

Fuel cells and hydrogen

Joint undertaking

2013 Program Review Days

Introduction

*Jean-Luc Delplancke, Head of Program Unit
Fuel Cells and Hydrogen Joint Undertaking
November 2013*

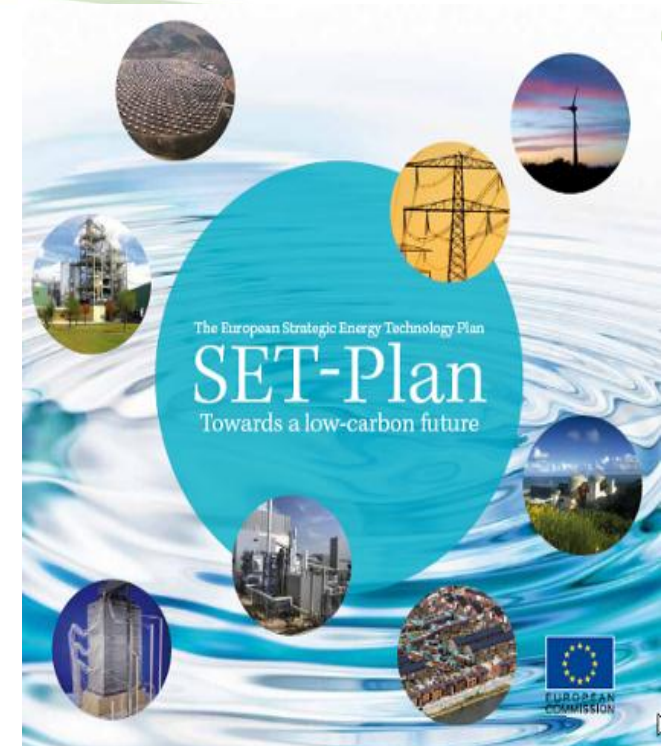
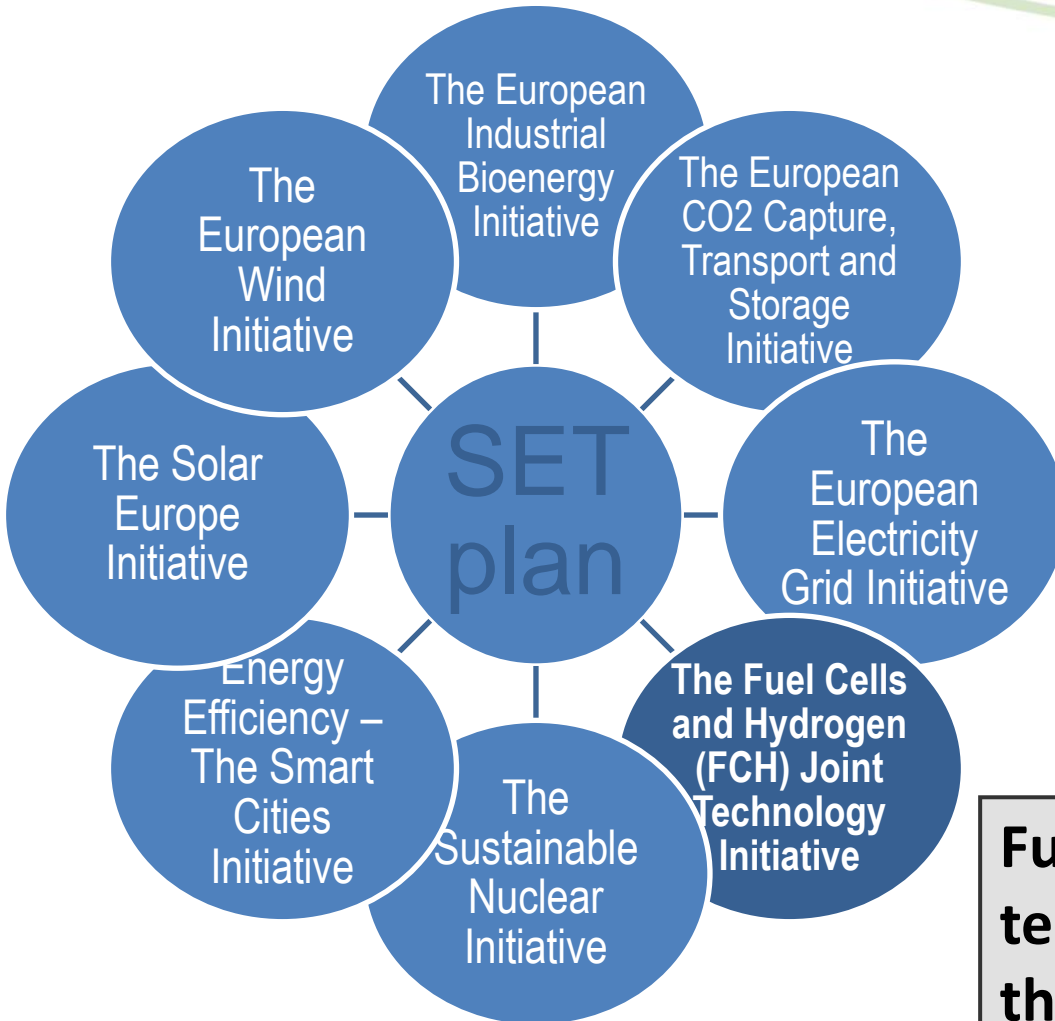


<http://www.fch-ju.eu/>



energy for a changing world

The FCH JU in the **SET-Plan**



Fuel cells technology is a key technology for Europe towards the 20-20-20 goal by 2020

The FCH JU in the SET plan: A strong public-private partnership with a focused objective

Fuel Cells & Hydrogen Joint Undertaking



Industry Grouping
Close to 60 members
~ 50% SME



European Union
represented by the
European Commission



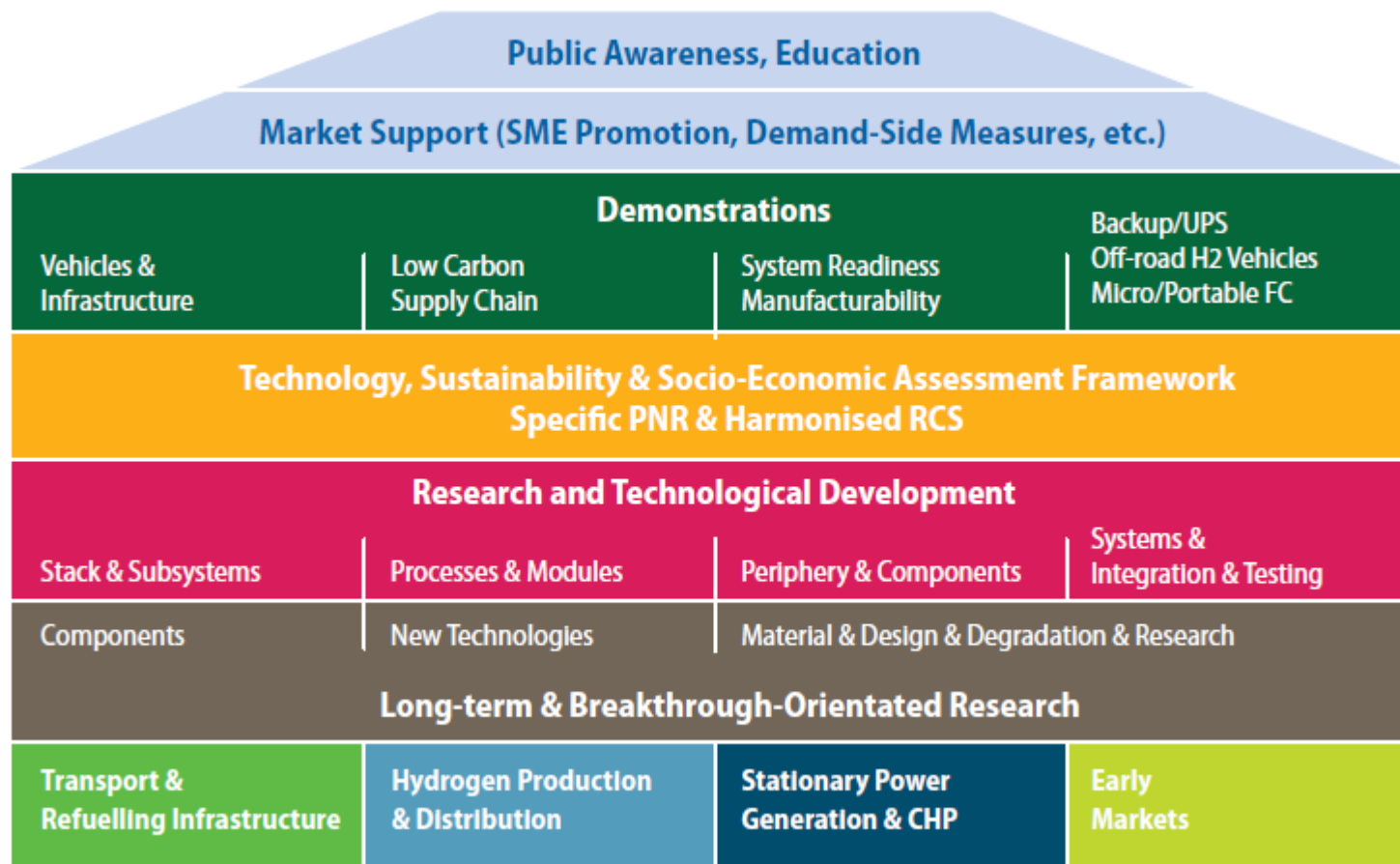
Research Grouping
Over 60 members



To accelerate the
development of
technology base
towards **market**
deployment
of FCH technologies
from 2015 onwards

The Joint Undertaking is managed by a Governing Board composed of representatives of all three partners and lead by the Industry.

Multi-Annual Implementation Plan 2008 - 2013



Funding distribution by application area: Multi-annual Implementation plan

Figure 1 : Budget breakdown by application area

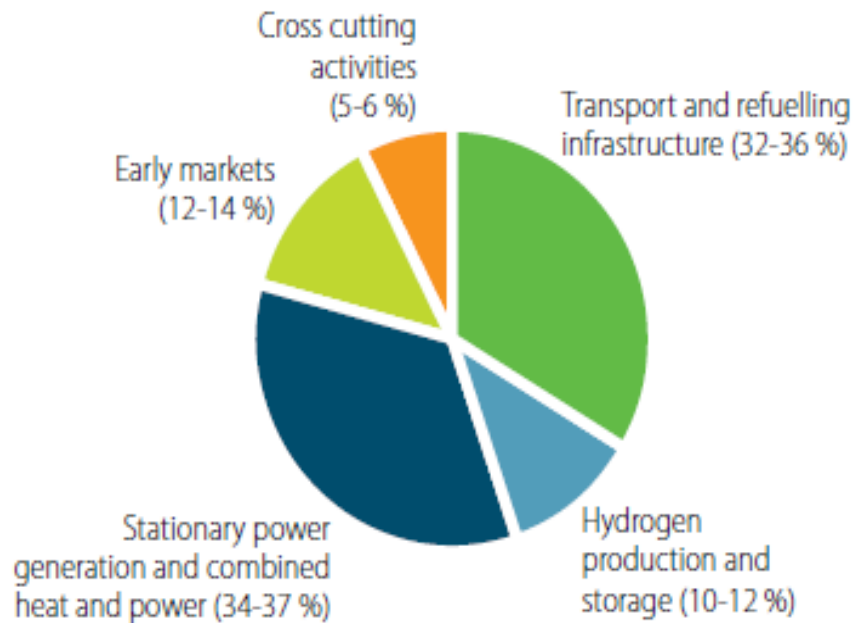
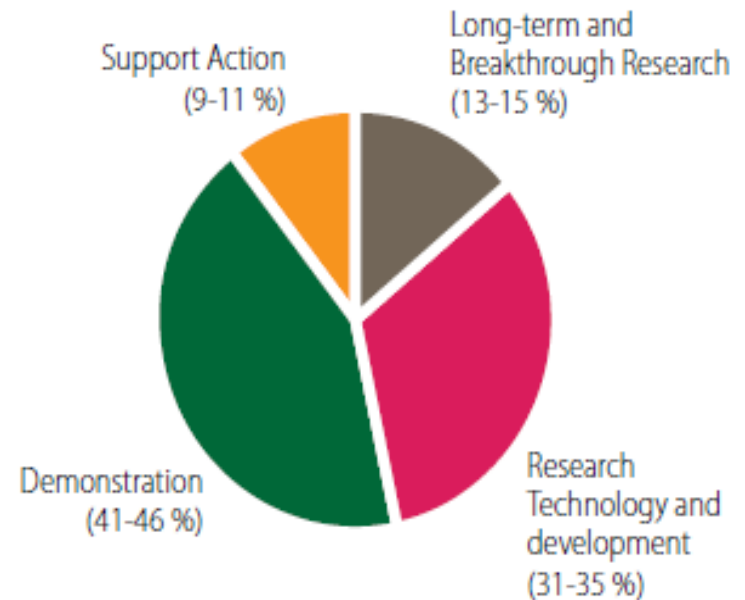
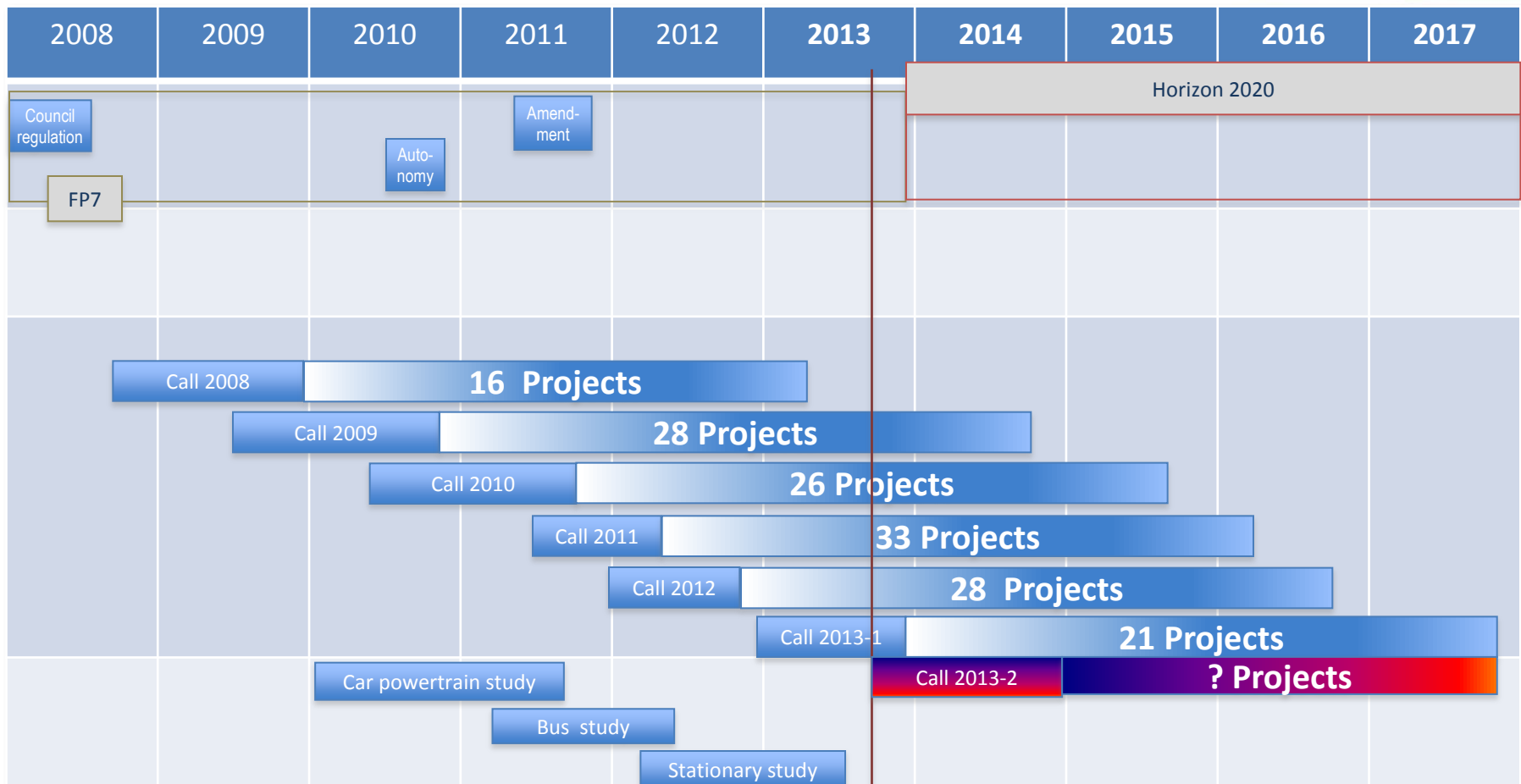


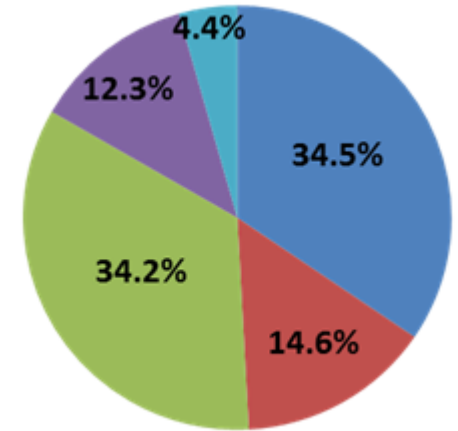
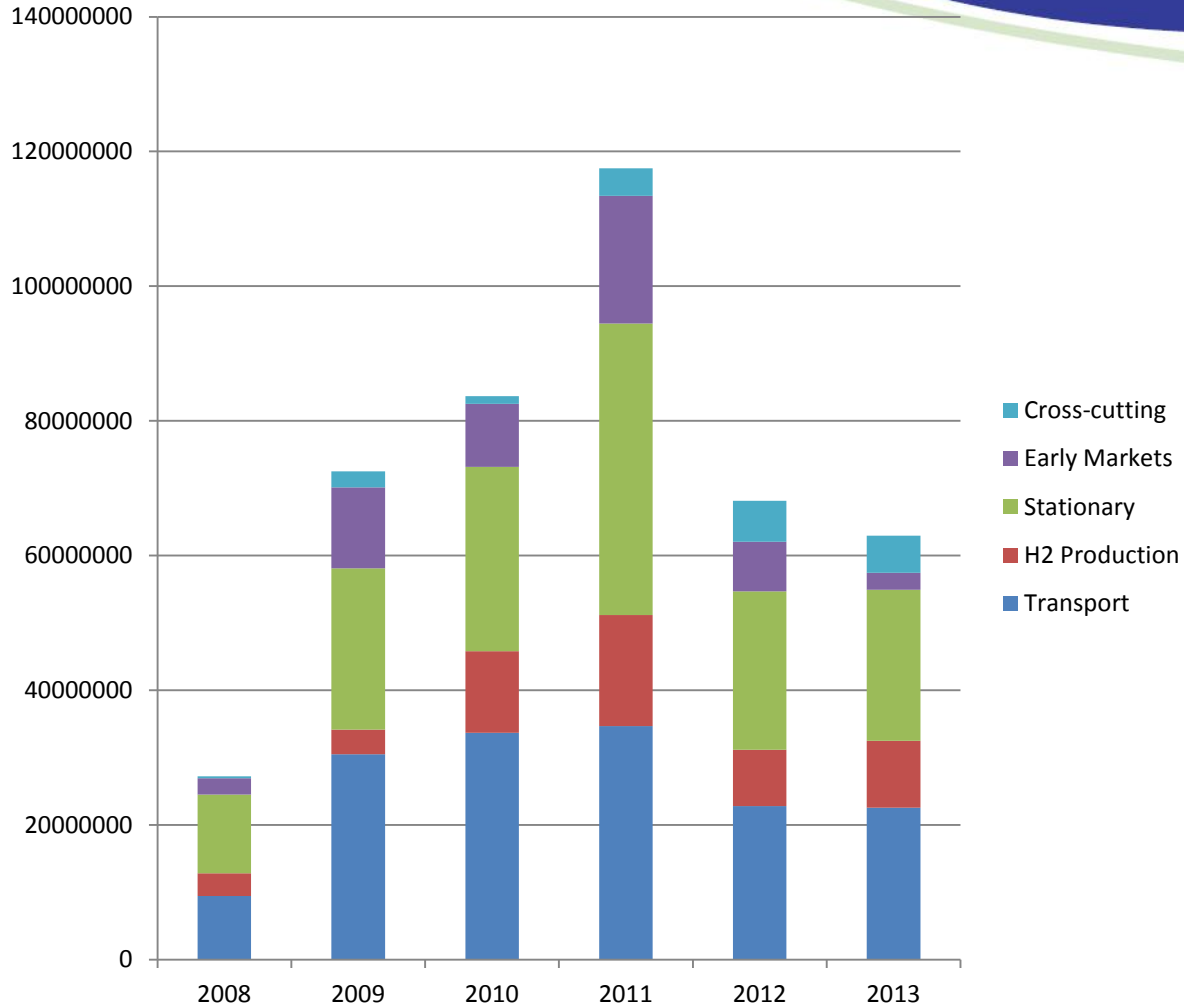
Figure 2: Budget breakdown by activity type



Overview

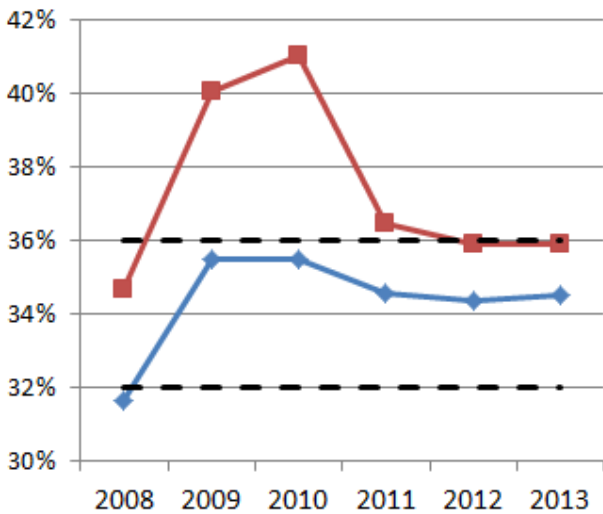


FCH JU contributions per call and activity area (in €)

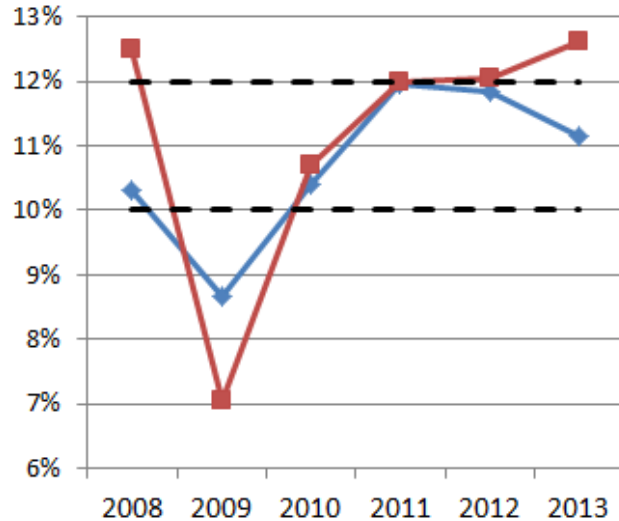


Multi-annual Implementation Plan coverage

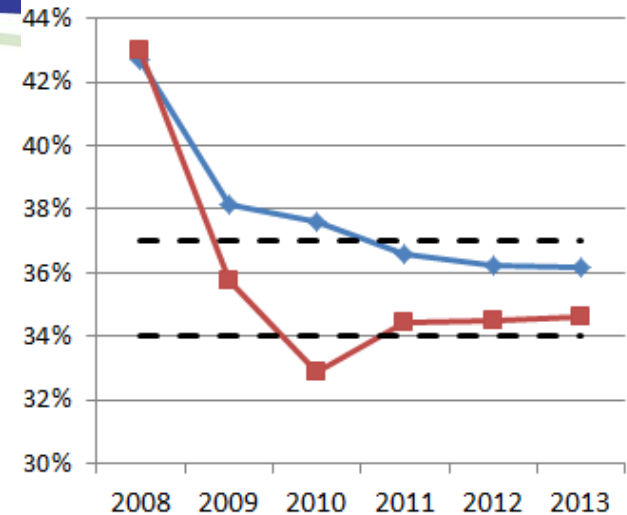
Transport



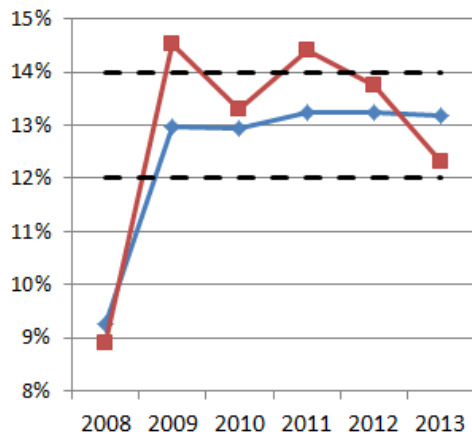
Hydrogen Production



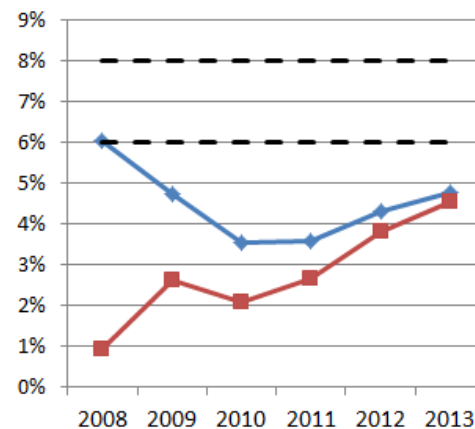
Stationary Applications



Early Markets

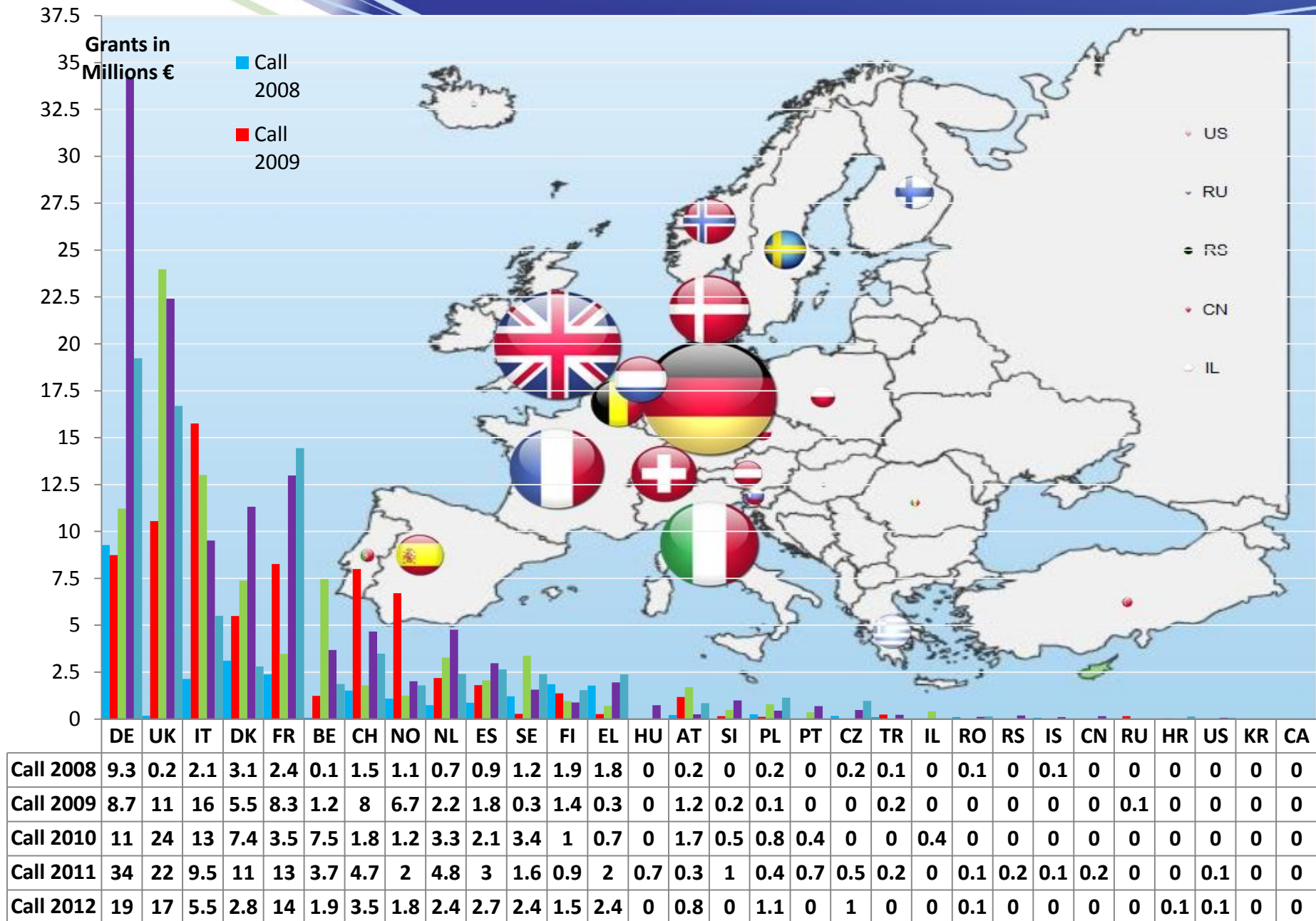


Cross-cutting



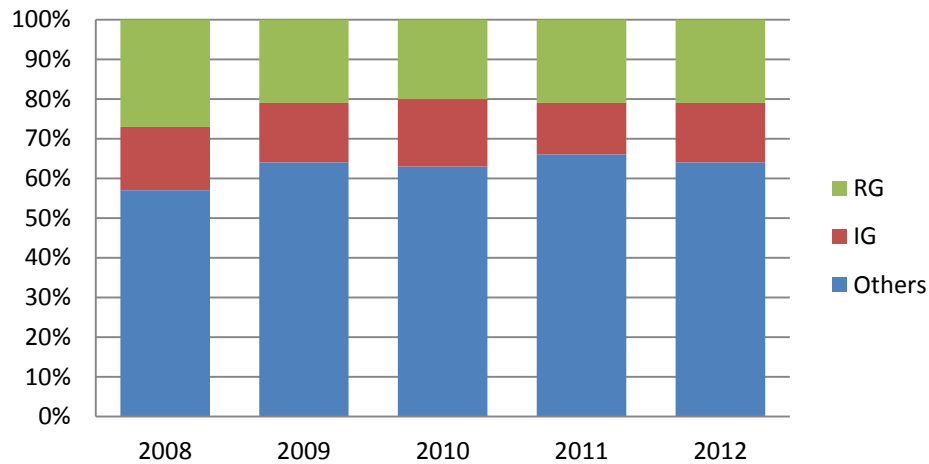
- ◆ AIP budget
- FCH JU cont.
- MAIP target (min)
- MAIP target (max)

Programme participation per country

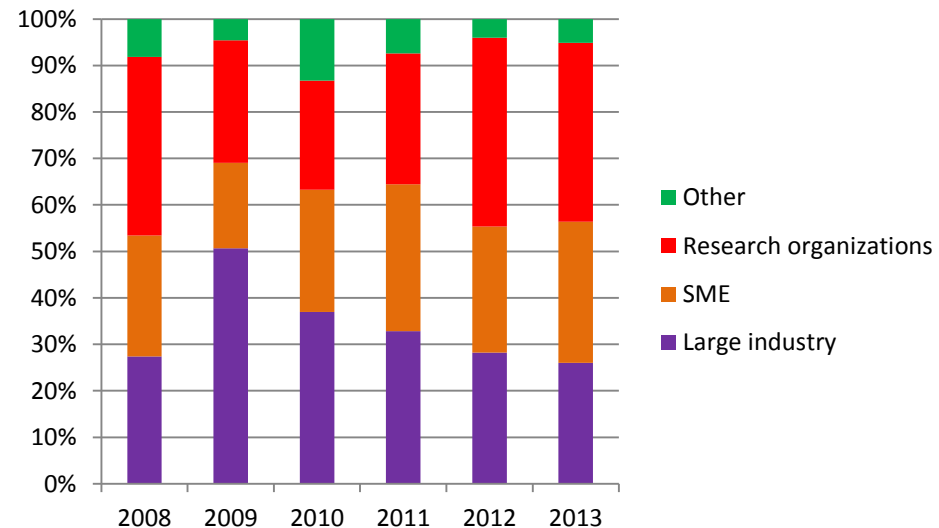
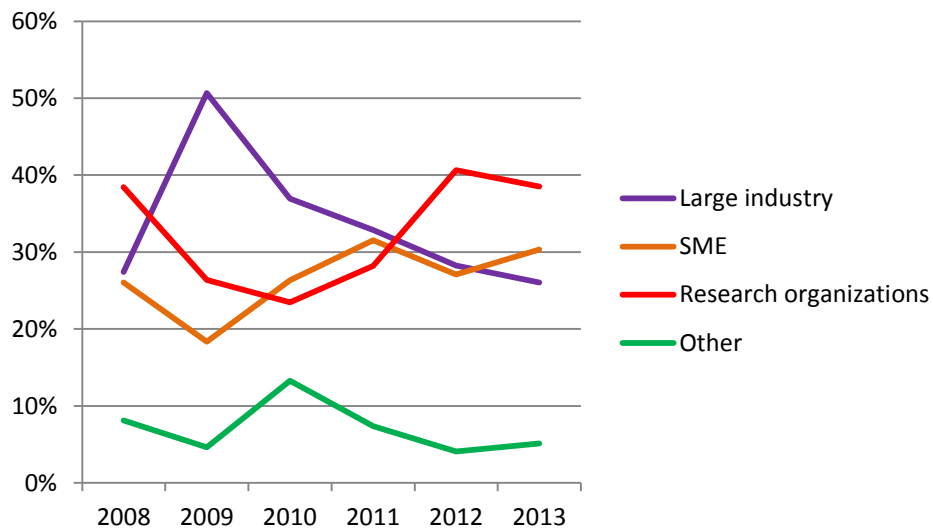
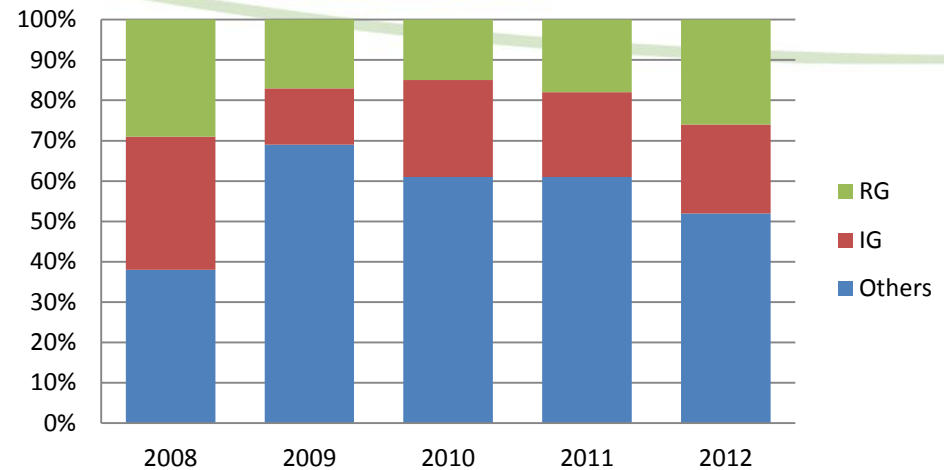


Membership of the participants

Categories of participants

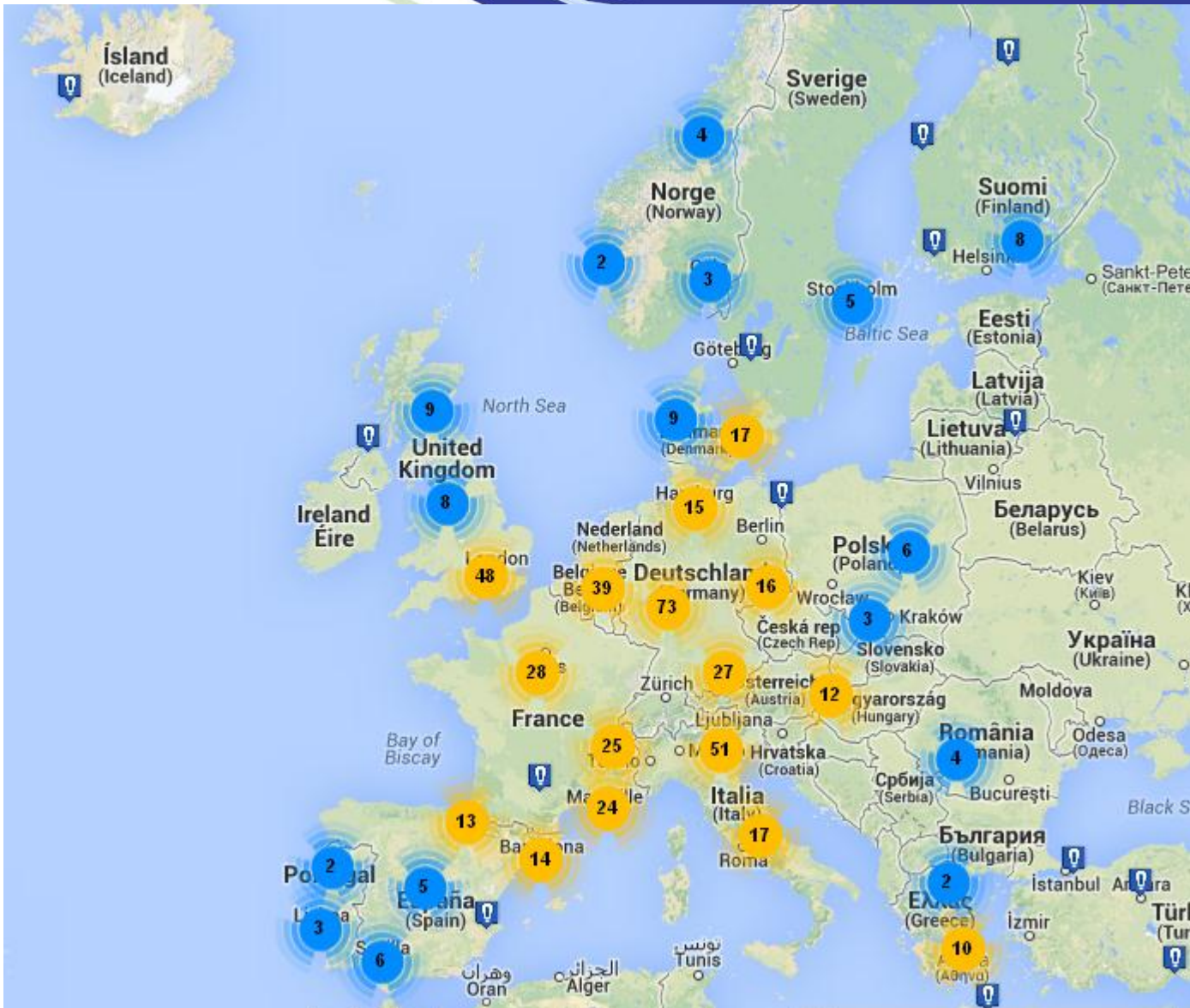


Funding received per participant category



<http://antonio-requena.freeiz.com/showclustermmap.php>

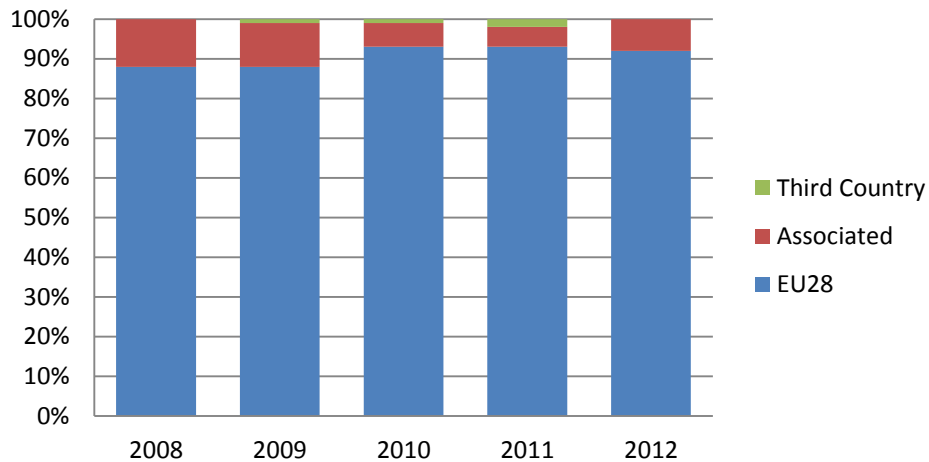
Calls 2008 - 2012



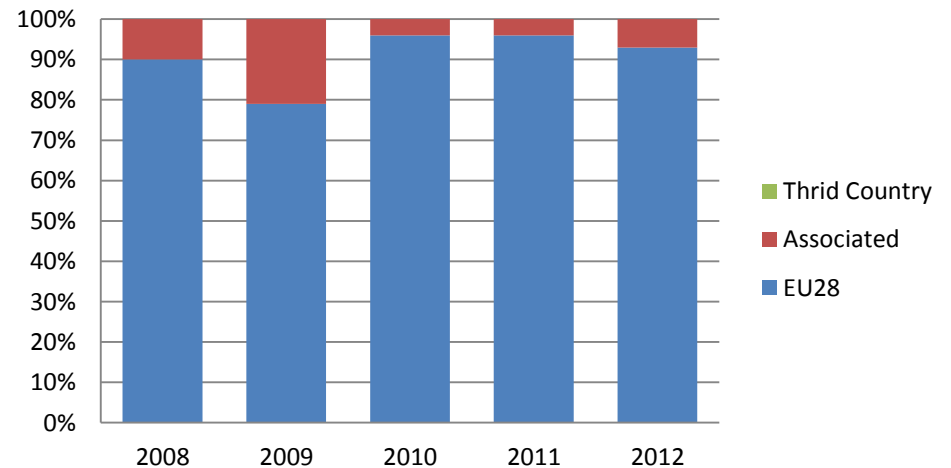
All Activity Areas
131 projects

Geographic origin of the participants

Origin of the participants



Funding received per participants' origin



2013 Program Review Days

- 131 Projects for calls 2008-2012 >< 1,5 Days
- New structure of the Program Review Days (PRDs) approved by the Governing Board
- Input from the Scientific Committee Members
- PRDs based on the proposed structure for FCH JU under Horizon 2020
- Two main pillars: Energy – Transport and Cross-Cutting activities
- Focus on Demonstration projects and RTD projects
- Projects grouped inside panels
- Poster presentations with selection of flagship projects oral presentations
- Report to the Stakeholders General Assembly by the SC members

Agenda Day 1

14:15 – 15:00

Introduction to portfolio of Technology Demonstration projects

- **Energy:** Mirela Atanasiu, FCH JU Project Manager
 - **Transport:** Enrique Giron, FCH JU Project Manager
- Q&A session

15:00 – 15:30

Coffee break & networking

15:30 – 18:00

PARALLEL SESSIONS on Technology Demonstration projects

SESSION 1

Demonstration in the field of Energy (micro-CHP, back-up power and electrolyzers)

Moderators: Angelo Moreno, Mirela Atanasiu

SESSION 2

Demonstration in the field of Transport (light-duty vehicles, buses, APU for trucks and material-handling vehicles)

Moderators: Lars Sjunnesson, Enrique Giron

15:30-16:00

ENE.FIELD 'European-wide field trials for residential fuel cell micro-CHP'
Fiona Riddoch, COGEN EUROPE

H2MOVES 'H2MOVES.EU SCANDINAVIA'
Ulrich Buenger, Ludwig-Bölkow-Systemtechnik GmbH

16:00-16:30

LOTUS 'Low temperature solid oxide fuel cells for micro-CHP applications'
Ellart De Wit, HyGear

CHIC 'Clean hydrogen in european cities'
Helmut Warth, Daimler

16:30-17:00

REFORCELL 'Advanced multi-fuel reformer for fuel cell CHP system'
Jose Luis Viviente, Tecnalia

DESTA 'Demonstration of 1st European SOFC Truck APU'
Jurgen Rechberger, AVL

17:00-17:30

FITUP 'Fuel cell field test demonstration of economic and environmental viability for portable generators, backup and UPS power system applications'
Ilaria Rosso, Electro Power Systems

FCGEN 'Fuel Cell Based On-board Power Generation'
Jazzer Dawody, Volvo

17:30-18:00

ELYGRID 'Improvements to Integrate High Pressure Alkaline Electrolyzers for Electricity/H₂ production from Renewable Energies to Balance the Grid.'
Luis Correias, Hidrogeno Aragon

HYLIFT 'European demonstration of hydrogen powered fuel cell material handling vehicles'
Hubert Landinger, Ludwig-Bölkow-Systemtechnik GmbH

18:00 – 20:30

Poster session & walking dinner

Agenda Day 2 a.m

08:30 – 09:00

Registration

09:00 – 09:45

Introduction to portfolio of System development, Components, Materials and Operation Diagnostics projects

- **Energy:**

Nikolaos Lymperopoulos, FCH JU Project Manager

- **Transport:**

Carlos Navas, FCH JU Project Manager

Q&A session

09:45 – 10:15

Coffee break & networking

10:15 – 12:15

PARALLEL SESSIONS on Systems, Components and Materials Development projects for Energy and Transport applications

SESSION 1

Degradation Analysis and Materials Development for CHP

Moderators: Florence Lefebvre-Joud, Alan Atkinson

10:15-10:45

KEEPEMALIVE 'Knowledge to enhance the endurance of PEM fuel cells by accelerated lifetime verification experiments'
Steffen Moller-Holst, SINTEF

10:45-11:15

SOFC-LIFE 'Solid-Oxide Fuel Cells – Integrating degradation effects into lifetime prediction models'
L.G.J de Haart, Forschungszentrum Juelich

11:15-11:45

MAESTRO 'Membranes for stationary application with robust mechanical properties'
Deborah Jones, Universite de Montpellier II

11:45-12:15

MET SAPP 'Metal supported SOFC technology for stationary and mobile applications'
Niels Christiansen, Topsoe Fuel Cell A/S

SESSION 2

Materials Development for Hydrogen Storage and Portable applications

Moderators: Andreas Dorda, Nikos Lymperopoulos

HYCOMP 'Enhanced design requirements and testing procedures for composite cylinders intended for the safe storage of hydrogen'
Clemence De Villers, Air Liquide

SSH2S 'Fuel Cell Coupled Solid State Hydrogen Storage Tank'
Marcello Baricco, University of Torino

HYPER 'Integrated hydrogen power packs for portable and other autonomous applications'
Juliet Kauffmann, Orion Innovations

DURAMET 'Improved durability and cost-effective components for new generation solid polymer electrolyte direct methanol fuel cells'
Antonino Arco, CNR-ITAE

Agenda

Day 2

p.m.

13:30 – 14:30

PARALLEL SESSIONS on Systems, Components and Materials
Development projects for Energy and Transport applications

SESSION 1

Sustainable Hydrogen Production

Moderators: Eden Mamut, Jean-Luc Delplancke

SESSION 2

Materials Development for Transport

Moderators: Daria Vladikova, Joerg Wind

13:30-14:00

COMETHY 'Compact multifuel-energy to hydrogen converter'
Alberto Giaccaria, ENEA

PEMICAN 'PEM with innovative low cost core for automotive application'
Joel Hauchet, CEA

14:00-14:30

RESELYSER 'Hydrogen from RES: pressurised alkaline electrolyser with high efficiency and wide operating range'
Regine Reissner, DLR

STAMPEM 'Stable and low cost manufactured bipolar plates for PEM fuel cells'
Anders ØDEGARD, SINTEF

14:30 – 15:00

Coffee break & networking

15:00 – 15:30

Introduction to portfolio of Cross-Cutting projects

Cross-Cutting Issues: Guillaume Leduc, FCH JU Project Manager

15:30 – 17:00

SESSION on Cross-Cutting projects

Moderators: Guillaume Leduc, Carlos Navas

15:30-16:00

HYINDOOR 'Pre-normative research on safe indoor use of fuel cells and hydrogen systems'
Béatrice L'Hostis, Air Liquide

16:00-16:30

FC-EUROGRID 'Evaluating the Performance of Fuel Cells in European Energy Supply Grids'
Robert Steinberger-Wilckens, University of Birmingham

16:30-17:00

TEMONAS 'Technology monitoring and assessment'
Peter Claassen, CLIMIT

17:00 – 17:30

Concluding remarks - Scientific Committee members

17:30 – 18:00

Closure speech
Bert de Colvenaer, FCH JU Executive Director

18:30 – 21:00

Cocktail dinner



Thank you for your attention !

Further info :

- FCH JU : <http://fch-ju.eu>
- NEW-IG : <http://www.new-ig.eu>
- N.ERGHY : <http://www.nerghy.eu>