Fuel cells and hydrogen

Joint undertaking

Exploring the FCH JU 2013 Call for Proposals

New Energy World JU

fuel cells & hydrogen for sustainability

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

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Mirela Atanasiu, Call Coordinator

OUTLINE

1- The Fuel Cells and Hydrogen Joint Undertaking – State of Play

2- The Annual Implementation Plan 2013 (topics opened)

3- Proposals – from submission to selection

4- Tips for proposal preparation & proposal preparation support

5 - Questions & Answers

Strong public-private partnership with a focused objective

Fuel Cells & Hydrogen Joint Undertaking

Industry Grouping
Close to 60 members
~ 50% SME

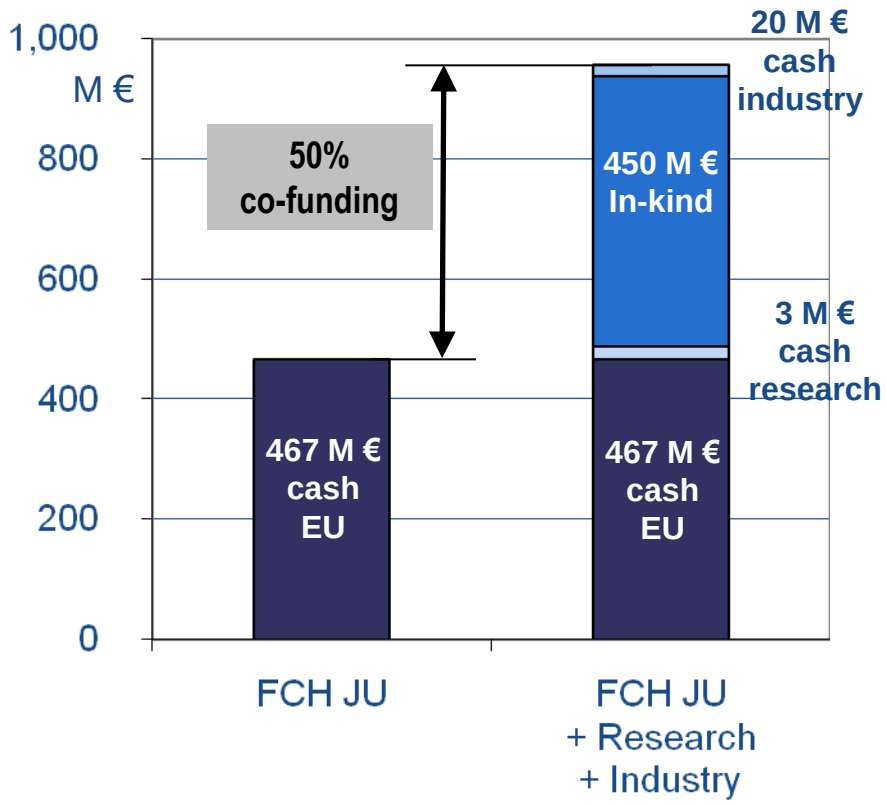
European Union
represented by the
European Commission

Research Grouping
Over 60 members

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

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

FCH JU - Operational budget

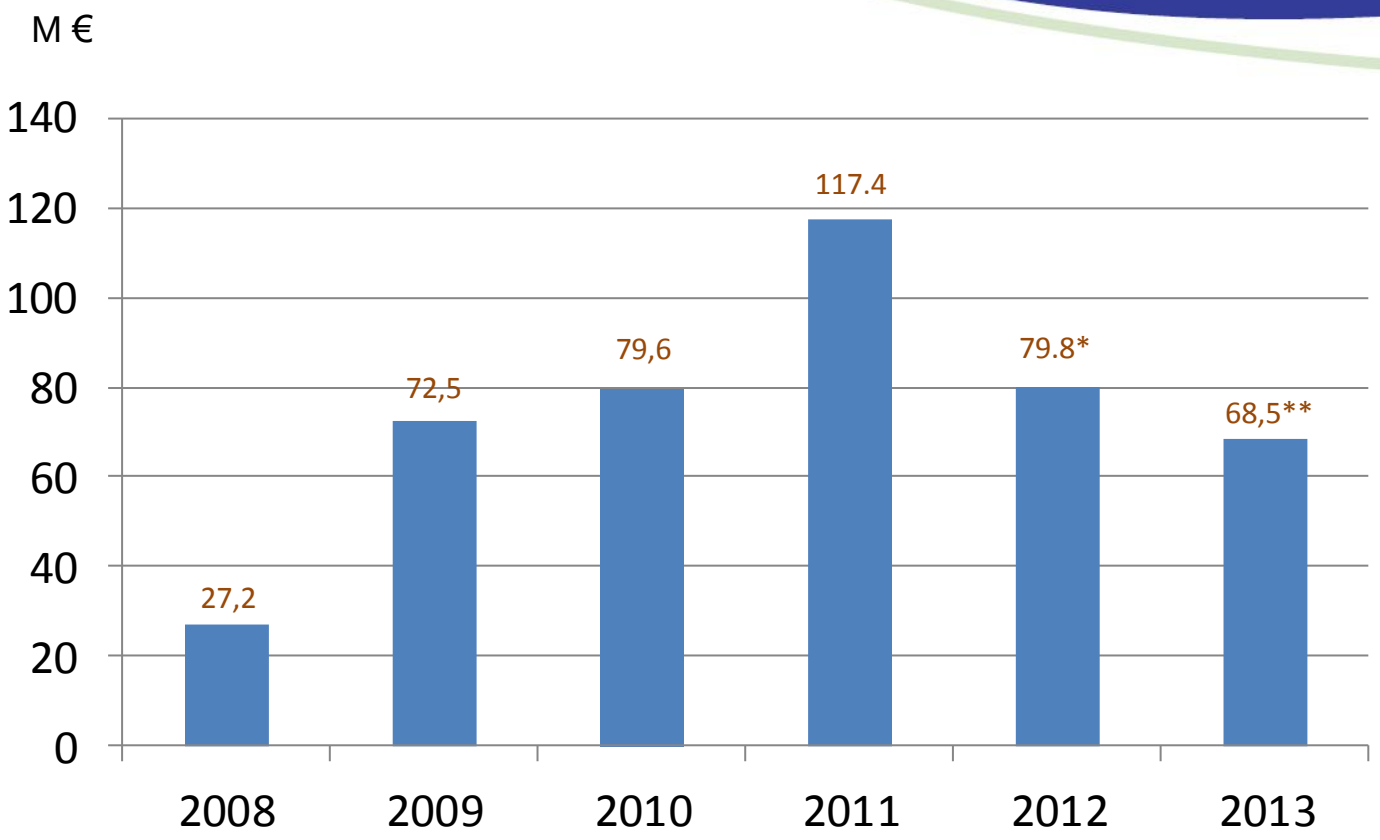


Budget : 2008 ~ 2013 : (min.) 940 M €

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

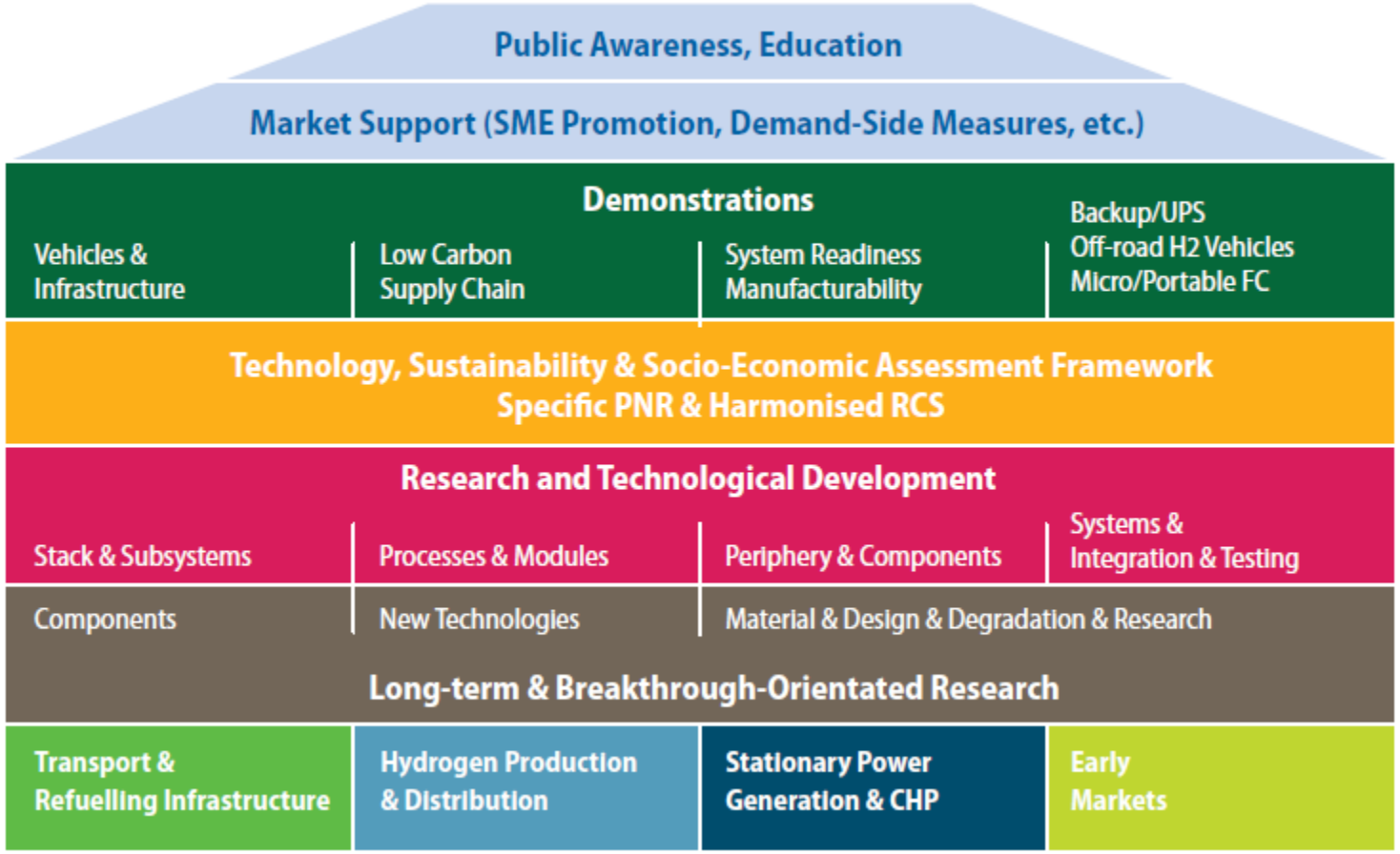
Principle : 50/50 cost-sharing between the EU and all legal entities participating in the activities

FCH JU - Operational budget 2008 – 2013



** under negotiations*
*** as published*

Multi-Annual Implementation Plan 2008 - 2013



Funding distribution by application area: Multi-annual Implementation plan

Figure 1 : Budget breakdown by application area

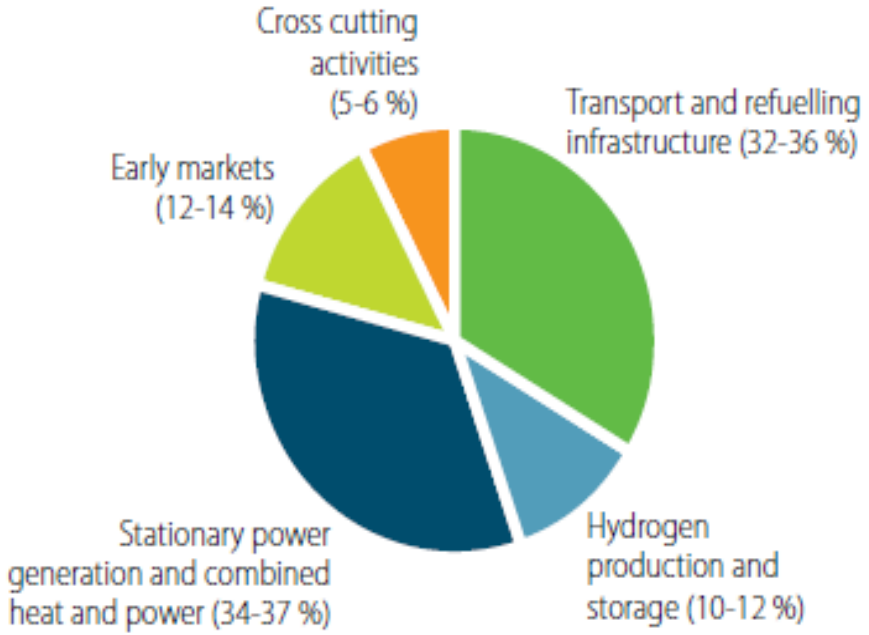
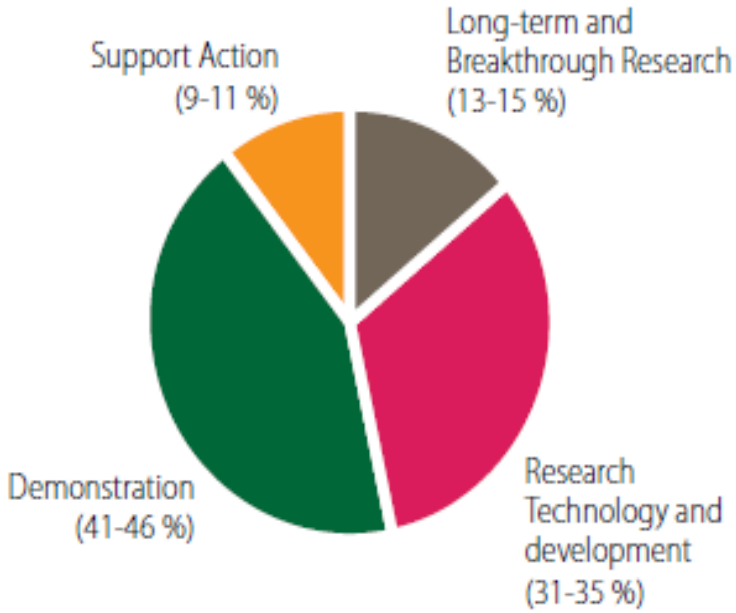


Figure 2: Budget breakdown by activity type



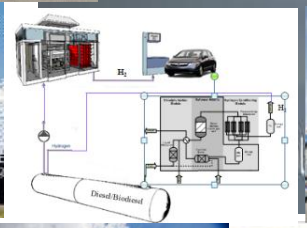
More than 100 FCH JU funded projects

2008: 16, 2009: 28, 2010: 26, 2011: 33, 2012: 28

TRANSPORTATION & REFUELLING INFRASTRUCTURE	**21 projects** 6 demo 13 research 2 studies +7 (2012) 2 research and 1 demo finished
HYDROGEN PRODUCTION & DISTRIBUTION	**21 projects** 1 demo 20 research +4 (2012) 4 research finished
STATIONARY POWER GENERATION & CHP	**36 projects** 6 demo 30 research +9 (2012) 4 research finished
EARLY MARKETS	**16 projects** 8 demo 7 research 1 study +3 (2012)
CROSS - CUTTING	**9 projects- 5 finished** **+5(2012)**









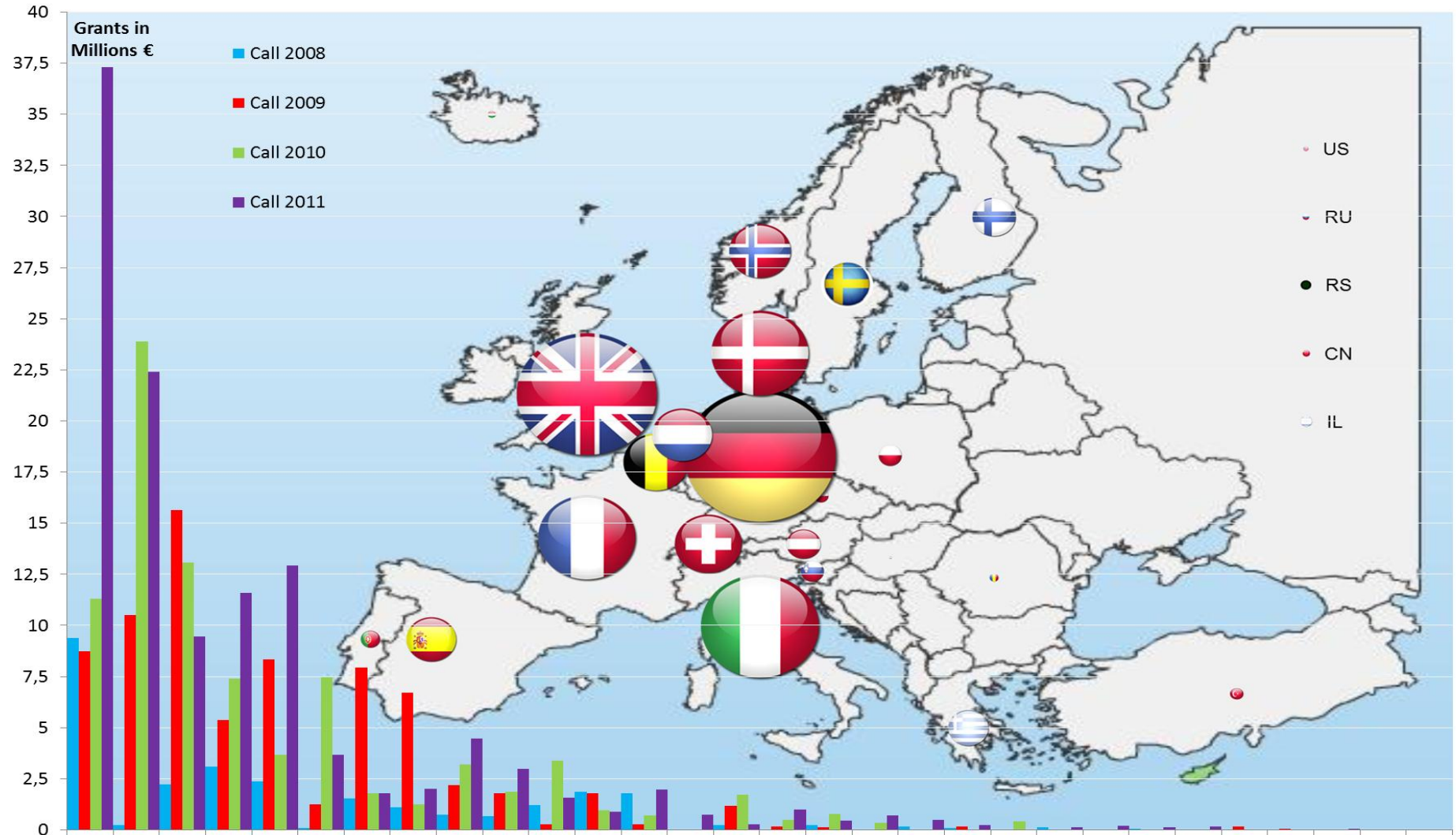






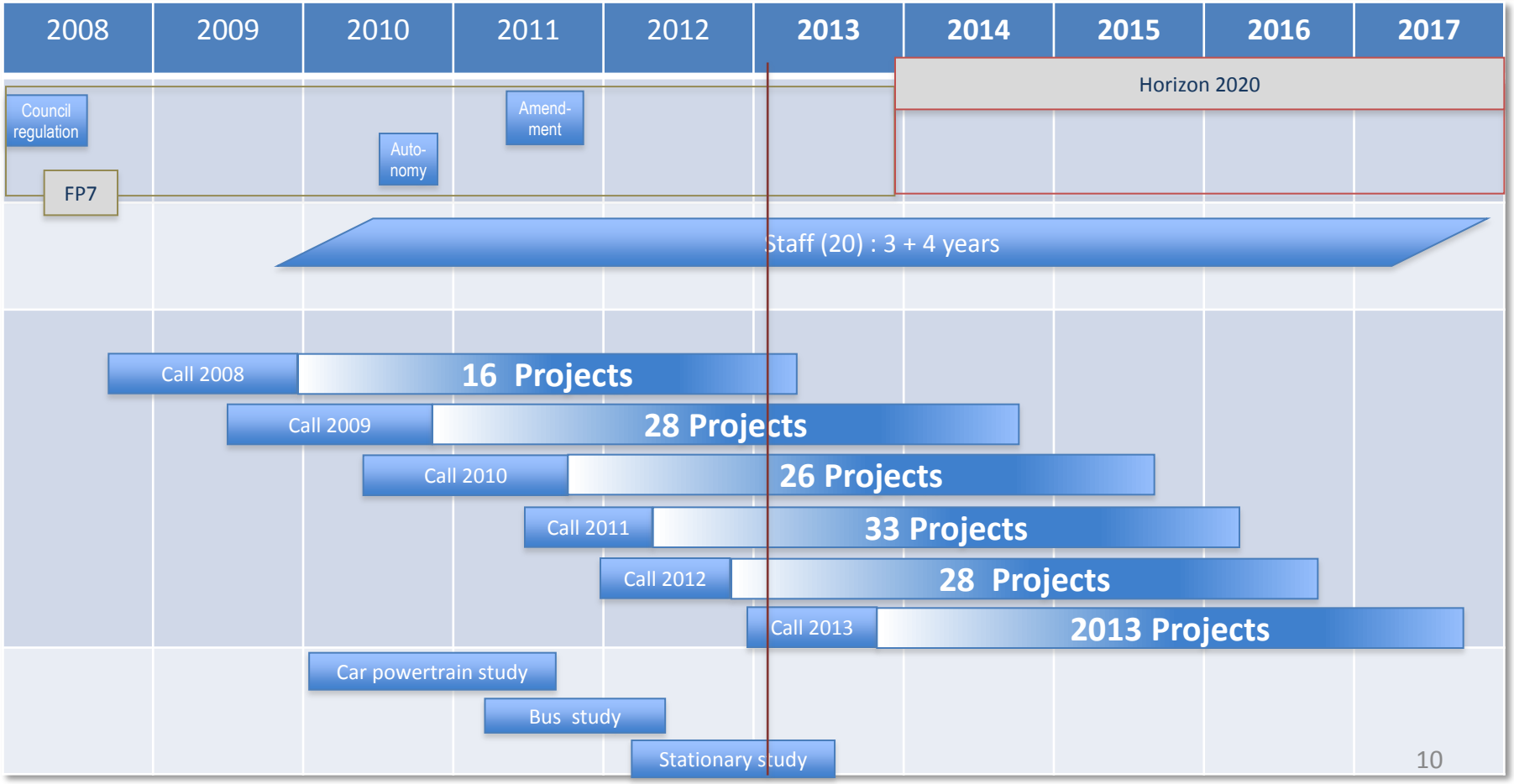
RCS, Safety, Education, PNR, …

Programme participation per country



	DE	UK	IT	DK	FR	BE	CH	NO	NL	ES	SE	FI	EL	HU	AT	SI	PL	PT	CZ	TR	IL	RO	RS	IS	CN	RU	HR	US	KR	CA
Call 2008	9,38	0,24	2,21	3,09	2,37	0,07	1,55	1,09	0,74	0,66	1,21	1,87	1,79	0	0,22	0	0,25	0	0,17	0,11	0	0,11	0	0,07	0	0	0	0	0	0
Call 2009	8,73	10,5	15,6	5,36	8,32	1,23	7,95	6,71	2,18	1,81	0,27	1,79	0,26	0	1,16	0,16	0,12	0	0	0,15	0	0	0	0	0	0,15	0,03	0	0	0
Call 2010	11,3	23,9	13,1	7,38	3,67	7,46	1,8	1,24	3,19	1,88	3,37	0,96	0,7	0	1,7	0,48	0,78	0,36	0	0	0,41	0	0	0	0	0	0	0	0	0
Call 2011	37,3	22,4	9,46	11,6	12,9	3,68	1,8	2,01	4,46	2,98	1,57	0,89	1,96	0,74	0,25	0,99	0,44	0,69	0,48	0,23	0	0,12	0,2	0,11	0,16	0	0	0,07	0	0

Overview


2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Horizon 2020
Council regulation
Auto-nomy
Amend-ment
FP7
Staff (20) : 3 + 4 years
Call 2008
16 Projects
Call 2009
28 Projects
Call 2010
26 Projects
Call 2011
33 Projects
Call 2012
28 Projects
Call 2013
2013 Projects
Car powertrain study
Bus study
Stationary study

FCH Joint Undertaking to continue under Horizon 2020

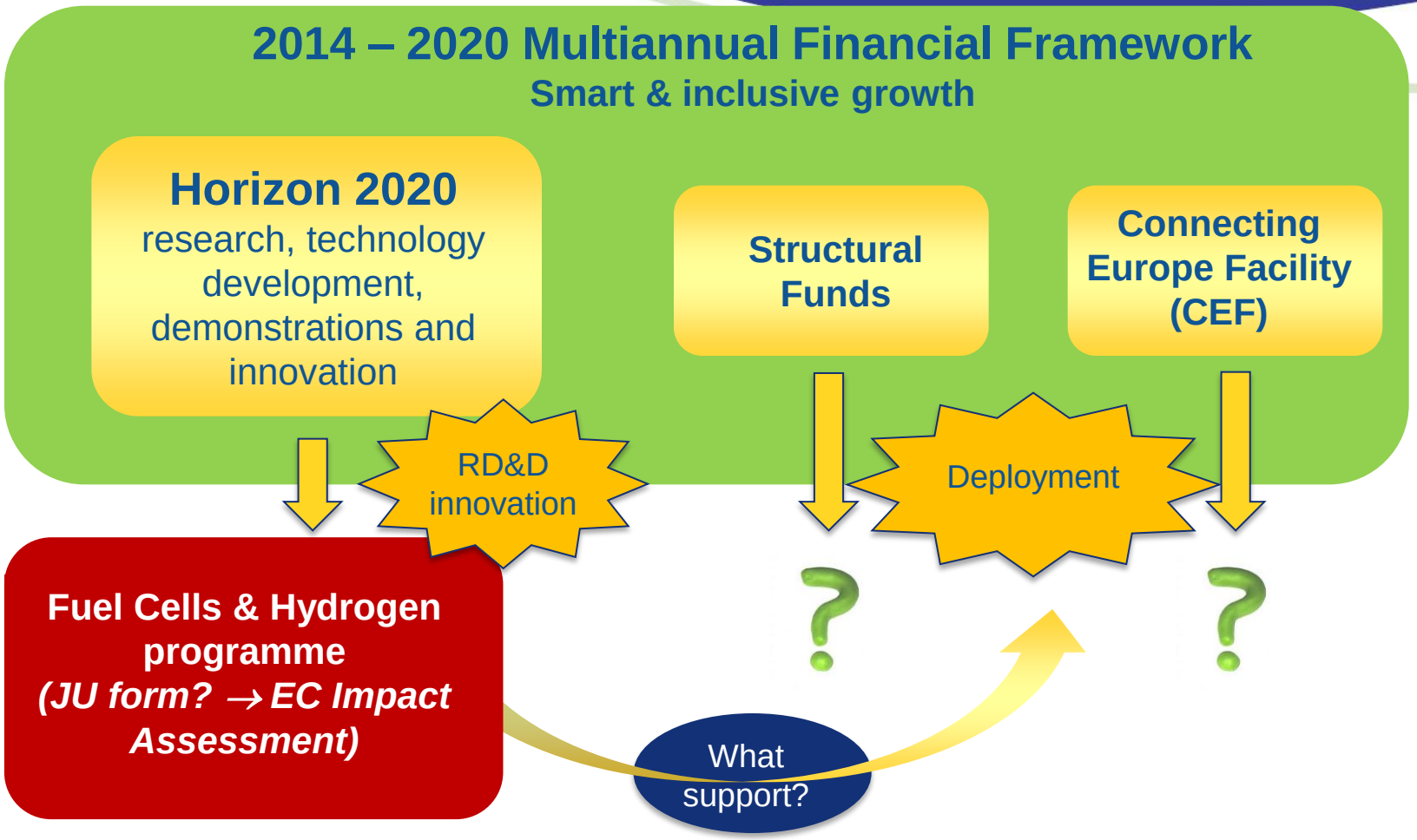
FCH technologies are essential for achieving a low carbon, inclusive and competitive economy
= EU's strategic objectives

Great technological progress made, but significant effort still ahead
– a strong public-private partnership will enable the shift

Creating stable business environment, sharing market-entry risks and introducing adequate support mechanisms will trigger private necessary investment

Success of existing programme creates a strong case for continuation and strengthening of FCH Joint Undertaking under Horizon 2020

Fuel cells and hydrogen technology under Horizon 2020



2- The Annual Implementation Plan 2013 (topics opened)

Overview of the Call FCH-JU-2013-1

- **Publication date: 15 January 2013**
- **Deadline: 22 May 2013 at 17.00.00 (Brussels local time)**
- **Budget: EUR 68.5 million**
- **27 topics in different areas:**
  - Transportation & Refuelling Infrastructure: **EUR 23.0 million**
  - Hydrogen Production & Distribution: **EUR 7.5 million**
  - Stationary Power Generation & CHP: **EUR 24.0 million**
  - Early Markets: **EUR 9 million**
  - Cross-cutting Issues: **EUR 5 million**
- **Duration of Projects: no later than 30/06/2017**
  - Exceptional cases possible for topics 1.1, 3.5, 3.6

Transportation and refuelling infrastructure

Indicative funding: 23 M€ (5 topics)

Demonstration

- Large-scale demonstration of FCEVs including necessary refuelling infrastructure
  - ≥ 5 urban buses and/or 10 passenger cars + one refuelling station per site
  - total of ≥ 30 vehicles and 3 refuelling stations
  - Maximum of 1 project w/ maximum funding: 18 mill EURO

- Field demonstration of APUs:
  - ≥ 10 units in the range 2-10 kWe
  - ≥ 5 units in the range > 10-50 kWe, depending on the application
  - Maximum of 1 project w/ maximum funding: 4 mill EURO

Research and Development (max 3 mill EURO/project)

- Bipolar plates for PEM fuel cells: Development of new coatings or development of manufacturing technologies – maximum 1 project
- Peripheral components for hydrogen refuelling stations, includes: compression, storage, precooling, valves, flow meters – maximum 1 project

PNR: Fuel quality assurance for HRSs (max 1 project & 3 mill EURO)

Hydrogen production and distribution

Indicative funding: 7.5 M€ (5 topics)

- **Improved road H2 distribution:** Proof-of-concept/pilot of a truck-trailer or tank bundles for intermodal transport (pressure ≥ 400 bar)
- **Monitoring and diagnostic tools for Electrolysers** (PEM and/or alkaline)
- Large capacity **PEM electrolyser stack design** (single stack >100 Nm3/h) & prototype demonstration
- **New generation of high-temperature electrolyser:** development of new cells and stacks + kw prototype
- **Validation of photo-electrochemical hydrogen production**

Stationary power generation and CHP

Indicative funding: 24 M€ (7 topics)

Research activities

- Better understanding of cell and stack degradation mechanisms: max 2 projects (1 each for low & high T) & 3 mill EURO/project
- Cell/stack design and manufacturability for application-specific requirements: max 2 projects (1 each for low & high T) & 2 mill EURO/project
- Improved balance of plant components/sub-systems OR Advanced control and diagnostics systems: max 3 projects & 2.5 mill EURO/project

Demonstration activities

- Proof-of concept within the laboratory **OR** technology validation at a representative scale (> 4000 h in real-life environment): max 3 projects & 4 mill EURO/project
- Large scale demo (≥ 1 systems @ >100kW): max 2 projects & 6 mill EURO/project
- Small scale demo (≥ 25 systems @>1-10kW *OR* ≥ 5 systems @>10kW): max 2 projects & 6 mill EURO/project

- Serial production techniques and equipment (feasibility & model production facility/technique) – max 2 projects & 2 mill EURO/project

Early markets

Indicative funding: 9 M€ (4 topics)

Demonstration

- Deployment of material handling vehicles (MHV), including infrastructure (≥ 200 units @ ≥10 units per site)
- Portable generators, back-up power and/or UPS products (normally 1-10 KW, but exceptionally up to 50 kW) – up to 250 kW of units
- Portable FCs for various applications (power of 5-200 We & ≥ 30 units in system operation): max 2 projects

Research and Development

- 1-30kW PEM fuel cell systems and hydrogen supply for early market applications

Cross-cutting issues

Indicative funding: 5 M€ (6 topics)

Education/training activities:

- European curriculum on H2&FC technologies (implementation of educational and study material for university and vocational training)
- Training material for operation and maintenance – in close cooperation with already running demonstration projects

Social acceptance through Europe – scientific survey methodology (public opinion poll on current awareness in at least 3 representative countries)

Industry wide uniform performance test schemes for SOFC/SOEC cells and stacks – test module based on procedures and protocols commonly agreed by all stakeholders

European framework for 'guarantee of origin' for green H2 – investigate and initiate 'green hydrogen certificates scheme', based on recent European policy directives

PNR on resistance to mechanical impact of pressure vessels in composite materials

3. Proposals 2013

from submission to selection

PART I- FCH JU RULES for PARTICIPATION

PART II- PREPARATION, SUBMISSION and EVALUATION of PROPOSALS

PART III- CLOSING RECOMMENDATIONS

FCH JU RULES for PARTICIPATION

Definitions

Who can participate

Funding limits, Eligible costs

DEFINITIONS

according to the model FCH JU Grant Agreement

- **Public body means any legal entity established as such by national law, and international organisations**
- **Research organisation means a legal entity established as a non-profit organisation which carries out research or technological development as one of its main objectives**
- **Industry – for the purpose of the FCH JU Grant agreement - means a legal entity pursuing an economic activity with a profit objective, or an affiliated entity to such a legal entity**
- **Higher and secondary education establishments - term used by Financial Regulation / Implementing Rules and includes universities, schools for applied sciences and similar**
- **SMEs mean micro, small and medium-sized enterprises within the meaning of Commission Recommendation 2003/361/EC in the version of 6 May 2003 (*)**

(*) enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million

WHO CAN PARTICIPATE
in FCH JU PROJECTS ?

- **Participation in projects shall be open to legal entities and international organisations once the minimum conditions have been satisfied**

- **The minimum conditions to be fulfilled for Collaborative Projects funded by the FCH JU shall be the following:**
  - **At least 3 legal entities must participate, each of which must be established in a Member State or an Associated Country, and no two of which are established in the same Member State or an Associated Country**
  - **All 3 legal entities must be independent of each other as defined in Article 6 of the Rules for Participation of the Seventh Framework Programme [1]**
  - **At least 1 legal entity must be a member of the Industry Grouping (IG) or the Research Grouping (RG)**

- **The minimum condition for service and supply contracts, Support Actions, studies and training activities funded by the FCH JU shall be the participation of one legal entity**

[1] Regulation (EC) No 1906/2006 of the European Parliament and of the Council of 18 December 2006 laying down the rules for the participation of undertakings, research centres and universities in actions under the Seventh Framework Programme and for the dissemination of research results (2007-2013)

GENERAL PRINCIPLES

Implementation and Grant Agreement

Principles of co-financing and no profit

Forms of grants (FCH JU / EU Financial contribution):

- **Reimbursement (in whole or in part) of eligible costs is the preferred method**
- **A grant will be awarded by means of a Grant Agreement between the FCH JU and the project participants**
- **The project activities shall be financed through a financial contribution from the FCH JU and through in-kind contributions from the legal entities participating in the activities**
- **The contribution from the participating legal entities shall at least match the financial contribution of the EU *(*)*, i.e. the financial (cash) contribution coming from the FCH JU**

(*) Council Regulation of 14 November 2011 amending founding regulation of the FCH JU

ELIGIBLE COSTS

- **actual**
- **incurred during the duration of project**
- **in accordance with the usual accounting principles of beneficiary**
- **recorded in the accounts of beneficiary**
- **used for the sole purpose of achieving the objectives of the project**

Non-eligible: *identifiable indirect taxes including VAT, duties, interest owed, provisions for future losses or charges, exchange losses, costs declared, incurred or reimbursed in another EU project etc*

DIRECT/INDIRECT COSTS

Eligible costs shall be composed of

Direct costs = attributable directly to the action

Indirect costs = not attributable directly to the action, but which have been incurred in direct relationship with the direct costs *(‘overheads’)*

The reimbursement of participants’ costs shall be based on their eligible direct and indirect costs

UPPER FUNDING LIMITS

Reimbursement of direct costs: according to the type of organisation and/or activity

Type of organisation	*Type of Activity*		
	RTD	*Demonstration*	*Other*[1]
Industry (other than SME)	*CP: max. 50%*	*CP: max. 50%*	*CP: max. 100%* *CSA: max. 100%*
SME	*CP: max. 75%*	*CP: max. 50%*	*CP: max. 100%* *CSA: max. 100%*
Non-profit public-bodies, universities & higher education establishments, non-profit Research organisations	*CP: max. 75%*	*CP: max. 50%*	*CP: max. 100%* *CSA: max. 100%*

Funding schemes: *CP: Collaborative project*
CSA: Coordination and Support Action

[1] *"Other" activities refer to management activities, training, coordination, networking and dissemination (including publications).*
Please note that scientific coordination is not considered to be a management activity.

INDIRECT COSTS

Principles and flat rates are set out in the Annual Implementation Plan

The reimbursement of indirect costs for every beneficiary will be:

- Either a maximum of 20% of the direct eligible costs,
- Or a flat rate of 20% of the direct eligible costs,

excluding its direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiaries.

First option is mandatory for industry, except for those whose accounting system does not allow to distinguishing direct from indirect costs. Under this option, beneficiaries shall declare their actual indirect costs under eligible costs.

CSA funding scheme: reimbursement limit of 7% of direct costs

4. Preparation, submission and evaluation of proposals

THREE “BIBLES”

ANNUAL IMPLEMENTATION PLAN 2013

GUIDE FOR APPLICANTS *(version 2 – May 2009)*

Participant Portal Submission System (PPSS) - USERS GUIDE on the call web-page !!!

NEW

+ excel tool for budget checking

ANNUAL IMPLEMENTATION PLAN 2013

Includes the Call Fiche for the 2013 Call

Identifies the topics specific for the Call

Specifies Funding Scheme for each Topic

Provides Eligibility criteria as well as Evaluation Criteria

Indicates detailed evaluation procedure & timetable

GUIDE FOR APPLICANTS

version 2 – May 2009

Includes description of Funding Schemes:

Collaborative projects (CP) = objective driven research projects aiming at developing new knowledge, new technology and/or products

- may include scientific coordination, demonstration activities or sharing of common resources for research in order to improve European competitiveness or to address major societal needs
- the size, scope and internal organisation of collaborative projects should be compatible with overall objective and manageability of the whole endeavor and can vary from topic to topic
- expected to last typically two to five years (specified by each topic)

Support actions (CSA – supporting type) = contributions to the Annual Implementation Plan and preparation of future EU policies, OR stimulate, encourage and facilitate the participation of SMEs, civil society, small research teams and newly developed or remote research centres in the activities of the fuel cells and hydrogen areas, OR setting up of research-intensive clusters across the EU regions.

- normally focus on one specific activity and often one specific event
- the size, scope and internal organisation of support actions can vary from topic to topic
- expected to have a shorter duration from some months to two - four years (specified by each topic)

States how to submit proposal incl. instructions for Parts A & B

(template & page limits)

PARTS of PROPOSAL

PART A: Administrative (legal & financial) information about the proposal and the participants (On-line web forms)

PART B: Scientific & Technical content of proposal

Template or list of headings – provided as WORD/RTF file

To be uploaded into the PPSS

In PDF and within size limit of 10Mbytes

To be only submitted electronically by the coordinator using the PPSS system

PARTICIPANT PORTAL SUBMISSION SYSTEM - *PPSS*

NEW

Electronic submission of proposals in PPSS ⇒ Participant Portal (call page)

➔ Fill in Part A proposal details using on-line web form

➔ Upload PDF of Part B proposal description

➔ Remember to Save and Submit regularly

➔ Latest Submission overwrites previous one

➔ **Don’t wait until last minute!**

BEFORE SUBMITTING YOUR PROPOSAL

Check List

☑ Does your planned work address the topic(s) open in the call?

☑ Is your proposal eligible?

☑ Is your proposal complete?

☑ Are you applying for the right funding scheme?

☑ Does your proposal follow the required structure?

☑ Do you have the agreement of all the members of the consortium to submit it on their behalf?

ELIGIBILITY CRITERIA

Minimum conditions that a proposal must fulfil to be retained for evaluation:

- **Submission of proposal before the deadline**
- **Minimum number of eligible, independent participants (incl. membership of IG/RG)**
- **Completeness of proposal (parts A & B)**
- **Scope (including relevance to the topic addressed)**

EVALUATION

Peer-review carried out by independent experts selected by the FCH JU (Commission database + suggested names by the Advisory Groups, including IG/RG secretariats)

Experts selection is based on high level expertise and appropriate competences. Furthermore, academic/industrial balance, as well as geography, gender, «rotation» balances

Experts sign confidentiality and no-conflict of interest declarations

Following the FCH JU "Rules for submission of proposals, and the related evaluation, selection and award procedures"

EVALUATION CRITERIA

Criteria adapted to each funding scheme

- indicated in the Annual Implementation Plan 2013

Divided into three main criteria:

S&T Quality (including relevance to the topic of the call)

Concept, objective/state of the art, work-plan/methodology

Implementation (operational/financial capacity of participants)

Individual participants and consortium as a whole (management structure, complementarity/balance of partners)

Allocation of resources (appropriateness, justification of budget, staff)

Impact

Contribution to expected impacts listed in work programme (at European level)

Plans for dissemination/exploitation (appropriateness of measures, including IPR)

NEXT STEPS
After evaluation

- **Results of evaluation are communicated to the coordinator in the initial information letter which includes the Evaluation Summary Report (ESR)**

- **FCH JU informs relevant advisory bodies: States Representative Group (SRG) and Scientific Committee (SC)**

- **FCH JU draws up final list of proposals for possible funding (respecting funding availability, including matching principle)**

→ **Governing Board decision**

- **Opening negotiation letters are sent**

CLOSING RECOMMENDATIONS

Do's and Don'ts

(best practise from the previous calls)

- **What exactly is the novelty of the proposal?**

  Do: Include a clear State of the Art, SoA (not only EU, but international) which illustrates this novelty

  Do: Provide details of any "preliminary" activities already performed by some members of the consortium to show that they don't start from 'scratch' and that the risk is limited

- **What are you planning to do and how?**

  Do: Critically review the number of deliverables (too many OR too few are bad indicators)

  Do: Provide clear milestones which allow to evaluate the progress of the project (including Go/NoGo decision points)

  Do: Structure the Work Plan in a clear and consistent way showing the relationship among the different Work Packages (WP) and/or tasks

  Do: Try to have a balanced (sectorial and geographical) and complementary consortium; avoid adding "cosmetic" partners

  Don't: mix deliverables and milestones

  Don't: Avoid using sub-contractors and third parties - a strong consortium should be able to perform the major tasks with their own resources

The proposal should provide clear and short answers to these questions

- **How is your budget/resources planned over the activities and duration of the project ?**

  Do: explain as clear as possible the allocated resources (e.g. man-months) per partner and activities - avoid to over-estimate the effort needed

  Do: try to declare as accurately as possible the estimated costs, especially for indirect costs (use the correct method of declaration of indirect costs)

  Don't: include partners with 0 total costs - the requested funds could be zero, but the total should be definite higher, reflecting their contribution to the project

- **What can be expected as a result of the project?**

  Do: Describe precisely the main outcome of the project - avoid using too many ambiguous terms (e.g. illustrate, evaluate, assess, recommend, etc)

- **What would be the impact on energy technology?**

  Do: Describe the potential impact of the "project outcome" not of the "technology" being addressed

  Do: Provide "quantitative" estimates of critical parameters (e.g. performance, size, weight, cost, etc) which allow to compare the resulting outcome with the SoA

CLOSING RECOMMENDATIONS

Choose your partners carefully to cover the needed expertise

Check your proposal against the check list provided in the Guide for Applicants

Do not wait until the last moment to submit the proposal

Read the reference documents before preparing the proposal

Reference documents

- Annual Implementation Plan 2013 (including call fiche)
- Guide for Applicants
- FCH JU Rules for submission, evaluation and award procedures (updated version)
- FCH JU model Grant Agreement (e.g. Annex II – general conditions)

Find a document :
http://www.fch-ju.eu/content/how-participate-fch-ju-projects

Do not hesitate to ask for help or further information at:

fch-projects@fch.europa.eu

National Contact Points for Energy in FP7

Piotr Świątek
National Contact Point for Energy
Germany

The mission of National Contact Points (NCPs)

- NCPs spread awareness, give specialist advice, and provide on-the-ground guidance on Framework
- NCPs are knowledgeable about all aspects funding, beyond their specialist area, thereby allowing effective signposting in line with the principle of 'no wrong door'.
- NCPs are nationally funded but the Commission assures the minimum standard, performs the training for NCPs and supports NCP-Networks

Network C-Energy+

21 Partners but **131**
C-Energy NCPs
involved!

Objectives of the NCP-Network C-Energy+

- Reinforce the network of Energy NCPs for the FP7, broadening their expertise and improving the quality of their services
- Increasing the quality of Energy proposals

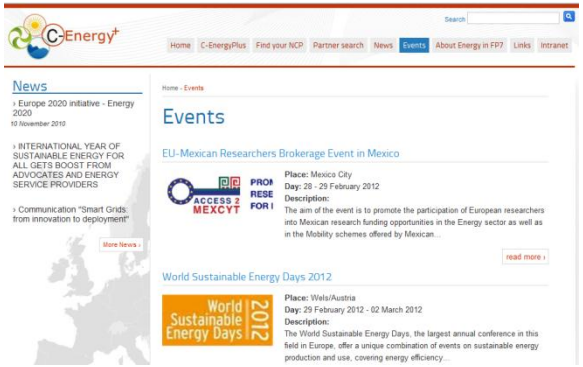
Expected Impact

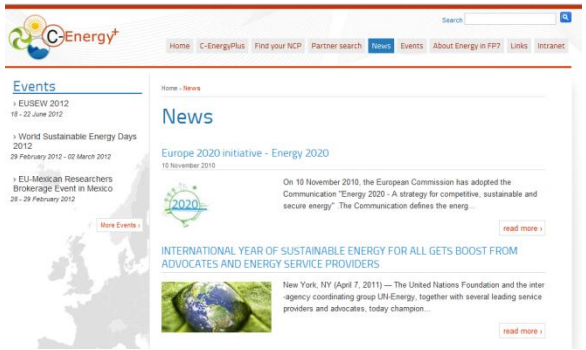
- A uniform high level Energy NCPs services across Europe
- More effective participation also of organisation from Third Countries

How can we help participants?

Website – http://www.c-energyplus.eu/

- Keep in touch with Energy NCPs and keep informed about FP7 energy related NCPs issues (NCP contacts, News, Events)

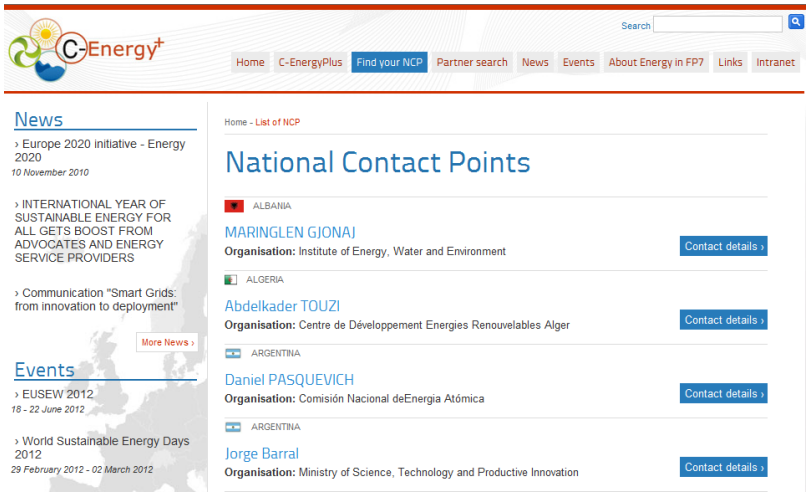




How can we help?

Questions about application process - Benefit from our best practice standards – Find the Energy NCP in your country!

- How to write a sucessful proposal, partnerships, objectives, activities, impact and dissemination.
- Consortium agreements, IPR, Contract Negociation, Project Management



http://www.c-energyplus.eu/search_ncp.aspx

Partner Search – Brokerage Events – Webinars

Get informed about and keep in touch with successful FCH players!

http://cordis.europa.eu/partners/

- C-Energy + /NCPs can help you find partners through personal contacts, partner search support, validation of energy partner search.

enterprise europe network

Business Support on Your Doorstep

- We perform the operatin in close cooperation with Enterprise Europe Network

Thank you for your kind attention

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