



2008> EHA>2009

Marieke Reijalt

EHA Annual General Meeting
Brussels, June 17, 2009

Content

1. EHA in 2008;
2. EHA and EU Policy;
3. EHA and JU FCH and HyRaMP
4. EHA in 2009

EHA in 2008

EHA Mission and Membership

Foster the development of hydrogen technologies and their use in industrial, commercial and consumer applications;

Membership includes 15 national associations (Belgium, Czech, France, Germany, Hungary, Italy, Latvia, Netherlands, Portugal, Norway, Poland, Spain, Sweden, Switzerland, United Kingdom) and the main hydrogen production and distribution companies (Shell, StatoilHydro, ENI, Linde, Air Liquide, Air Products).
Two new members in 2008 (ENI and Ajusa)



EHA Mission
The European Hydrogen Association (EHA), based in Brussels, promotes the use of hydrogen in stationary power, portable and vehicle applications to foster the development of a climate neutral, independent and competitive energy and transport system in Europe.

EHA in Action
A coordinated and effective integration of the commercial use of hydrogen in Europe's energy and transport system as foreseen in the near future, requires rapid adaptation and harmonisation of various applications and conversion processes. In addition, the development of intelligent investment and general support strategies at EU and national level are needed to ensure Europe's role as market leader of various hydrogen and fuel cell applications.

To secure more awareness of the opportunities of the use of hydrogen the EHA is facilitating the dissemination of key EU and national project results. The EHA is defining "hydrogen in the City" together with national associations and industry members has embarked on a broad informational and support programme for Regional and Municipal authorities, Science institutions, industry sectors, schools and the general public to explain the many opportunities of the use of hydrogen as an energy vector.

EHA Members
The EHA is representing the main national hydrogen and fuel cell associations in Europe and major European industries involved in hydrogen cell structure development. This unique membership structure enables the EHA to communicate updates on national and local developments to key EU decision makers and to disseminate important European legislation and draft of proposals directly to its members.

National Association Members:
Dutch Hydrogen and Fuel Cell Association
French Hydrogen and Fuel Cell Association
German Hydrogen and Fuel Cell Association
Hungarian Hydrogen Association
Italian Hydrogen and Fuel Cell Association
Latvian Hydrogen Association
Netherlands Hydrogen Forum
Polish Hydrogen Association
Portuguese Hydrogen Association
Spanish Hydrogen Association
Swedish Hydrogen Forum
UK Hydrogen Association

Sustaining members:
Air Liquide (Belgium, USA, Canada)
Air Liquide (France)
Air Products (United Kingdom)
Ajusa (Spain)
E.ON Energy
Shell Hydrogen E.U. (The Netherlands)
StatoilHydro (Norway)
The Linde Group (Germany)

Join the EHA
To support coordinated and effective efforts to establish a commercial market for hydrogen applications in Europe.
To urge EU and national institutions to adopt a legislative and financial structure to ensure an effective integration of hydrogen applications.
To be updated on local EU and international hydrogen and fuel cell developments.
To participate in dedicated workshops and sessions with key decision makers and potential customers.
To be part of a non-charge and innovative energy and transport solution.

Contact EHA
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www.eha.org

1.

EHA Value Proposition

1. EHA promotes H₂ as an important energy carrier in low carbon economy;
2. EHA is point of reference for EU, national and local decision makers;
3. EHA ensures visibility of hydrogen and fuel cells in EU institutions;
4. EHA promotes the role of H₂ in Europe's future energy mix;
5. The EHA is paving the way for large scale hydrogen infrastructure built up;
6. EHA facilitates development of urban integrated hydrogen projects;
7. The EHA actively supports developments in European Regions;
8. EHA contributes to relevant EU Programmes; JTI, IEE, LIFE, URBACT.
9. The EHA supports secretariat for educational activities in Europe;
10. EHA's RSS feeds and interactive website allow high visibility of EHA.



Conference/event participation 2008

- - January 29-February 2, 2008 Brussels, Sustainable Energy Week; EHA session
January 30, 2008 Hydrogen in the City. EHA stand at exhibition.
- February 6, 2008 EHA presentation at International Hydrogen Energy Development Forum 2008, Fukuoka, Japan
- - April 21-25, 2008, joint stand at Hanover Fair with DWV and other EHA national associations;
- October 13, 2008, EHA session on H2 Infrastructure at Industry and Finance Workshop
- - October 23, 2008, EHA presentation on EU Policy at ZEMSHIP seminar at the H2 Expo in Hamburg;
- - November 13, 2008,
- November 18, 2008 EHA presentation on Educational activities in the EU at Hydrogen and Fuel Cell Masterclass organized by the WBZU in Ulm in collaboration with the IPHE. .
- In addition EHA facilitated presentations of relevant EU projects and activities::
 - April 24, 2008 Hanover Fair, EHA co-organized seminar on the Handbooks of the EU projects HyApproval, Hyper, H2 Training;
 - May 30, 2008 EHA hosted meeting of Roads2Hycom projects;
- - October 15, 2008 EHA organized General Assembly of HyRaMP.
 - December 18, 2008 EHA hosted EU seminar of procurement of clean vehicles.

Provide four updated news articles per year for European and national press:

1. January 30 2008 PR: on EHA session at EU Sustainable Energy Week
2. April 15,2008 PR: on EHA hosting the HyRaMP secretariat;
3. May 30, 2008: PR EHA welcomes approval JTI by EU Council;
4. October 15, 2008, PR on the occasion EHA salutes the FCH JTI.
5. EHA has responded with a letter to the editor to several articles in the Economist (June 25, 2008 and September 12, 2008) that poorly represented the activities in Europe.

Developed three Euractiv campaigns:

- January 2008: EHA session EU Sustainable Energy Week;
- April 2008: EHA new brochure “Hydrogen and Fuel Cells as strong partners of Renewable energy systems” and Hanover Fair.
- September 2008; EHA hosts HyRaMP General Assembly.

Development of promotional material:

- The EHA together with the German Hydrogen and Fuel Cell Association Brochure “Hydrogen and Fuel Cells as strong partners of Renewable energy systems”;
- - The EHA developed a new brochure to include the new members ENI and Ajusa.
- - The EHA Hydrogen Refuelling Station Map has seen its fourth edition.

Collect insight in and support local developments through involvement in EU and national projects of EHA national association members; most EHA industrial members are member of Industrial Grouping of JU FCH. EHA collected list of representation of all EHA national association members.

Monthly report: in 2008 12 monthly reports have been sent to the EHA Board and EHA members. General content of the monthly reports is put on the website as RSS feeds.



EHA Taskforce “EU Strategic Energy Technology Plan” on RE/H₂ energy chains.

EHA Taskforce “Hydrogen in the City”: secretariat of HyRaMP since April 2008.

EHA Taskforce “EU 2009”: defining lobbying themes for new EU Parliament and EU Commission: developed EHA Value proposition

EHA is IPHE vice chair Education Work Group and host HYFED6 Educational secretariat.



EUROPEAN HYDROGEN ASSOCIATION

Refueling Stations 2006

EHA and EU Policy

- **1. *EU Strategic Energy Technology Plan:*** presented November 22, 2007. The EHA board of January 30 decided to commission a study on the relationship between renewable energy and the use of hydrogen as an energy vector that was presented at the EHA Annual General Assembly on June 30, 2008 to the EU officers responsible for the SET Plan.
- **2. *Carbon Capture and Storage (CCS) Directive*** presented January 23, 2008; the proposal includes the development of 12 so called zero emission power plants that should cover all three CCS technologies. The EHA has followed the dossier through Parliament and communicated the importance of the pre combustion technology for the development of a hydrogen infrastructure to the EU Parliament rapporteur and responsible Commission officials. In the final version of the Directive reference to the need to include all three CCS technologies is made and 150 mln CO₂ allowances will be earmarked for funding the 12 plants.
- **3. *Renewables Directive*** presented January 23, 2008; EHA at its Board meeting on January 30, 2008 invited the Commission to explain the absence of hydrogen produced by renewable energy as a biofuel in the Commission's proposal for this directive. The EHA received a written confirmation of the Commission that hydrogen produced by renewable energy is included in the 10% renewable energy target for transport.

- **4. Consultation on Green paper on Urban Transport** deadline March 15, 2008; EHA submitted a contribution to the consultation stressing the need for large scale demonstration projects of hydrogen vehicles to define infrastructure requirements at an early stage.
- **5. Directive for the promotion of clean and energy efficient vehicles:** presented on December 19, 2007. The EHA has followed this dossier as it contains mandatory criteria on life cycle costs for the procurement of vehicles by public authorities that could be important for the market development for the first hydrogen cars. The EHA hosted a seminar in collaboration with the EU project Procura and the EU Commission on this topic on December 17, 2008
- **6. Covenant of the Mayors:** the Covenant of the Mayors was signed the beginning of 2008 by over 70 cities in Europe (now 460 members) that intend to go beyond the 20% CO2 emission targets of the EU and commit themselves to a sustainable strategy using benchmarked solutions. DG TREN is coordinating the activities of the Covenant and has signed an agreement with the European Investment Bank for funding of local projects. The EHA met with the DG TREN coordinator October 2008, to establish a collaboration on benchmarking of local hydrogen and fuel cell projects.

- **1. Directive on the Emission Trading System:** the proposal was originally presented on January 23, 2009. In the Commission proposal seen by EHA already in its preliminary draft in December 2007, hydrogen production installations of up to 25 tons per day are included. The EHA prepared a position paper and organised a meeting with DG Environment on the inclusion of big hydrogen production facilities on March 13 in Brussels. The EHA in parallel sent and discussed its position paper with the rapporteur of the EU Parliament.
- **2. Integrated Pollution Prevention and Control (IPPC) Directive:** IPPC proposal was presented December 21, 2007. The EHA started its efforts already in 2006 to follow this review of the IPPC Directive to lobby for facilitated authorisation of smaller hydrogen reformers. With the support of industry members a more detailed EHA position was formulated and submitted to the Commission in a meeting on February 14. Followup meetings were held with the EU Parliament rapporteur.
- **3. Reducing CO₂ emissions from new cars** A highly anticipated regulation will set emission performance standards for new passenger cars registered in the EU. The compromise backs the Commission's proposed target of an average of 120g of CO₂/km for the whole car industry by 2012, compared to the current levels of 160g/km. The regulation sets an average target of 130g CO₂/km for new passenger cars to be reached by improvements in vehicle motor technology. .

- **The revised fuel quality directive** requires fuel suppliers to reduce greenhouse gas emissions caused by extraction or cultivation, including land-use changes, transport and distribution, processing and combustion of transport fuels. The EHA lobbied for the inclusion of hydrogen (i.e. fossil fuels like petrol, diesel and gas-oil and also biofuels, blends, electricity and hydrogen) of up to 10% by 2020.



- **Regulation No 79/2009 of the European Parliament and of the Council of 14 January 2009 on type-approval of hydrogen-powered motor vehicles, and amending Directive 2007/46/EC.** EHA is part of DG Enterprise Working Group to define implementing measures for this Regulation that will be finalized before the summer of 2009. The EHA also collaborated with the office of Anja Weisberger (EPP-DE) rapporteur of the dossier of the EU Regulation on hydrogen powered vehicles. Ms. Weisberger was favourable to the EHA amendments to urge the Commission to facilitate the acceleration of authorisation procedures for hydrogen refuelling stations and the include L type vehicles.



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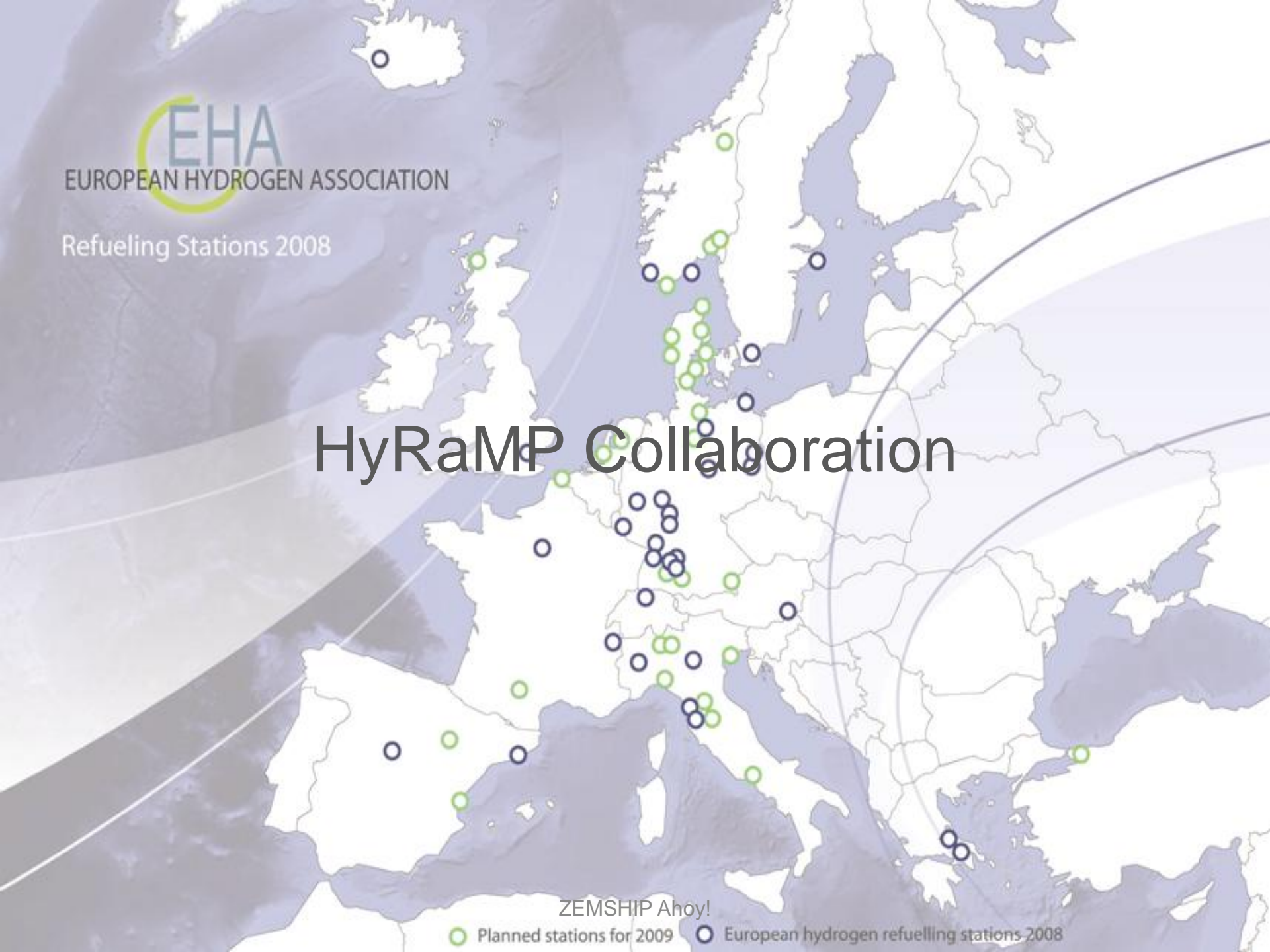
EUROPEAN HYDROGEN ASSOCIATION

Refueling Stations 2008

HyRaMP Collaboration

ZEMSHIP Ahoy!

○ Planned stations for 2009 ○ European hydrogen refuelling stations 2008



HyRaMP Members

- Andalusia
- Aragon
- Castilla La Mancha
- Catalonia
- Galicia
- Madrid
- Abruzzo
- Province of Bolzano
- Lazio
- Lombardy
- Piemonte
- Province of Trento
- City of Wroclaw
- British Midlands
- Outer Hybrides
- Nord East of England
- Rhone Alpes
- Midi Pyrenées
- Baden-Württemberg
- City of Hamburg
- Hessen
- North Rhine-Westphalia
- Oldenburg-Wilhelmshaven
- Scandinavian Regions (N, SE, DK)
- Ljubljana

Term of Reference JTI – HyRaMP – Part 1

- 1. Clarify opportunities to the use of regional funds (often EC structural funds) in alignment with EC funding for JTI projects.**
HyRaMP will produce a document with recommendations for the financial participation of regions in JTI projects.
- 2. HyRaMP shall define inter-regional projects coordinated with the JTI-MAIP. The inter-regional project should be eligible to receive JTI-funding.**
HyRaMP will present proposals on possible regional participation in demonstration projects; Task force with HyRaMP and IG to prepare.
- 3. Pooling of procurement.**
EC, IG and HyRaMP will identify models of joint procurement in a common workshop.

Term of Reference JTI – HyRaMP – Part 2

- 4. Analysis of the potential industrial impact of Fuel Cells and Hydrogen on a specific region in terms of jobs, building up “yellow-pages”.**

HyRaMP in collaboration with IG will identify employment impact of early market application (possibly within a special project).

- 5. Create an exchange platform (internet portal) where the regional strategies are published** (best practices, synergies).

- HyRaMP website including a competence database.

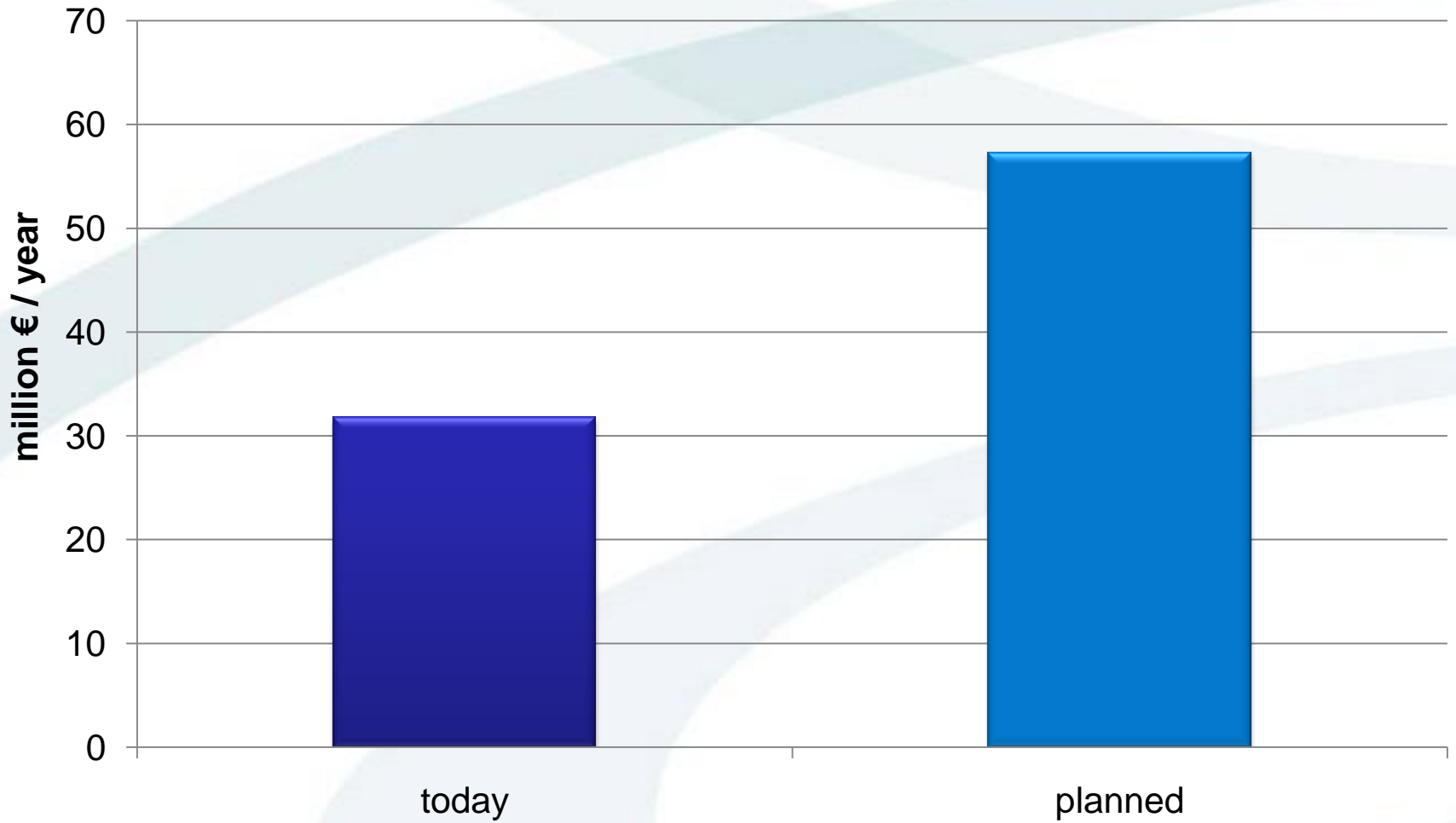
- Joint Workshops with R2H, HyFleet:Cute, etc.

- 6. Coordination of RCS activities** (local implementation of RCS activities).

RCS activity plan, will be linked with RCS topics of MAIP.

- 7. Education and Promotions.** Creation of a market introduction campaign for three applications (transport, stationary and portable).

HyRaMP regions (25) budget





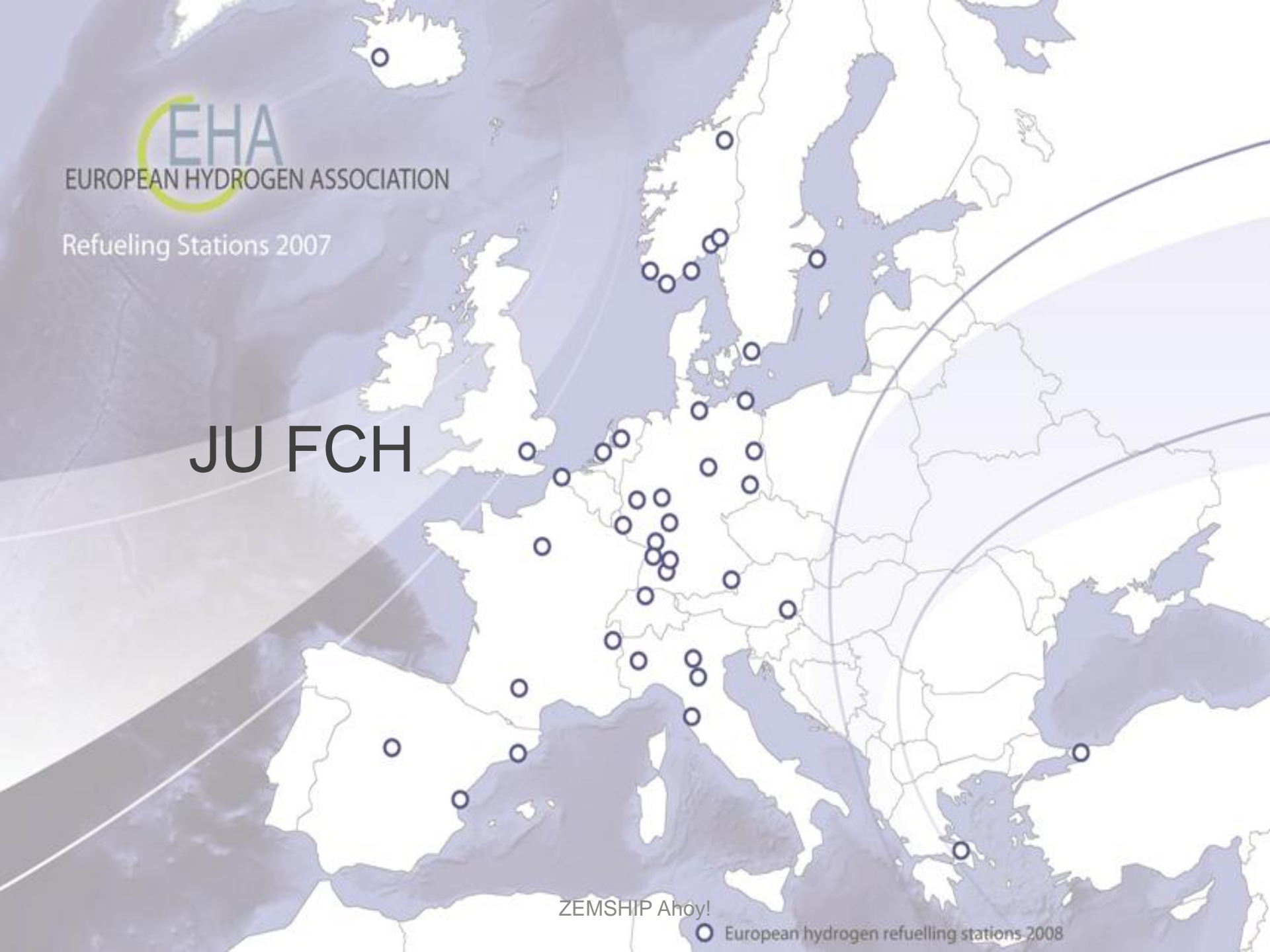
EUROPEAN HYDROGEN ASSOCIATION

Refueling Stations 2007

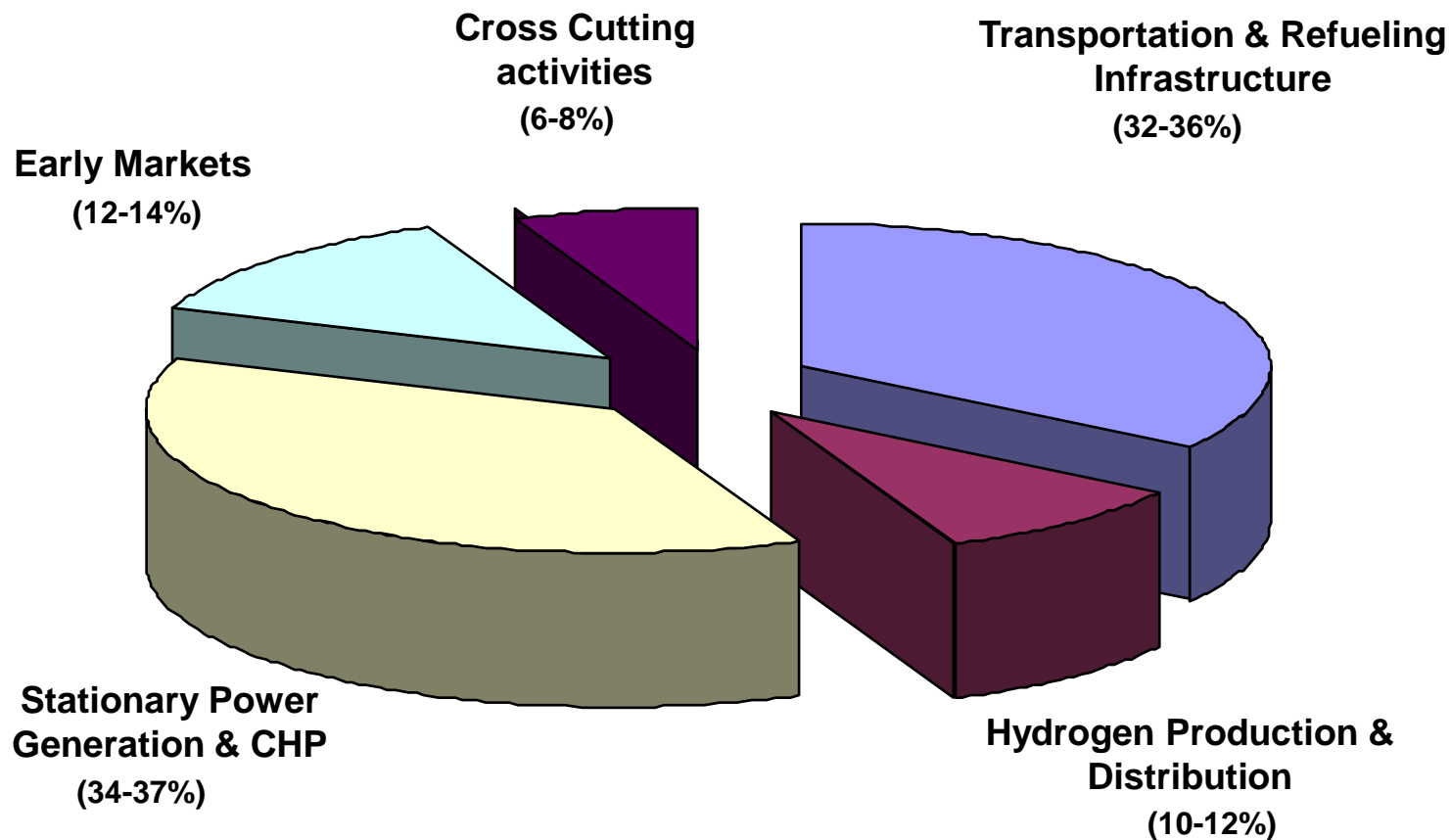
JU FCH

ZEMSHIP Ahoy!

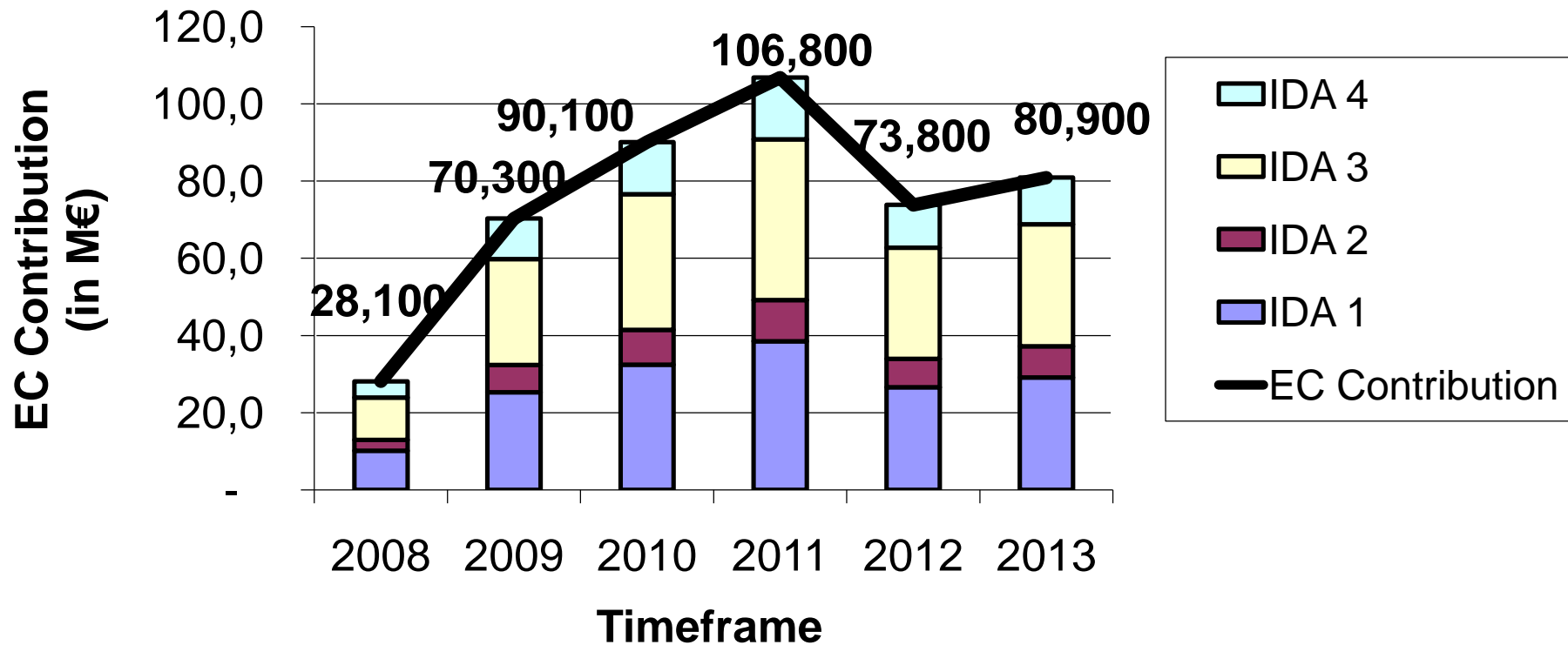
○ European hydrogen refuelling stations 2008



MAIP indicative budget breakdown per Application Area



Operational Resources Breakdown 2008-2013



Together with its industrial members the EHA sent a letter on September 18, 2008 to the Governing Board of the JTI in September to ask for a structured approach at JTI Program office level regarding areas of activity that will be crucial to the market introduction of FCH technologies in Europe:

1. Regulation, Codes and Standards (RCS) strategy coordination:

For consistency and industry buy-in this needs to be a function of the JTI Programme Office, so that it is subject to the same industry governance instruments as those applying to the definition of the JTI programme (annual and multi annual implementation plans).

2. Technology benchmark.

- Shared technology and market intelligence, validated by the stakeholders, needs to be developed for supporting orientation and prioritization of efforts.

3. Development of shared intelligence on the public perception of the use of hydrogen in the various countries involved.

EHA could join two JTI 2° Call proposals on development of training courses:

1. topic SP2-JTI-FCH 5.1 Development of educational programs.
2. topic SP2-JTI-FCH 5.2 Training initiatives for Regulators

EHA in 2009

1. EHA office has started verification of new MEP's to identify new allies in different political parties;
2. DG Energy and Environment will merge?: new opportunities with appointment of new officials to prepare case for hydrogen: proposal to set up joint meetings with JTI Governing Board
3. EHA Value proposition will be part of information kit:
4. Need for paper that explains the synergies between battery and fuel cell development and the consequences for electric transport infrastructure development: DWV proposal, collaboration with Covenant of the Mayors, HyRaMP, Hill Knowlton to establish coalition for electric transport development:
5. Brussels project:
 - collaboration with Brussels Ministry of Transport and Environment:
 - meeting at EU Parliament to identify suitable locations for hydrogen installations

1. European Energy Programme for Recovery: part of €5 billion economic recovery plan which also includes €1.02 billion to broadband Internet connections and rural development.:
 - €2.37 billion - is allocated to gas and electricity interconnections, including €200 million for the Nabucco gas pipeline. A further
 - €565 million is allocated to offshore wind energy farms and
 - €1 billion for carbon capture and storage (CCS) demonstration plants.
2. All topics relate to hydrogen!
3. The first €2 billion of the money will be spent in 2009 and further €1.98 billion in 2010.
4. Call for proposals has been published: closing **July 15 2009**
5. http://ec.europa.eu/energy/grants/2009_07_15_en.htm

EHA Membership campaign 2009

1. **Sustaining members;** emphasise EHA's role as lobbying organisation
Target December 31, 2009 (members by 2010):
 - two European companies active in hydrogen infrastructure development in Europe are EHA member. Continue pursuit of Exxon Mobile, BP, Chevron and Total) ;
 - one energy companies involved in pre-combustion Carbon Capture and Storage in Europe (Eon, Vattenfall, ENEL) or other (Suez)
2. **Supporting members;** emphasise EHA 's role as reference point of hydrogen development in Europe, enabling partnership with key players.
Target December 31, 2009:
 1. Two smaller hydrogen production companies interested in the European market: Sol in Italy, Hydrogenics.
3. **Community members:** emphasise EHA as reference point of industrial, national and local development:
Target December 31, 2009:
 - Attract two organisations of small local companies that could join collectively or as individual SME: CEP Berlin, HYNOR.
4. **National Association members;** EHA is the representative organisation of all European associations to coordinate messages to key decision makers in Europe.
Target December 31, 2009:
 - Denmark, Czech Republic, Slovenia are member.

EHA >>>>2100

French Hydrogen and Fuel Cell Platform

1. More than 130 stakeholders discussed the establishment of the French Hydrogen and Fuel Cells Platform, on November 12, 2008 in Paris. EHA board member Claude Derive of the French Hydrogen Association AfH2 is coordinating the development of a first draft framework for the Platform. More info at the www.afh2.org;
2. On 8 October 2008, under Community rules on State aid, the **European Commission authorized the €67.6 million for the Horizon Hydrogen Energy (H2E) innovation program**, coordinated by the Air Liquide Group, in the field of hydrogen and hydrogen fuel cells;



L'AFH2 fête ses 10 ans

A banner with a blue sky and clouds background. The text 'L'AFH2 fête ses 10 ans' is written in large, bold, yellow letters. Below the text is a row of ten yellow stars.

1. Represents an overall investment in **research and technology** of almost **€200 million** over 7 years,
 2. Aims at **building sustainable and competitive hydrogen-energy solutions** covering the full hydrogen energy value chain. In particular, it will investigate the **development of innovative technologies** for hydrogen production using renewable energy, hydrogen storage and industrialization of fuel cells.
 3. Will contribute to the setting up of a **suitable regulatory framework**, and will include a program of demonstrations and educational measures to familiarize the wider public with this new, clean energy vector.
- **This ambitious program brings together around Air Liquide twenty partners** in the field of hydrogen energy: industrial groups, small and medium-sized companies and French public research laboratories.





EUROPEAN HYDROGEN ASSOCIATION

Refueling Stations 2006

Germany

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○ European hydrogen refuelling stations 2006

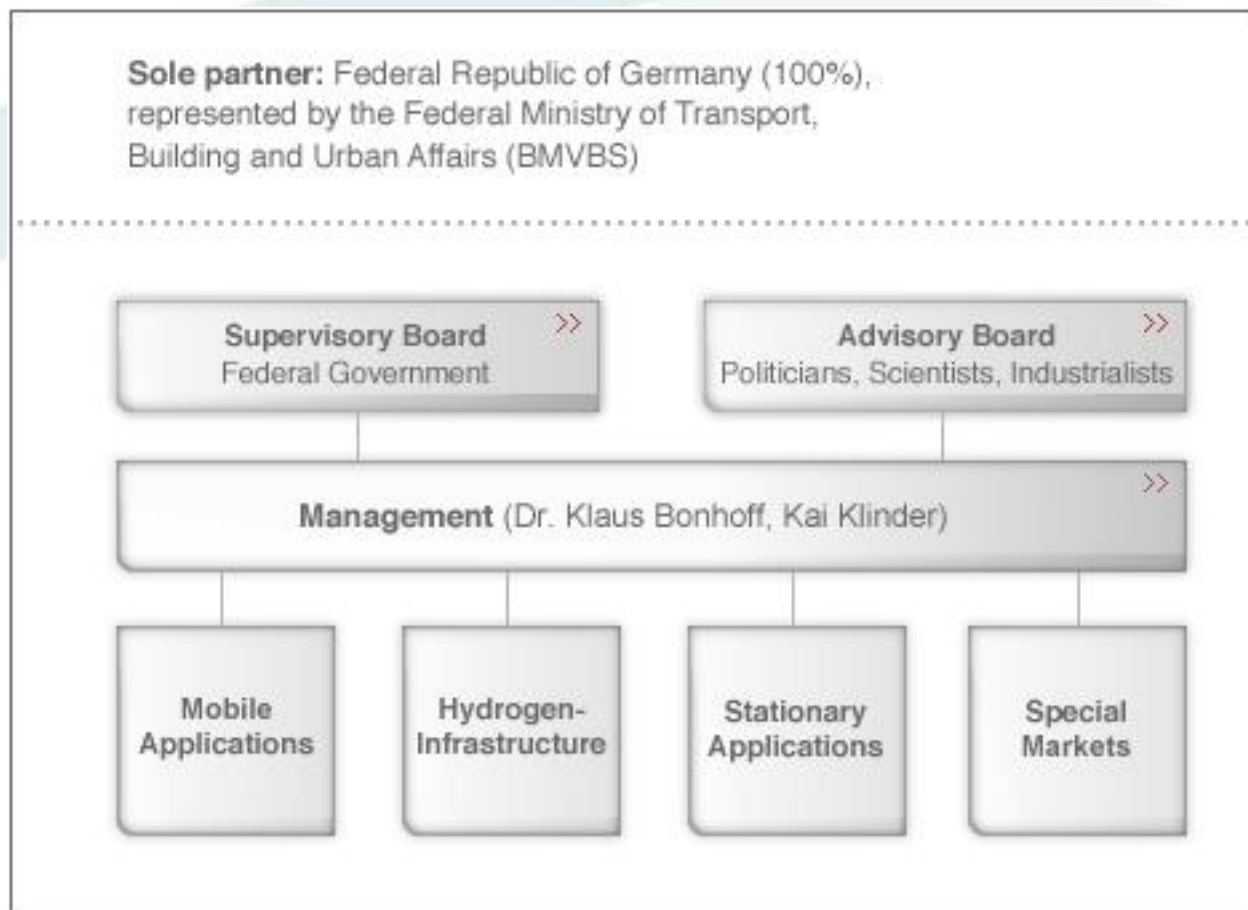


The objectives of the “National Innovation Programme for Hydrogen and Fuel Cell Technology” (NIP) are:

- To speed up development of the market by means of targeted support for and promotion of the hydrogen and fuel cell sectors in the mobile, stationary and portable fields.
- To establish value chains and value shares in Germany.
- To safeguard the technological lead and implement the technology in Germany.



“NOW GmbH Nationale Organisation Wasserstoff- und Brennstoffzellentechnologie” coordinates the “National Innovation Programme for Hydrogen and Fuel Cell Technology”



NIP: funding

1. Total budget : more than € 1 bln shared by Industry and German Federal government
2. German Government provides for € 500 mio until 2015 for research and development (R&D) as well as the demonstration and commercialisation of hydrogen and fuel-cell technology.
3. Committee of Lander (German Regions, coordinated by North Rhine Westfalia gives support and advice.



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Refueling Stations 2006

Scandinavia

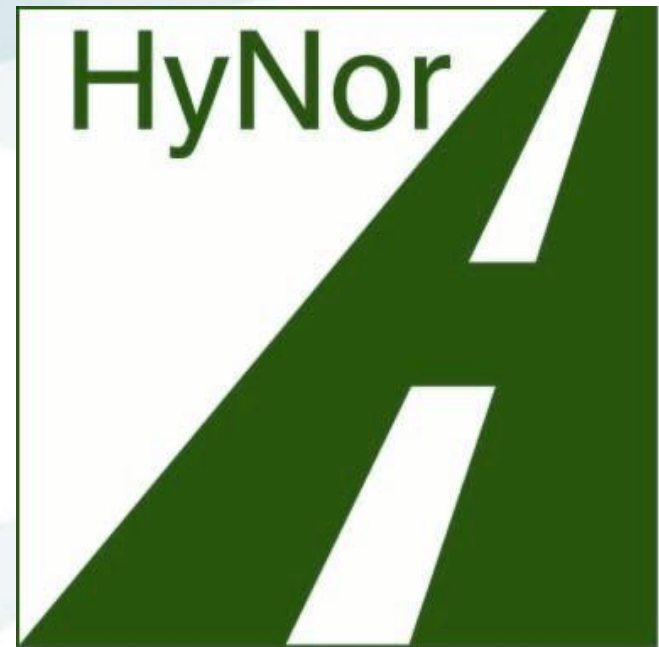


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○ European hydrogen refuelling stations 2006

HyNor Objective

- Established 2003 with the vision
“In 2009 it shall be possible to drive hydrogen fuelled vehicles between Stavanger and Oslo ”
- This is to be achieved by establishing local nodes along the 580 km long road –
“The hydrogen road of Norway”



The Hydrogen Road of Norway

The HyNor nodes



EVS Viking Rally

11-13 May 2009

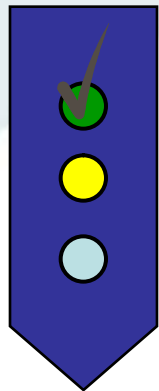
- **The Event** A 570 km rally starting in Oslo the 11th of May 2009 and arriving two days later in Stavanger at the opening day of the 24 th Electric, Fuel Cell and Hybrid Vehicle Symposium
- [www. Evs24.org](http://www.Evs24.org)
- The rally is also the official opening of the HyNor – The hydrogen road of Norway.
- www.hynor.no





Vision

“Making Scandinavia one of the first regions in Europe where hydrogen is available and used in a network of refueling stations”



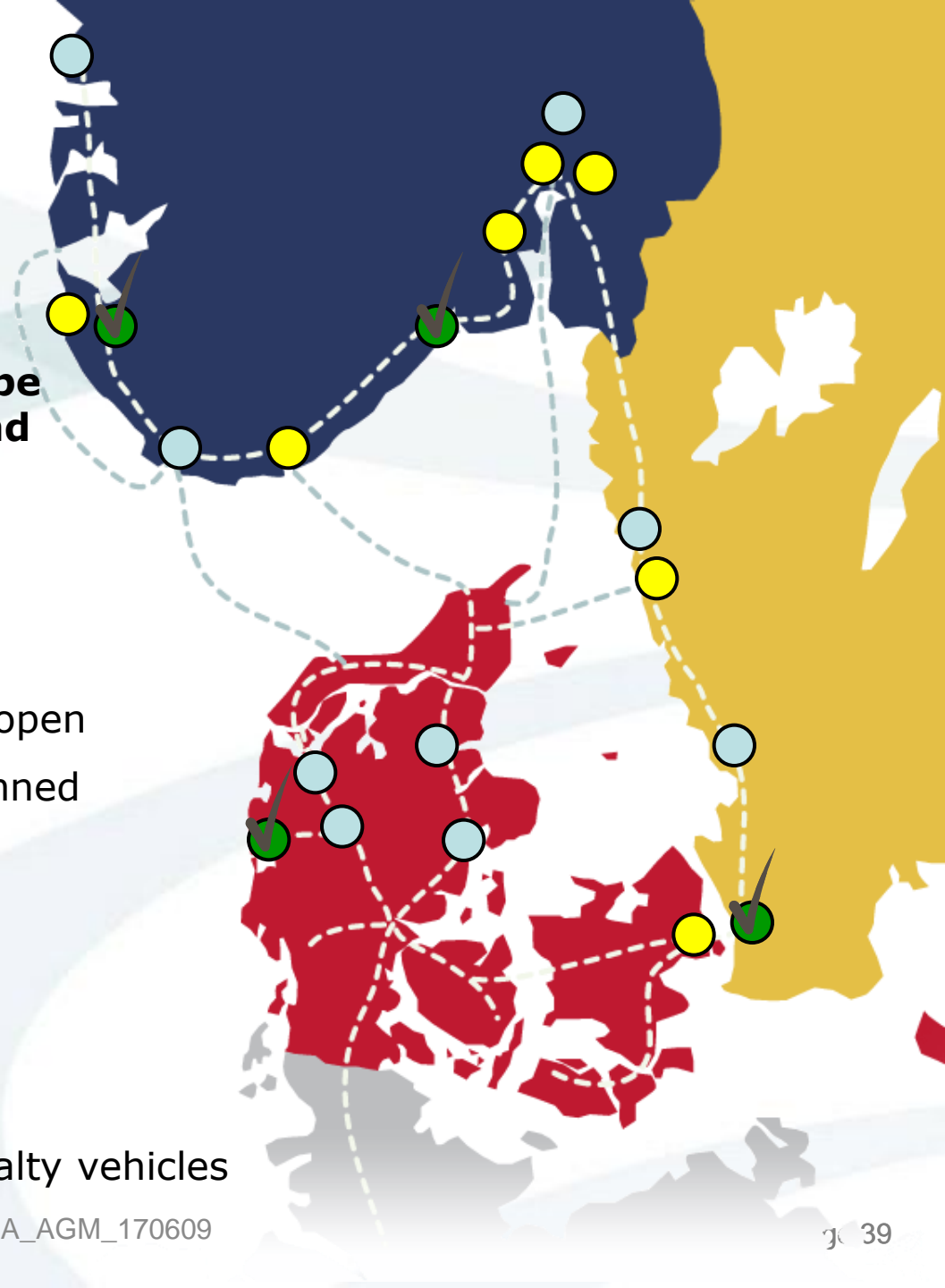
Time line

- 2008 - 4 stations already open
- 2009 - 7 new stations planned
- 2010 and beyond

Ambition for 2015

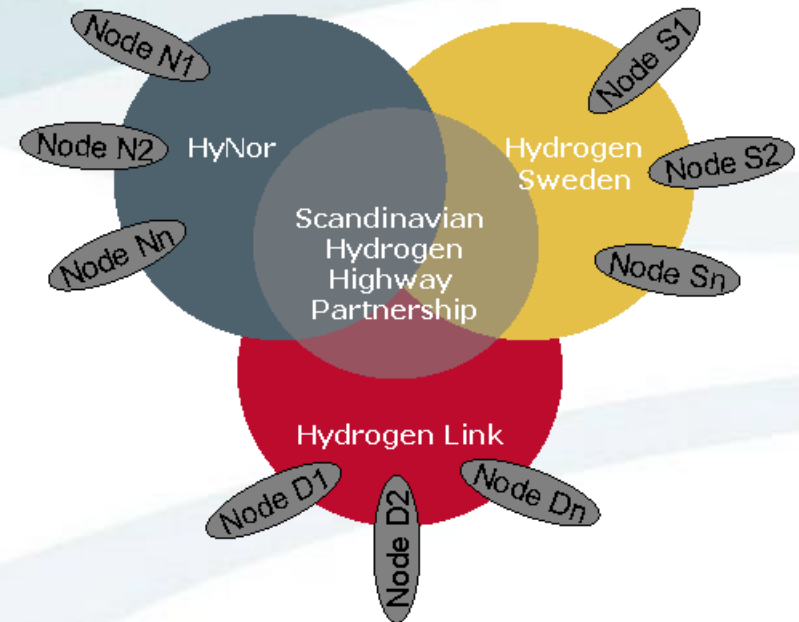
15 stations + 30 satellite stations

100 buses + 500 cars + 500 specialty vehicles



Working groups

- Project planning and coordination
- Joint vehicle procurement
- Standards and certification
- EU and national lobbying
- Marketing and communication



A new national strategy for Danish development of hydrogen and fuel cells for transport purposes, for the period of 2008-2025, has been published in February 2008 by the transport strategy group under the Danish Hydrogen and Fuel Cell Partnership.

In the short time frame of the strategy towards 2015 there is high potential for developing and commercialising fuel cell hybrid systems for market niches like fork lift trucks, other vehicles for internal transport and for secondary power supply in vehicles. In addition to this the strategy group estimates that in this period, there may be Danish market opportunities within the development and establishment of a hydrogen infrastructure;

The strategy group recommends the strongest possible co-ordination of Danish research development and demonstration within fuel cell hybrid systems and hydrogen infrastructure and an international effort e.g. in a Nordic context and in the JTI.

The Strategic Report is available at : <http://www.risoe.dtu.dk>

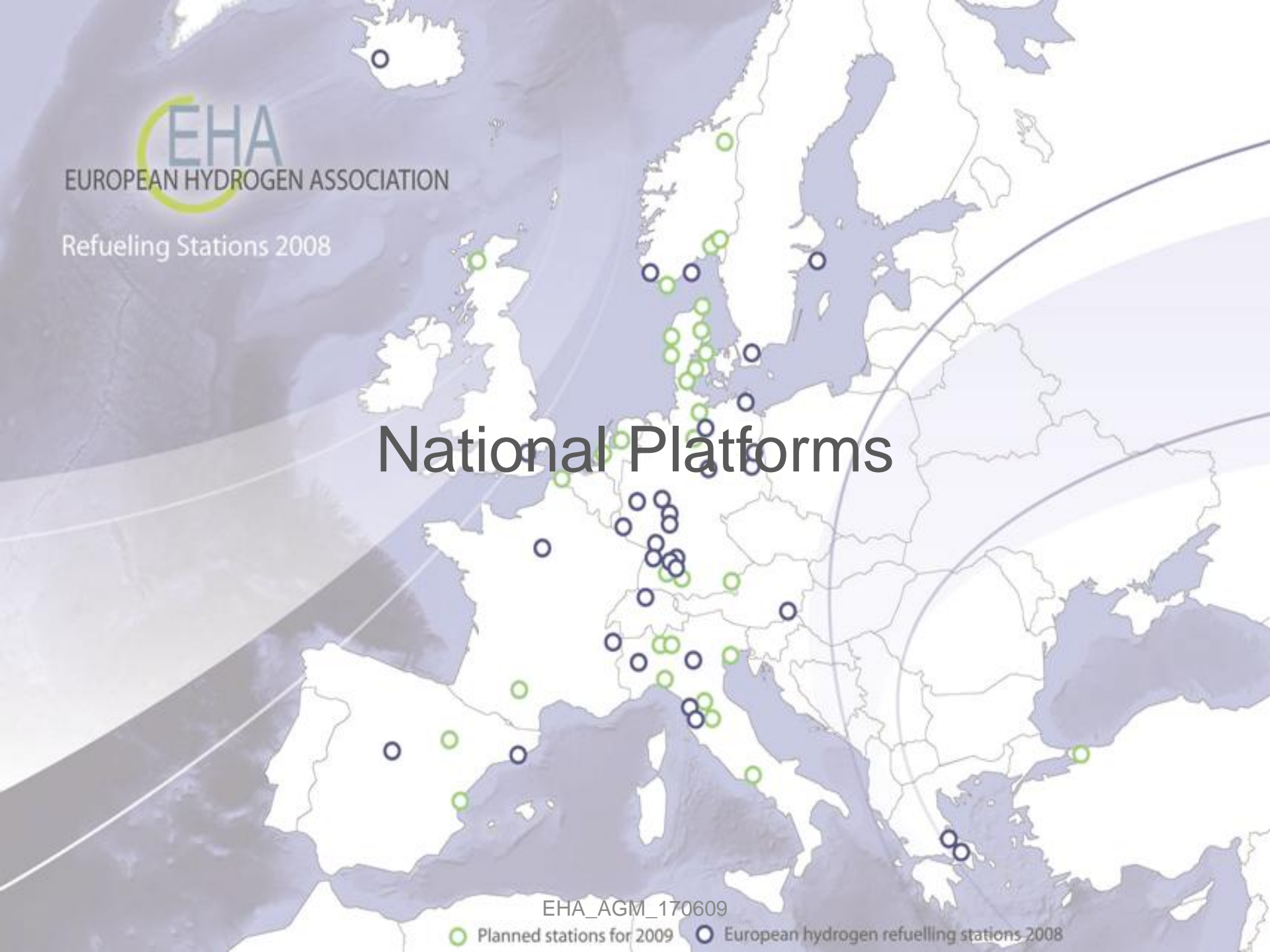


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Refueling Stations 2008

National Platforms

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● Planned stations for 2009 ● European hydrogen refuelling stations 2008



EHA and EU Economic Recovery

- Total Global Financial Recovery Package: \$ 2.600 bln: 5% for energy technology development , renewable energy and energy efficiency.

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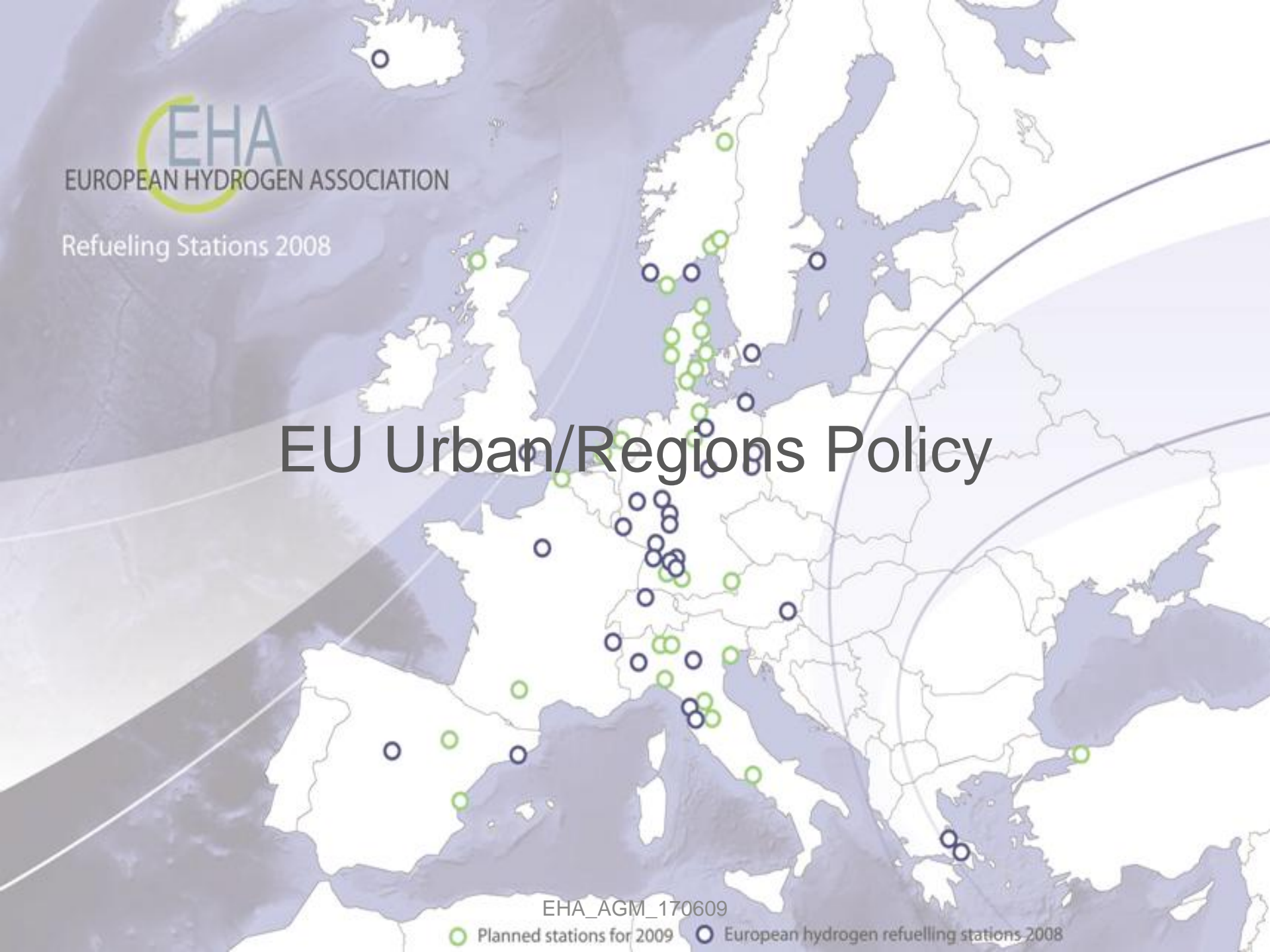


EUROPEAN HYDROGEN ASSOCIATION

Refueling Stations 2008

EU Urban/Regions Policy

EHA_AGM_170609
● Planned stations for 2009 ● European hydrogen refuelling stations 2008



H2 Visibility in Regional and Urban Policy

International focus is increasingly on urban challenges and solutions:

- EU Urban policy is fragmented: challenges are huge and coordination is needed:
- EESC suggested High Level Group on Urban Development and Sustainability (Opinion September 2008)
- EGTC started in August 1, 2007
- Covenant of the Mayors: inaugurated February 10, 2009: go beyond EU CO₂ reduction targets: 350 cities backed by EIB.
- HyRaMP: European Regions and Municipalities Partnership for Hydrogen and Fuel Cells, EHA is host.
- C40 and Clinton Climate Foundation: smart urban programme, building efficiency, clean buses.
- OECD just started urban focus.



ORGANISATION
FOR ECONOMIC
CO-OPERATION
AND DEVELOPMENT



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