

European Union 11-15 April 2011
Sustainable Energy Week



Fuel Cells and Hydrogen for Smart Cities in Europe

A joint event by FuelCellEurope, NEW IG,
EHA and HyRaMP

Palais des Académies, Brussels

13 April 2011



Fuel Cell Europe





Fuel Cell Europe



Welcome and introduction

- Why this meeting?
- Why fuel cells and hydrogen?
- Who is concerned?
- What is “Smart Cities”?
- What are the next steps?

European Union 11-15 April 2011
Sustainable Energy Week



Part of
INTELLIGENT ENERGY
EUROPE





Fuel Cell Europe



Fuel Cells and Hydrogen

- **FC&H are part of the SET-Plan, Strategic Energy Technologies**
 - Hydrogen: as a clean energy carrier
 - Fuel cells: as efficient power systems, in transport, stationary and portable applications
- **The objectives and action areas of the European Initiative on Smart Cities aim to deploy**
 - Energy Efficiency
 - Renewable Energy
 - Low Carbon Technologies
- **This workshop will showcase currently existing fuel cell and hydrogen technologies solutions in different cities and the latest developments for**
 - Buildings
 - Energy networks
 - Transport.



Fuel Cell Europe



Challenges for Europe:

1. Climate change

- A. Reducing GHG emissions
- B. Energy efficiency
- C. Renewable energy storage

2. Local air pollution

- A. Road transport has a deep impact
- B. Health care costs

3. Economic sustainability

- A. Employment
- B. Energy security

FC&H have compelling answers:

1. Combined with renewable hydrogen fuel cells can have a **zero emissions**
2. Fuel cells are **the most efficient** energy conversion technology
3. Help optimize integration and **storage of renewable energies**
4. Fuel cells allow considerable reduction in **noise and air pollution**
5. Fuel cells have a great long-term economic potential in terms of **green jobs** potential along the value chain
6. **Hydrogen can be produced from a very wide variety of resources** thus reducing security risk to a minimum



“Energy = Thermodynamics + Economics + Politics”

In the past 15 years:

70-80% Thermodynamics:

- R&D
- Technology development
- Overall design
- IPR

15-20% Economics:

- Market understanding & preparation
- Educating supply chain partners
- Pilot projects
- Heavily subsidized projects

0-5% Politics:

- Generate the necessary government subsidies to co-finance the R&D effort

In the next 5 years:

20-30% Thermodynamics:

- Design optimisation
- Performance optimisation

40-50% Economics:

- Cost reduction and industrialisation
- Market deployment
- Supply chain agreements
- Go to market strategies

20-40% Politics:

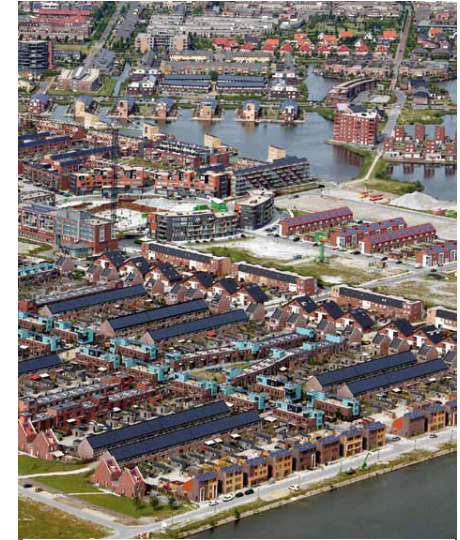
- Large scale demonstration projects
- Impact on energy and environment debate
- Government purchase
- Market access conditions
- Feed-in tariffs
- Regulatory frameworks



Fuel Cell Europe



- The Smart Cities Initiative aims to improve **energy efficiency** and to step up the deployment of **renewable energy in large cities** going even further than the levels foreseen in the EU energy and climate change policy.
- This initiative will support cities and regions that take **pioneering measures** to progress towards a **radical reduction of greenhouse gas emissions** through the sustainable use and production of energy.
- It will bring the cities involved to the forefront of the development of the low-carbon economy.





Fuel Cell Europe



Next steps

1. A public consultation on the SCI has been launched by DG Energy and will remain open until the **13th May**.
 - The online questionnaire is available at <http://ec.europa.eu/yourvoice/ipm/forms/dispatch?form=2011smartcities&lang=en>.
2. There is a related consultation, on the new Common Strategic Framework for research & innovation funding at EU level: the EC is preparing a Green Paper on the new funding tool to be put into place from 2013 and that should reunite
 - the current Framework Programme,
 - the Competitiveness and Innovation Programme, and
 - the European Institute of Innovation and Technology.

The consultation is open until **May 20th**.

- The online questionnaire is available at http://ec.europa.eu/research/csfri/index_en.cfm?pg=questionnaire



Fuel Cell Europe



FuelCellEurope

secretariat@fuelcelleurope.org , +32 2 211 34 11

<http://www.fuelcelleurope.org/>

NEW IG

secretariat@fchindustry-jti.eu , + 32 2 540 87 75

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

EHA - European Hydrogen Association

info@h2euro.org , + 32 2 763 25 61

<http://www.h2euro.org/>

HyRaMP

secretariat@hy-ramp.eu , + 32 2 550 23 78

<http://www.hy-ramp.eu/>

European Union 11-15 April 2011
Sustainable Energy Week



Part of
INTELLIGENT ENERGY
EUROPE





Fuel Cell Europe



Programme

09h30-09h40	Welcome and Introduction
09h40-10h40	Hydrogen as a sustainable energy carrier <ul style="list-style-type: none"> • Raymond Schmidt, Business development Hydrogenics (Belgium) • Graham Cooley, CEO, ITM (UK)
10h40-11h00	Coffee break
11h00-11h30	The overall efficiency of hydrogen and fuel cells application in building <ul style="list-style-type: none"> • Michael Braun, sales and marketing manager, Baxi Innotech (Germany)
11h30-12h00	Fuel cells for zero emissions in passenger transport <ul style="list-style-type: none"> • Jörg Wind, EU-Projects and Energy Systems Analyses, Daimler, (Germany) • Dennis Hayter, VP Business Development, Intelligent Energy (UK)
12h00-12h30	Vision, potential and scope for FCH technologies in the EU Initiative on Smart Cities (panel) <ul style="list-style-type: none"> • Joost van Iersel, Member of the European Economic and Social Committee (EESC) • Pete Daw, Greater London Authority, Policy & Programmes Manager for Climate Change Mitigation & Air Quality (UK) • Adwin Martens, Executive Director, Waterstofnet (Flanders, Belgium) • Andreas Ziolek, Chair of HyRaMP (North Rein Westphalia, Germany)
12h30-12h45	Q&A and conclusions <ul style="list-style-type: none"> • <i>Debate and discussion with all speakers and participants</i>
12h45-13h45	Networking lunch



Fuel Cell Europe



Question for the panel

1. Vision

Are fuel cells and hydrogen in your view a technology that should be included in funding opportunities that would be defined through the smart cities initiative?

2. Potential

From your point of view or experience how large/small do you see the potential for FCH technologies to help large cities achieve their emissions/ efficiency targets?

3. Scope

Would you suggest that cities have different interests or need for fuel cell and hydrogen applications in transport or heating, or even energy storage?

European Union 11-15 April 2011
Sustainable Energy Week



Fuel Cells and Hydrogen for Smart Cities in Europe

A joint event by FuelCellEurope, NEW IG,
EHA and HyRaMP

Palais des Académies, Brussels

13 April 2011



Fuel Cell Europe

