices for residential CHP application.	€ 1.5m
S	PNR on industrial H2 systems	S	Pre-normative research on industrial hydrogen systems.	€ 1.5m
			Total allocation to included Support Activities	€ 3.0m

FCH AIP 2008 €12.0m

8	Operation diagnostics and control for stationary power applications	Development of control and diagnostics tools for operational performance including degradation and lifetime prediction (PEM, MCFC, SOFC technologies).
9	Component and system improvement for stationary power applications	Development activities on component and system in order to meet application- relevant functional and performance criteria (PEM, MCFC, SOFC technologies).
10	Degradation & lifetime fundamentals for stationary power applications	Research on factors impacting the degradation and lifetime of stacks (SOFC, PEM, MCFC technologies); exploration of synergies with back up and UPS units.



FCH AIP 2009 €25.0m

- Degradation & lifetime fundamentals
- Materials development for cells, stacks and balance of plant (BoP)
- Controls, modelling, diagnostics
- Improvement of components and their interaction
- System proof of concept
- Validation of integrated systems readiness
- Market capacity build and field demonstration



Thank you for your attention