

Fuel Cells and Hydrogen Joint Undertaking

Deliverables and future perspectives
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Stakeholders General Assembly 9-10 November 2010



Content

- EU Energy Policy Context
- Fuel Cells and Hydrogen Joint Undertaking (FCH JU)
- FCH JU 2008, 2009 & 2010 call overview
- FCH JU future activities and perspectives

EU Energy Policy Context : Policy Challenges

- Sustainable development
- Security of supply
- Competitiveness

*The European Strategic Energy Technology (SET) Plan has **identified fuel cells as a key technology for Europe towards the 20 20 20 goal.***

AN ENERGY POLICY FOR EUROPE



energy for a changing world

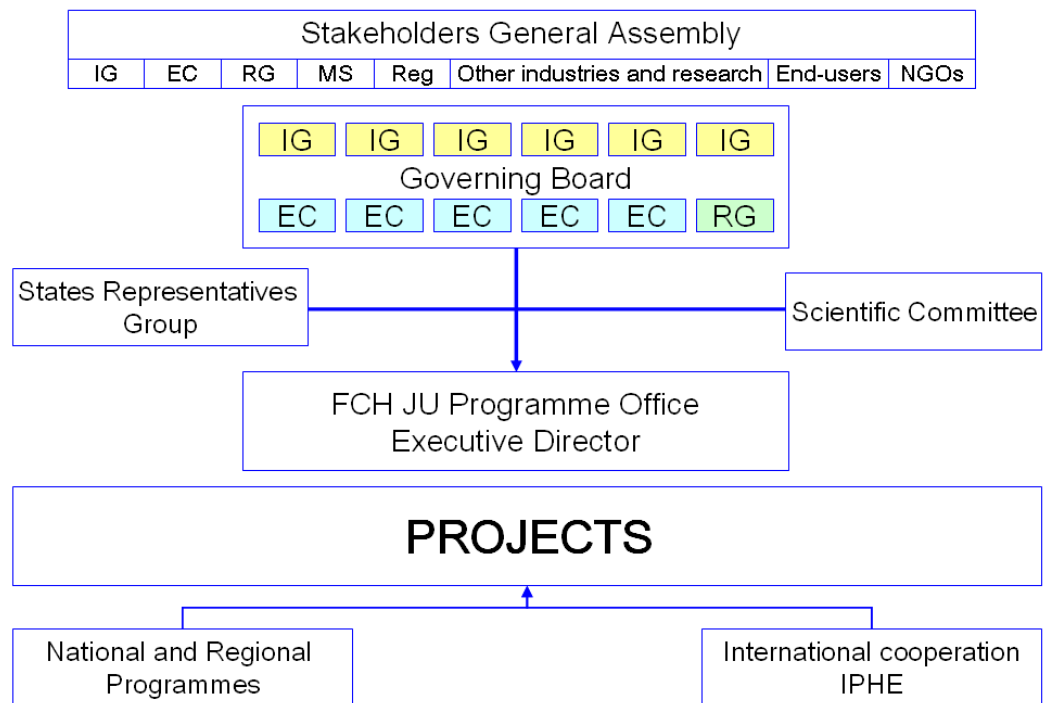
FCH JU : Strong Public Private Partnership with Focused Objectives

FCH JU - Objectives

- Bring resources together under a cohesive, long-term strategy : **public private partnership**
- Ensure **commercial focus** by matching RTD activities to industry's needs and expectations
- Scale-up and intensify links between Industry and the Research Community

To accelerate the development of technology base towards commercialization from 2015 onwards

FCH JU – Governance structure



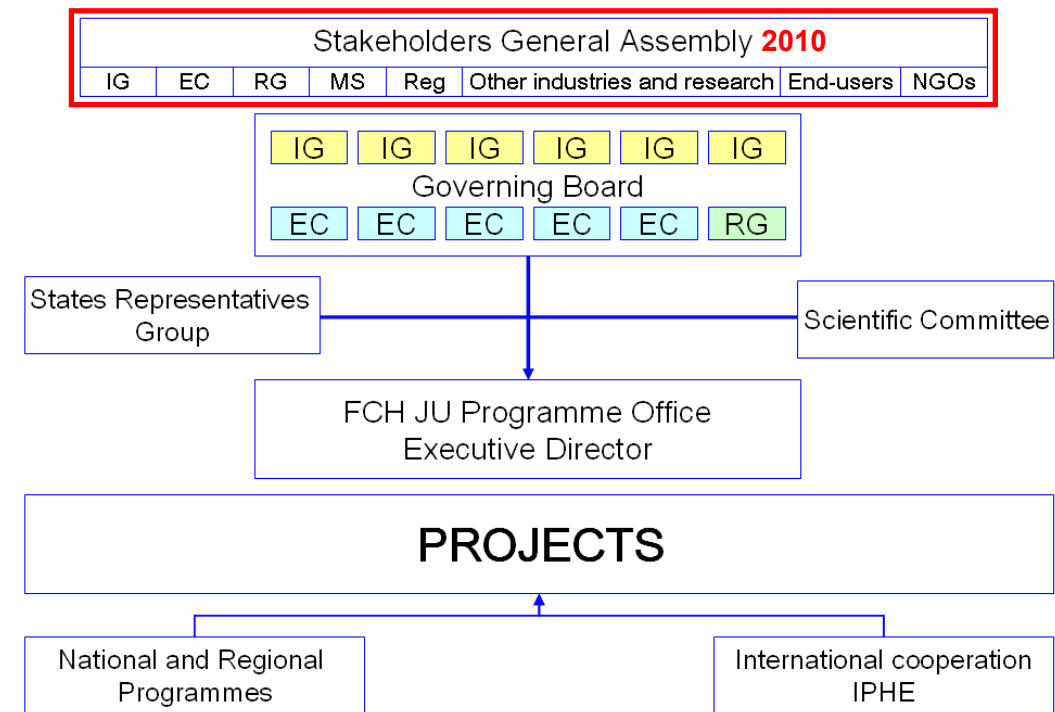
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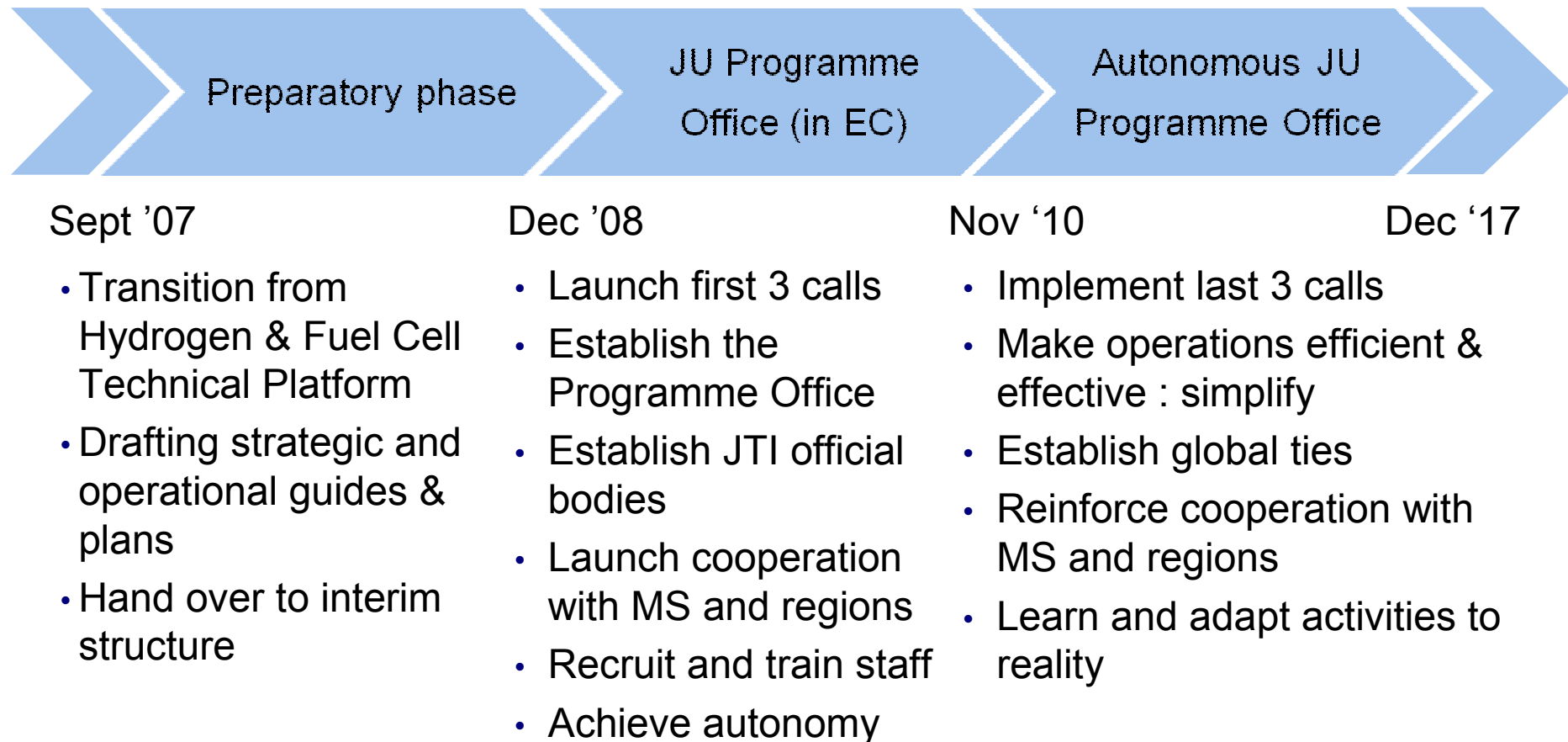
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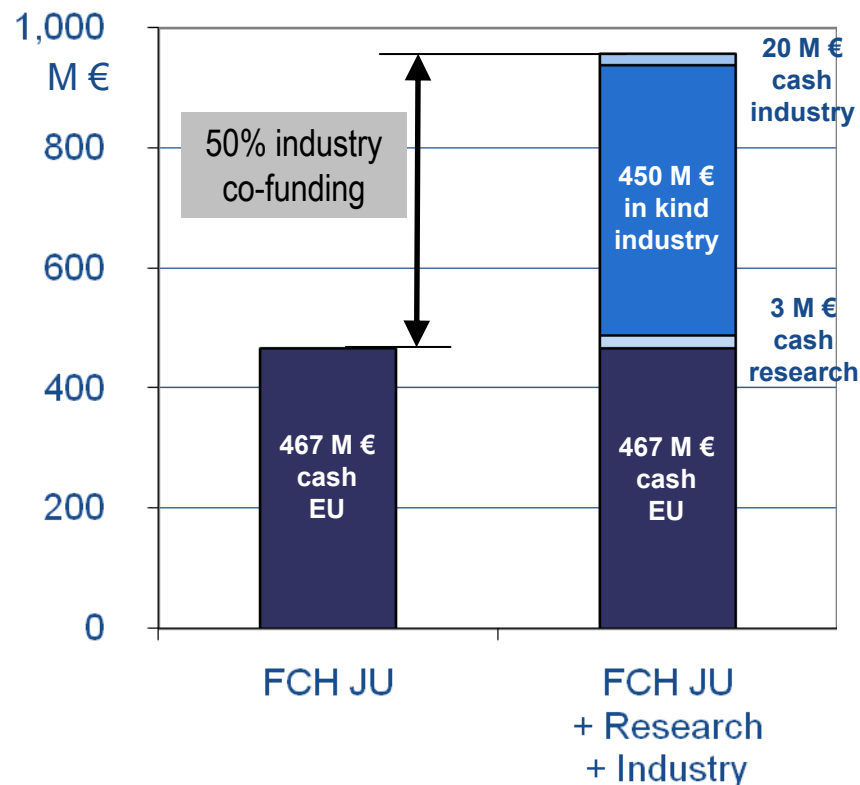
FCH JU – Governance structure



FCH JU : Establishing



FCH JU - Operational budget

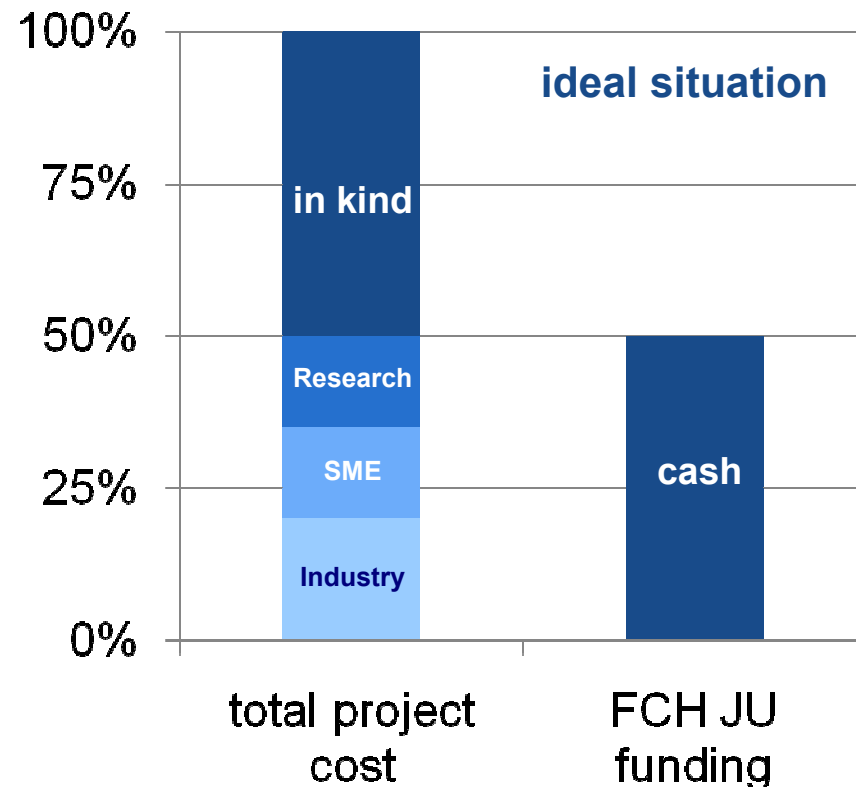


Budget : 2008 ~ 2013 : (min.) 940 M €

Operations : to launch annual, open and competitive calls for project proposals

Principle : 50/50 cost-sharing between the EU and Industry

FCH JU - Operational budget



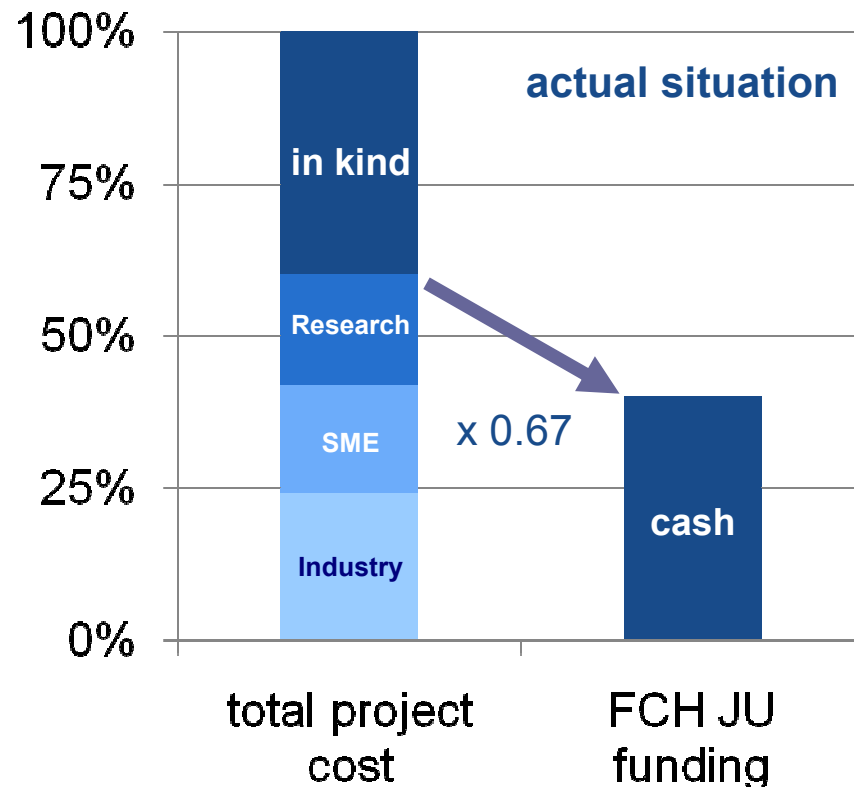
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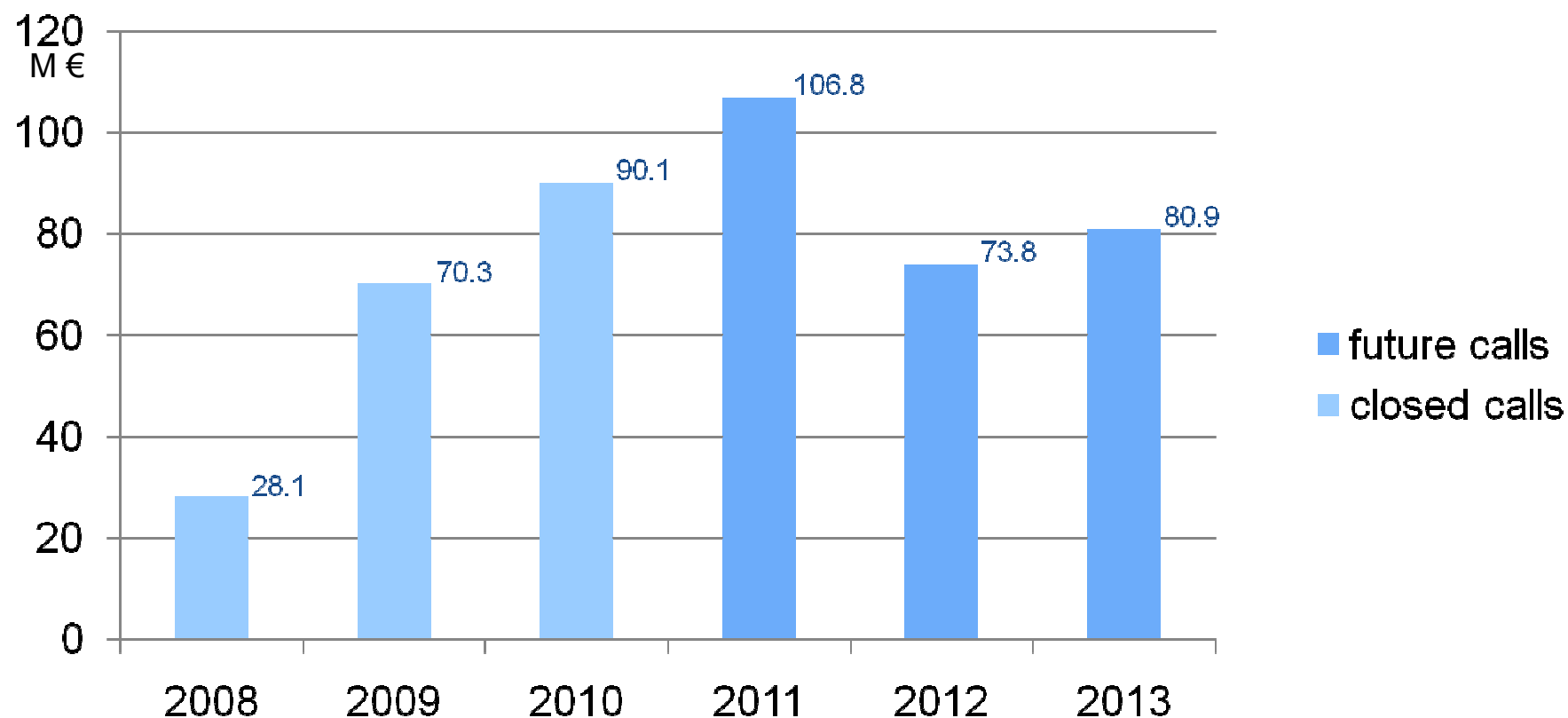
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Correction factor : in order to reflect the reduced FCH JU funding, a correction factor is applied to all funding schemes; for the call 2009 : 0.67



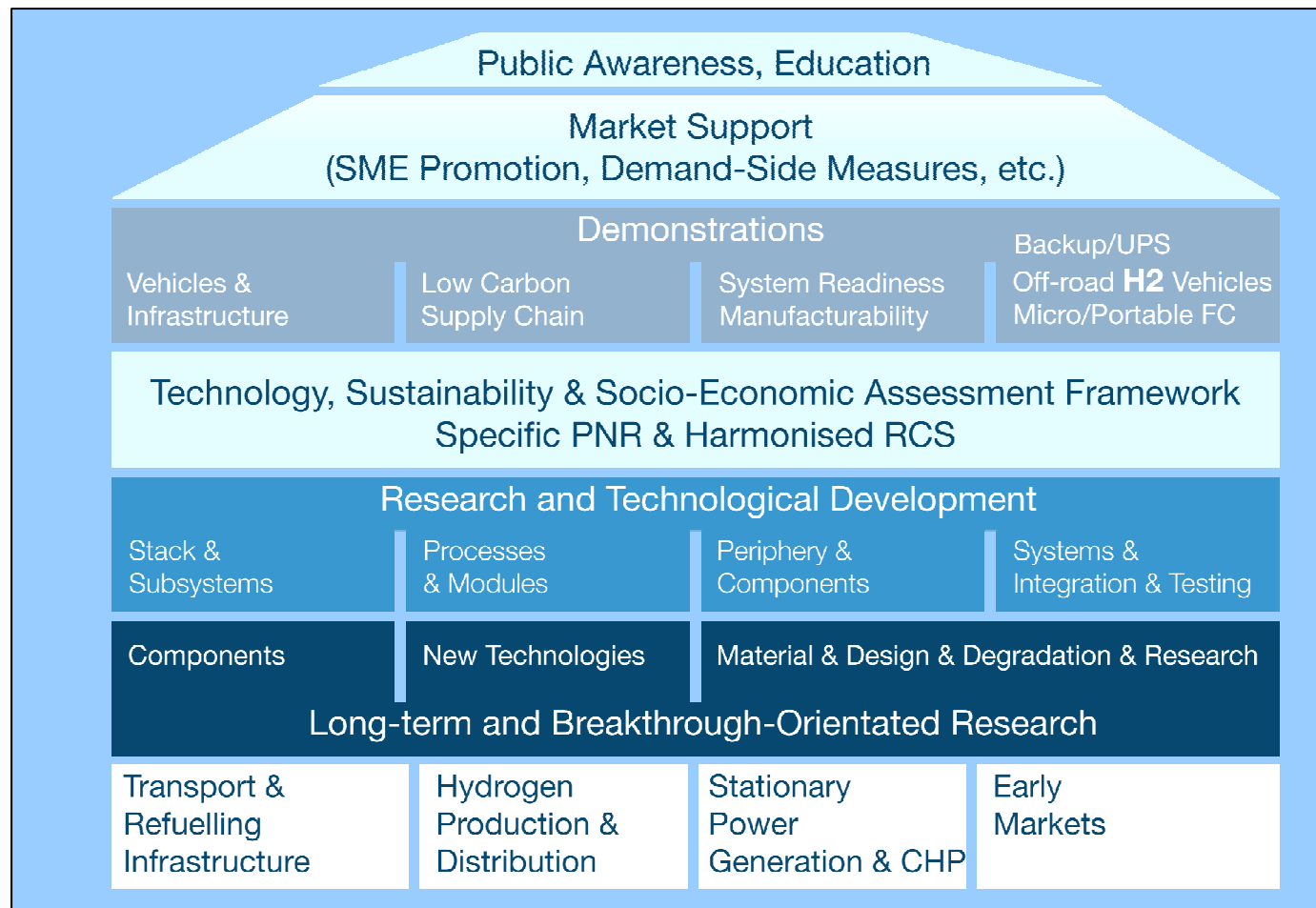
FCH JU - Operational budget for annual calls (2008 – 2013)



FCH JU Multi-Annual Implementation Plan 2008 - 2013

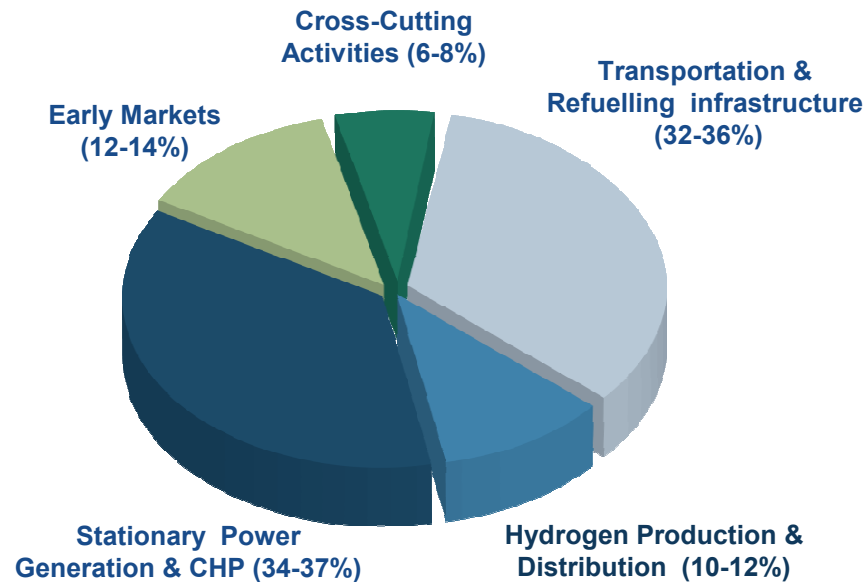
**Adopted in
May 2009**

**Currently
under review**

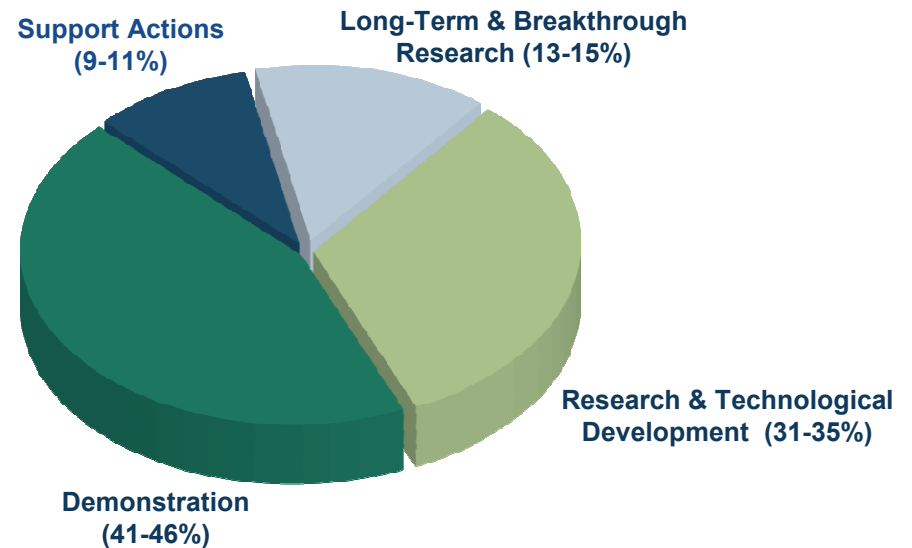


FCH JU Budget Breakdown^(*) 2008-2013

By Application Area

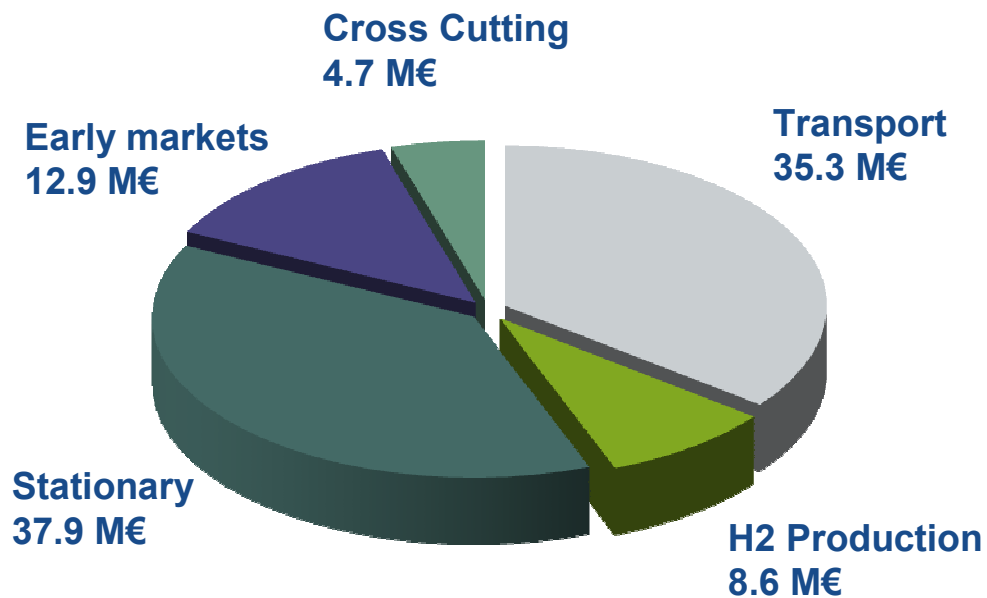


By Activity Type



* as stated in the Multi Annual Implementation Plan

FCH JU Budget Breakdown – call for proposals to date



Call 2008 :
Budget : 28.1 M€
16 projects were granted
funding in December 2009

Call 2009 :
Budget : 71.3 M€
50 proposals received
28 proposals in negotiations
in April 2010

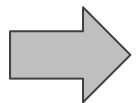
Call 2010 :
Budget : 90 M€
71 proposals received

Budget division to date
By application area based on preliminary call distribution



Overview of Call 2008

- Publication date : 8 Oct 2008
- Deadline : 15 Jan 2009
- Budget : 28.1 M€
- Topics in areas :
 - Transportation and refuelling infrastructure (8.9 M€)
 - Hydrogen production & distribution (2.9 M€)
 - Stationary power generation & CHP (12 M€)
 - Early Markets (2.6 M€)
 - Cross-cutting issues (1.7 M€)

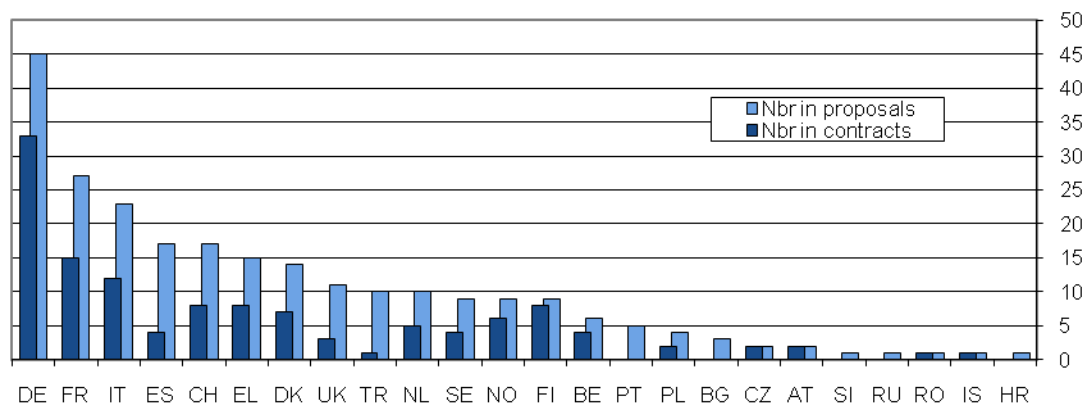


16 projects running

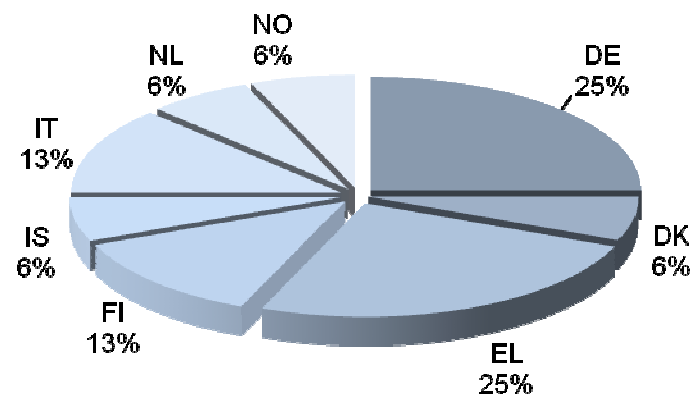


Geographical distribution of project participants (2008 call)

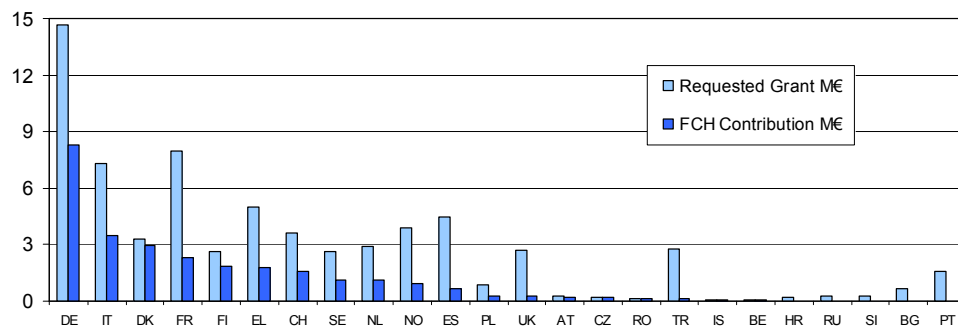
Project participants



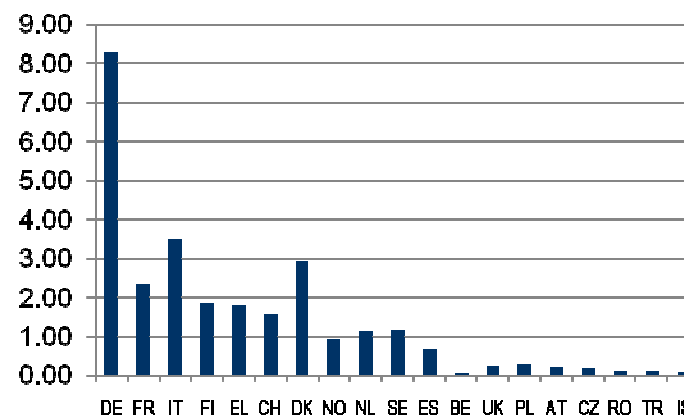
Project coordinators





Requested grant vs contribution in M€



Project funding in M€



FCH JU Call 2008 : Types of project supported

TRANSPORTATION & REFUELLING INFRASTRUCTURE	<p>Demonstration of hydrogen fuelled road vehicles and refuelling infrastructure (1)</p> <p>Preparation for large scale vehicles demonstration in Europe (1)</p> <p>European fuel cell stack cluster (1)</p>	
HYDROGEN PRODUCTION & DISTRIBUTION	<p>Efficient PEM electrolyzers (2)</p> <p>Water decomposition with solar heat sources (1)</p>	
STATIONARY POWER GENERATION & CHP	<p>Operation diagnostic and control (1)</p> <p>Component and system improvements (1)</p> <p>Degradation of life time fundamentals (5)</p>	
EARLY MARKETS	<p>Fuel supply technology for portable and micro fuel cells (2)</p>	
CROSS- CUTTING ISSUES (planning of socio-economic activities (1))		

Focus on demonstration projects : H2moves Scandinavia

Gaining customer acceptance for fuel cell vehicles in Scandinavia

- Roll-out latest state-of-the-art hydrogen fuel cell vehicles operated by customers
- Consolidate existing hydrogen-fueling hub in southern Norway and add one new station of latest design in Oslo (70 MPa, capacity min. 200 kg/day)
- Carry out five European vehicle road tours (extended vehicle fleet) supported by mobile refueler.
- Communicate on project performance
- Actively link Scandinavian Hydrogen Highway Partnership (SHHP) to European network

Participating vehicles:



10 Daimler
B-Class F-CELL

2 Alfa Romeo
Mito FCEV

5 Th!nk
FC city cars

- Refueling stations
 - 1 refueler with 70 MPa, pre-cooling (-40°C)
 - 1 mobile refueler for EU demo tours
- Certification & project safety
 - Improvements in regulations, C&S
 - Safety relevant emergency mechanisms
- Project key data :
 - Budget ~20 M€ (~8 M€ EU + ~2 M€ (DK, NO))
 - Start 1 Jan 2010, duration 36 months



DAIMLER



H2 Logic
HYDROGEN FUEL CELL POWER SOLUTIONS

Hydrogen Sweden



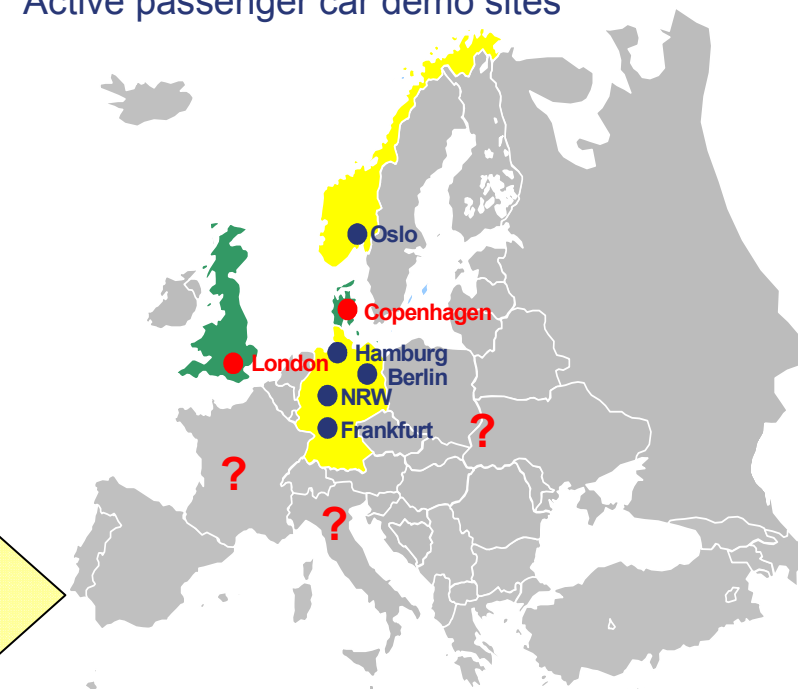


NEXTHYLIGHTS

Project structure and expected results



Active passenger car demo sites



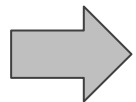
● Existing LHP cluster or LHP cluster in preparation

● Current proposal



Overview of Call 2009

- Publication : 2 Jul 2009
- Deadline : 15 Oct 2009
- Budget: 71.3 M€
- Topic areas:
 - Transportation & refuelling infrastructure (26.4 M€)
 - Hydrogen Production & distribution (5.7 M€)
 - Stationary power Generation & CHP (25.9 M€)
 - Early markets (10.3 M€)
 - Cross-cutting issues (3.0 M€)



28 projects currently under final negotiation

Demonstration projects

Clean Hydrogen in European Cities (CHIC)

JTI-FCH objectives

Approval + Certification

Measurement + Monitoring

Safety

Assessment framework

Evaluation

Dissemination to new cities

Public awareness

CHIC Project Concept

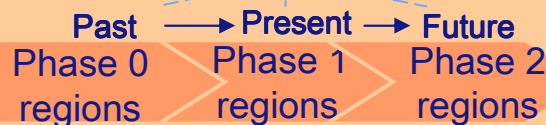
H₂ Infrastructure and FC Bus Operation



Performance and Sustainability Assessment

Environment Economy Society

Dissemination



Key figures

- 28 partners from 10 countries worldwide (8 European, 2 North American)
- 5 cities
- 26 fuel cell buses
- 2 filling stations per city
- Demonstration phase 2010-2016
- at least 3 different bus manufacturers



Early markets

- Key to early commercial success
 - Focus on demonstration
- Call 2009 Proposals in negotiation stage:
 - 40 forklifts at 6 sites (2 projects)
 - 10 postal vehicles at 2 sites
 - 19 backup power units at 11 sites
- Total costs : 26.8 M€
- Recommended funding : 12.3 M€





Overview of Call 2010

Publication of call	18th June 2010
Deadline for submission of proposals	13th October 2010
Evaluation of proposals	November 2010
Evaluation Summary Reports sent to proposal coordinators ("initial information letter")	December 2010
Invitation letter to successful coordinators to launch Grant Agreement negotiations with the FCH JU	February 2011
Signature of first FCH JU Grant Agreements	From June 2011
Letter to unsuccessful applicants	From June 2011



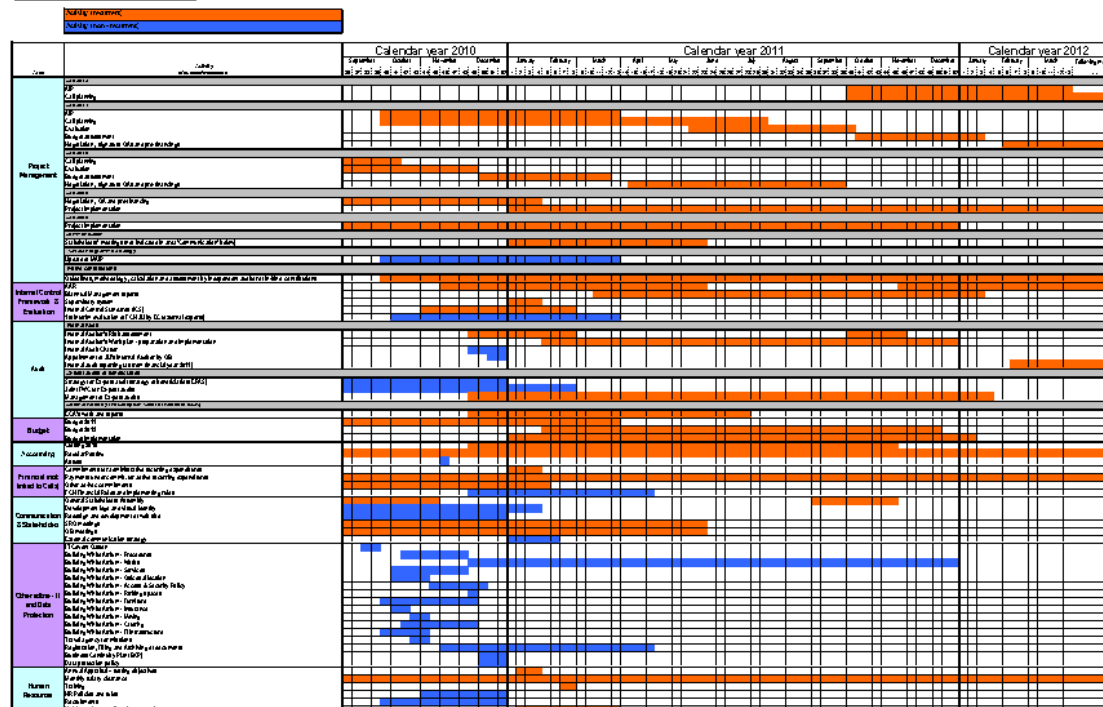
FCH JU PO Future activities and perspectives

- Standardisation of processes and improvement of the functioning of the Programme Office
- ✦ Reduce time to grant

How :

- Annual activities
- Standardisation
- Improvement

FCH JU Annual plan - Activity level

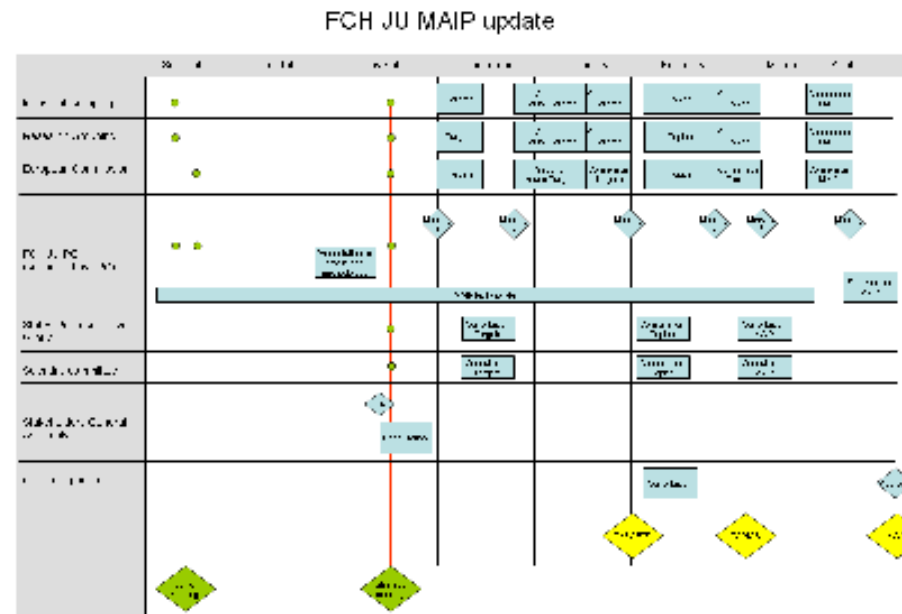


FCH JU PO Future activities and perspectives

- Standardisation of processes and improvement of the functioning of the Programme Office
 - ✦ Reduce time to grant
- Thorough forward planning and consultation of stakeholders
 - ✦ Development of strategic direction

How :

- Revision framework
- Share expectation



FCH JU PO Future activities and perspectives

- Standardisation of processes and improvement of the functioning of the Programme Office
 - ✦ Reduce time to grant
- Thorough forward planning and consultation of stakeholders
 - ✦ Development of strategic direction
- Closer cooperation FCH PO and projects : go and see
 - ✦ Deep understand reality

A screenshot of a web application interface showing a table with columns for various metrics. The table has a blue header bar and a search bar. The table contains several rows of data, including project names, dates, and numerical values. The interface is designed for data entry and management.

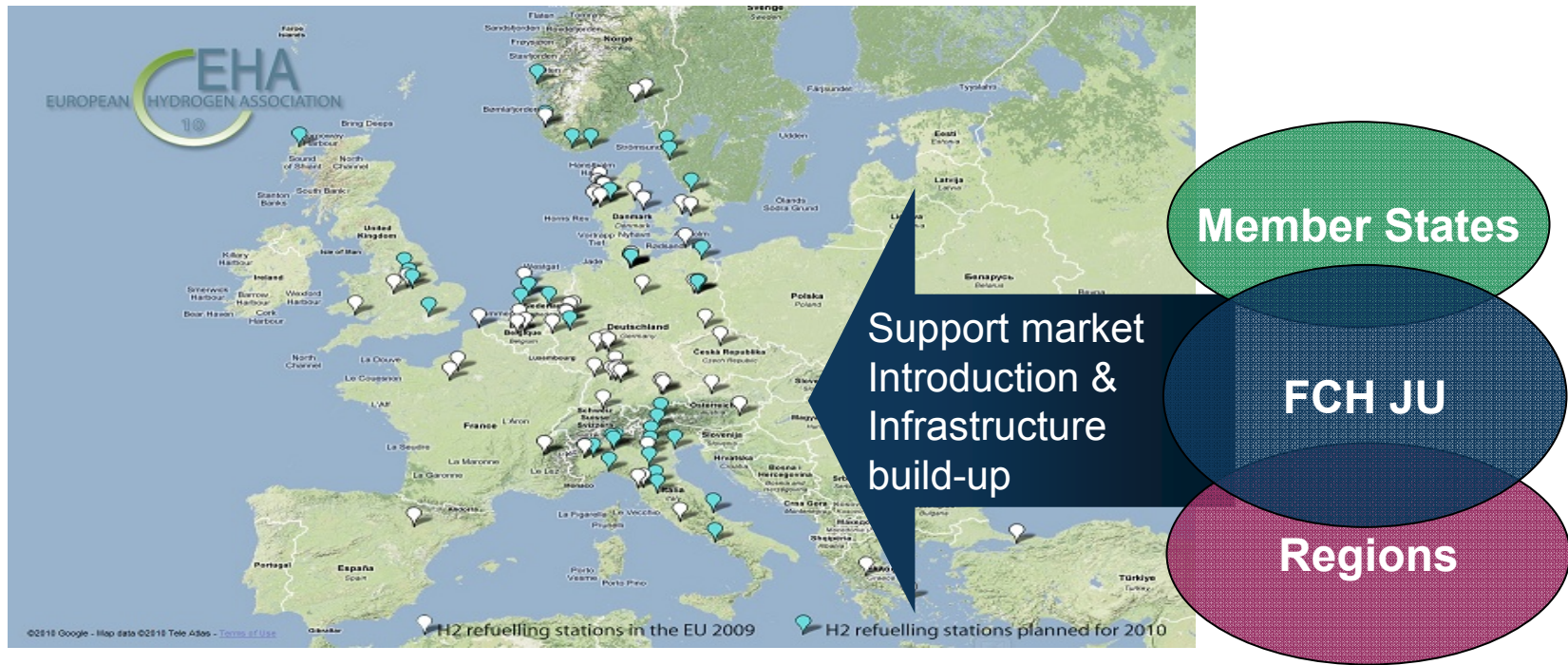


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- Closer cooperation FCH PO and projects : go and see
 - ✦ Deep understand reality
- Communicate with one voice on Fuel Cells and Hydrogen
 - ✦ Optimisation of visibility and awareness raising initiatives in close coordination with all partners and stakeholders

FCH JU PO Future activities and perspectives

- Communicate with one voice on Fuel Cells and Hydrogen
 - Deployment of FCH in Europe : A Joint Effort



- Call for tender for commercialization studies
- FCH JU Annual Implementation Plan 2011
- Contribution to 8 Framework Programme and other EU policy initiatives



Thank you for your attention

