



Fuel Cells & Hydrogen

Latest developments at EU level

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1. FCH 1 JU - update



Projects from 2013 call (under negotiation)

Application Area	Number of Projects	Total Budget (M€)	FCH JU contribution recommended (M€)
Transportation & Refuelling Infrastructure	3	40.4	22.6
Hydrogen Production & Distribution	4	16.8	9.9
Stationary Power Generation & CHP	9	40.2	22.4
Early Markets	1	4.9	2.5
Cross-Cutting issues	4	10.1	5.5
TOTAL	21	112.4	62.9

As a result of remaining budget 1 more call to be published in Q4 2013

Main achievements of FCH 1 JU

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Transport:

- Demonstration of 49 buses, 37 passenger cars, 95 small vehicles
- Bus H2 consumption halved
- 13 new refuelling stations in EU
- H2 cost <10€/kg



Stationary Power:

- 1000 domestic CHP generators being installed
- Cost -50%, efficiency 90%, lifetime up to 8 years

Early markets:

- 9 fork lifts, 1 tow truck demonstrated
- 19 back up power units installed



FCH JU portfolio of 127 projects

<p>TRANSPORTATION & REFUELLING INFRASTRUCTURE</p>	<p>25 projects 8 demo 14 research 3 CSA</p>	
<p>HYDROGEN PRODUCTION & DISTRIBUTION</p>	<p>28 projects 4 demo 24 research</p>	
<p>STATIONARY POWER GENERATION & CHP</p>	<p>36 projects 9 demo 26 research 1 CSA</p>	
<p>EARLY MARKETS</p>	<p>21 project 13 demo 8 research</p>	
<p>CROSS-CUTTING</p>	<p>17 project</p>	<p>RCS, Safety, Education, PNR, ...</p>

New and upcoming benchmark studies

TOPIC	Budget
"The development of the electrolysis in the EU and its role in using H2 as a mechanism for energy storage"	113.848 €
"Financing of a Hydrogen Refuelling Infrastructure: conditions for private investments and required forms of public support"	390.200 €
<p>+ FCH JU is currently building industrial coalition for studies on:</p> <ol style="list-style-type: none"> 1. A commercialisation roadmap for FCH buses 2. The role of hydrogen fuel cells in distributed power generation 3. A fact based comparison of technologies for energy storage 	~ 1+ M €/study

Involvement of international partners particularly welcome!

FCH JU Programme Review and Stakeholders General Assembly

- ✓ Open to public!
- ✓ 11-13 November 2013
- ✓ Brussels, Belgium

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



2. FCH 2 JU in H2020 – State of play



What is Horizon 2020?

- A Research and Innovation Programme (2014-2020)
- ~ 70 B € financial contribution
- Responding to the economic crisis by boosting investment in growth and jobs
- Addressing people's concerns about living conditions
- Strengthening the EU's global position in research, innovation and technology
- To be adopted before the end of 2013

Fuel Cells and H₂ in Horizon 2020 (1)

- European Commission proposes to support Fuel Cell & H₂ technologies by continuing the current **public-private partnership** between:
 - ✓ European Commission
 - ✓ Industry Grouping
 - ✓ Research Grouping
- Part of the Innovation Investment Package, worth € 22 B
- **Draft Council Regulation** adopted by the EC on **10/07/2013**
- Discussions on scope and budget are on-going in Council and European Parliament
- Adoption expected on first half of 2014

New features:

- ✓ 2 main areas of activity: "Energy" & "Transport"
- ✓ More emphasis on demonstration & close to market activities (60%)
- ✓ Main priorities: H₂ based renewable energy storage + road transport and infrastructure
- ✓ EU contribution up from 470M€ to 700M€



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3. Other EU initiatives





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"Clean Power for Transport" Package

- The Commission's proposal adopted on 24/Jan/2013:
 - ✓ Alternative fuels strategy for long-term substitution of oil in transport
 - ✓ Draft Directive establishes **binding targets** for standardized alternative fuels infrastructure build-up by 2020
 - For H2 a maximum distance of 300 km between stations is proposed
 - ✓ Aims at creating certainty for investors + removing technical and regulatory barriers across the EU
- Discussions in the Council & EP are on-going → adoption expected in 1st half of 2014
- Clean Power for Transport Conference: 21/Oct/2013, Brussels
- Parallel national initiatives on HRS in Europe are progressing



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International Conference for Hydrogen Safety 2013

- 5th edition, co-organised by the EC (JRC)
- 9-11th September 2013, in Brussels
- High-level scientific presentations + policy session + training webinar (JRC – US DoE) + overview of hydrogen safety, developments
- Key messages:
 - **"Hydrogen is NOW!"**
 - **Safety is an absolute prerequisite for large scale deployment of FCH technologies**
 - **Big progress** in hydrogen safety achieved over the past years
 - **International cooperation & cross-fertilization of knowledge** crucial for commercialization





**THANK YOU FOR YOUR
ATTENTION**