

www.HyLights.eu

HYLIGHTS

HyLights
**A Coordination Action to Prepare European Hydrogen and Fuel Cell
Demonstration Projects on Hydrogen for Transport**

Subject and first results of the HyLights regions survey

Stefan Haendschke

15 May 2007

Chausseestrasse 128a, 10115 Berlin

Tel +49(30)7261 65 673



HyLights is funded
by the
European Commission

The European Commission is supporting the Coordination Action “HyLights” and the Integrated Project “Roads2HyCom” in the field of Hydrogen and Fuel Cells. The two projects support the Commission in the monitoring and coordination of ongoing activities of the HFP, and provide input to the HFP for the planning and preparation of future research and demonstration activities within an integrated EU strategy.

The two projects are complementary and are working in close coordination. HyLights focuses on the preparation of the large scale demonstration for transport applications, while Roads2Hycom focuses on identifying opportunities for research activities relative to the needs of industrial stakeholders and Hydrogen Communities that could contribute to the early adoption of hydrogen as a universal energy vector.

Further information on the projects and their partners is available on the project web-sites www.roads2hy.com and www.hylights.eu.

HYLIGHTS

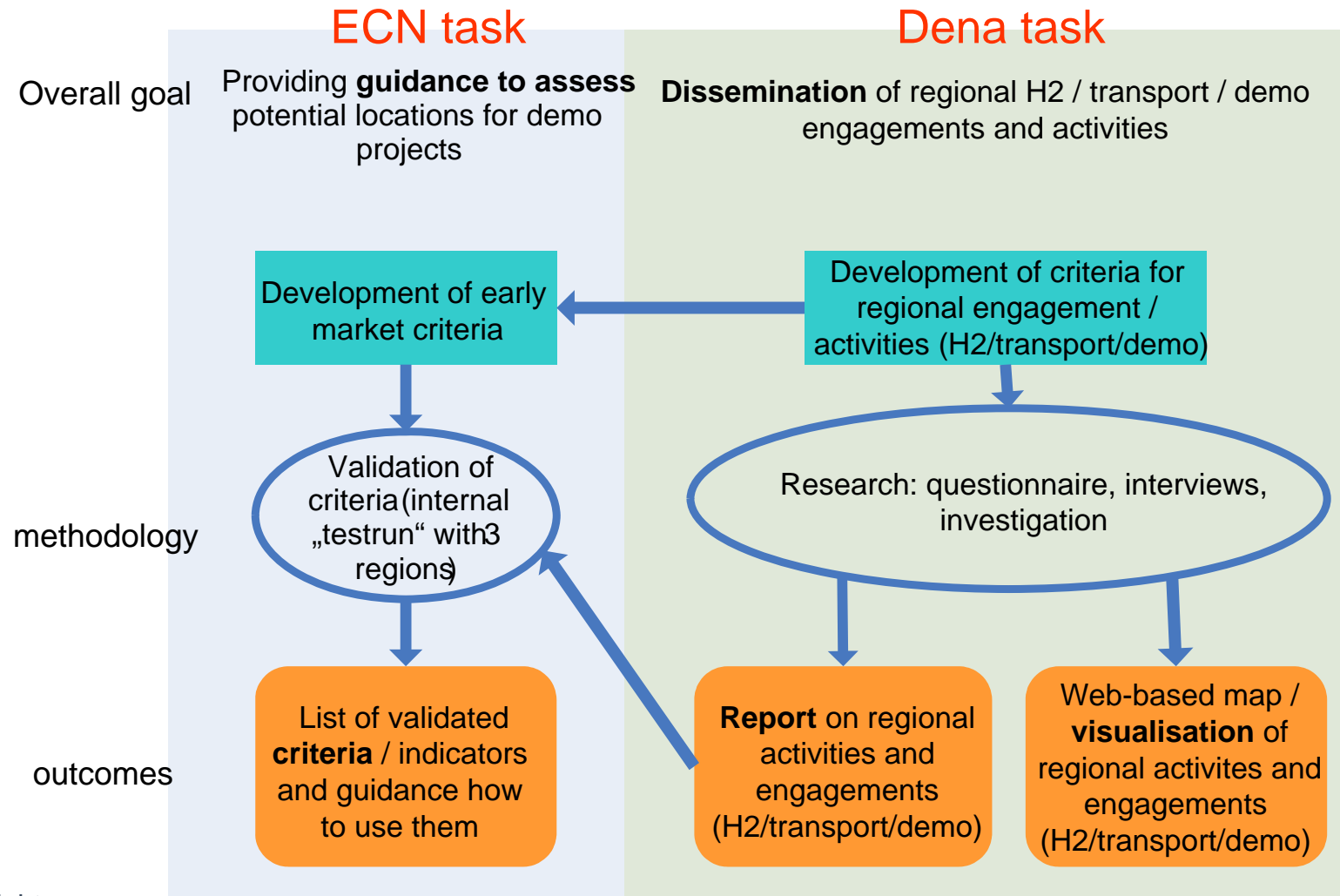


HyLights Regions activities

- Subject are regions in terms of political entities, also including federal states, districts or even municipalities.
- Clear focus within HyLights: Activities and engagements of these regions in the field of hydrogen *demonstration for transport*.
- The survey addresses regions not as locations where hydrogen projects just take place, but regions as *actors* which are involved directly in the process.



Regions research tasks



Regions mapping

- Goal: to make regional activities *visible* in an effective, well structured and transparent way.
- Leading question: Which activities are currently undertaken by the regions and which activities are planned?
- The visualisation is based on the detailed regions survey (research, questionnaire, interviews), but requires a reduction on few basic criteria.
- The regions map is an open and growing document. Regions are invited to complete and update information.
- The map will be part of the webpage H2moves.eu. and interlinked with the projects map there.
- First step: identification of regions either with ongoing or with planned or at least foreseen hydrogen demonstration activities in the transportation sector. Result up to date: 29 regions



Regions mapping

The screenshot displays the H2moves.eu website interface. At the top, the logo 'H2moves.eu' is on the left, and the title 'Hydrogen for Transport in Europe' is in the center. A navigation menu includes 'WELCOME', 'PROJECT LOCATIONS', 'DOWNLOADS', and 'LINKS'. On the right, there are links for 'contact' and 'log-in'. A sidebar on the left lists 'Regions' with the following countries: France, Spain, Italy, Germany, United Kingdom, Norway, Sweden, Denmark, Iceland, and Wales. The main content area features a map of Europe titled 'Europe - Map of Regions Activ on Hydrogen for Transport', with numerous yellow circular markers indicating active regions across the continent. On the right side of the map area, there is a European Union flag logo with the text 'H2moves.eu is funded by the European Commission' and a 'Regions Events:' section.



The screenshot shows the H2moves.eu website interface. At the top, the logo 'H2moves.eu' is on the left, and 'Hydrogen for Transport in Europe' is on the right. Below the logo is a navigation bar with 'WELCOME', 'PROJECT LOCATIONS', 'DOWNLOADS', and 'LINKS'. A 'home' button is on the far left, and 'contact' and 'log-in' are on the far right. A blue banner reads 'Active Regions on Hydrogen for Transport'. Below this, a 'back' button is on the left. The main content area features a large image of the Duomo di Milano in Lombardy, Italy, with the heading 'Regione Lombardia, Italy'. On the right side, there is a European Union flag logo with the text 'H2moves.eu is funded by the European Commission'.

This screenshot shows the H2moves.eu website for the London, United Kingdom page. The layout is consistent with the previous screenshot, featuring the 'H2moves.eu' logo and 'Hydrogen for Transport in Europe' header. The navigation bar includes 'WELCOME', 'PROJECT LOCATIONS', 'DOWNLOADS', and 'LINKS'. A 'home' button is on the left, and 'contact' and 'log-in' are on the right. The 'Active Regions on Hydrogen for Transport' banner is present. A 'back' button is on the left. The main content area displays a red double-decker bus with 'Fuel Cell Bus' and 'Zero-Emission Fuel-Cell Bus H₂O' on its destination sign, with the heading 'London, United Kingdom'. Below the image is a 'Background' section with text: 'London is dedicated to become an early adopter of H2FC technology and a deployment centre in the commercialisation of hydrogen fuelled transport. Furthermore framework conditions that advance the hydrogen introduction are the London Hydrogen Partnership (launched 2002), the Mayors Vision on the very cleanest technologies such as hydrogen and fuel cells (towards 2050) and existing strategies for vehicle deployment over the next years'. On the right side, there is a European Union flag logo with the text 'H2moves.eu is funded by the European Commission'. Below the logo are two sections: 'Links' with a 'London Website' button and 'Facts'.

This screenshot shows the H2moves.eu website for the Hamburg, Germany page. The layout is consistent with the previous screenshots, featuring the 'H2moves.eu' logo and 'Hydrogen for Transport in Europe' header. The navigation bar includes 'WELCOME', 'PROJECT LOCATIONS', 'DOWNLOADS', and 'LINKS'. A 'home' button is on the left, and 'contact' and 'log-in' are on the right. The 'Active Regions on Hydrogen for Transport' banner is present. A 'back' button is on the left. The main content area displays a white ferry boat on the water with the heading 'Hamburg, Germany'. Below the image is a 'Background' section with text: 'Hamburg's hydrogen strategy is based on a multiplicity of applications to monitor the efficiency and to expand the successful ones. The Main challenge is the production of small series as one approach to economic efficiency. The Federal Government of Hamburg has the political will to foster the technology and is very committed in promoting hydrogen and fuel cell technology. The Government of Hamburg provides 5M€ per year (as of...'. On the right side, there is a European Union flag logo with the text 'H2moves.eu is funded by the European Commission'.

Regions survey

- Descriptive visualisation of *detailed* regional data, structured by the survey categories:
 - strategies
 - budgets / fundings
 - actors / networks
 - drivers / obstacles
- Additional aggregation and analysis of such data that are comparable.
- No ranking, but identification of groups of different engagement/activity levels and types



Regions survey

Strategies

- In few regions demonstration for H2 as fuel is an explicit and prior part of an detailed and well agreed strategy for H2 implementation yet.
 - Example London: dedicated to become an leading early adopter of hydrogen and fuel cell technology. Transport sector of prime importance. Planned: 10-12 buses and 60 non-bus vehicles (mainly cars and motorcycles) over the next 5 years
- In several regions there are more general H2 implementation strategies which demonstration activities in the transportation sector is a foreseen part of amongst others.
 - Example Piemonte: Hydrogen is planned as a carrier for a sustainable energy development in general. In this context the “Piedmont Hydrogen System” (SPH2) has set up a complex strategy which demonstration of further H2 vehicles is one relevant part of.

Regions survey

Strategies

- Some regions have detailed and well agreed H2 implementation strategies but put only a minor focus on the transport sector in this context.
- Example Wales: Hydrogen is planned as a carrier for a sustainable energy development in general. The main focus is put on production and stationary applications, but , to a lower extent there are also transport related activities (H2 ferry in Cardiff, FC Midibus in Glamorgan) ongoing/planned.



Regions survey

Budgets & Funding

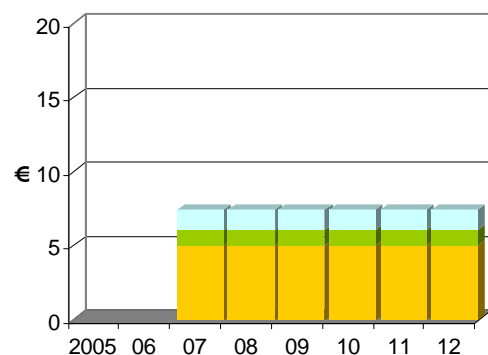
- Usually on regional level there are no programmes dedicated specifically to H2-fuel demonstration. H2-fuel-demo-activities are financed out of more general budgets - such as for renewable energies, for Hydrogen in general, or for alternative transports etc..
- The focus on demo and transport of these programmes is difficult to measure.
→ Therefore, current regional budgets are identified pragmatically: top down (by programme), when feasible, bottom up (project by project), when required.



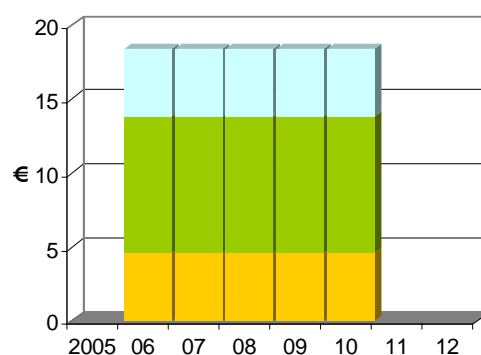
Regions survey

Budgets & Funding for H2 activities in the transport sector (samples)

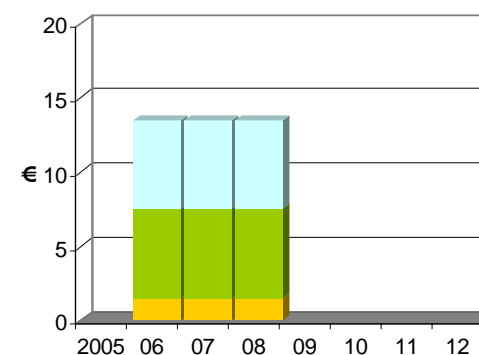
London



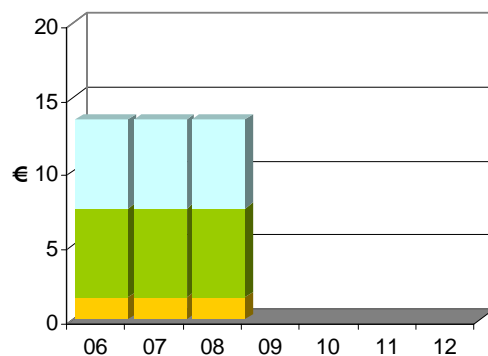
Lombardia



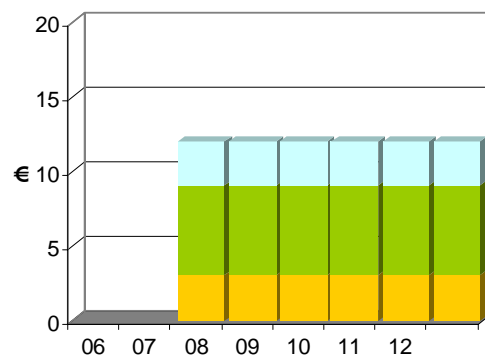
Hamburg



Rhein-Main



Nordrhein-Westfalen



- private
- public national/EC
- public regional



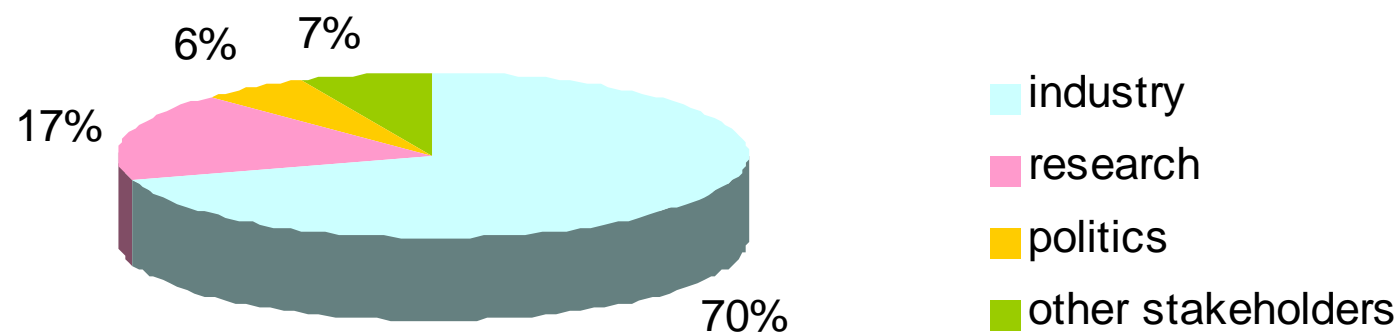
Regions survey

Actors and networks

- There are different kinds of regional co-operation and networking - concerning the involved social sectors, concerning the political and geographical level, and concerning the intensity.
- All considered regions co-operate with related industries and R&D institutions.
- Regarding the political levels there are
 - quite autonomously acting regions (as London or – so far – the German regions)
 - inter-regional networks (mainly on national level like in France or Spain)
 - and even trans-national co-operations (such as the Scandinavian regions in the Scandinavian Hydrogen Highway Partnership)



Regions survey

actors in regional networks
(average proportion)

Regions survey

Thank You!

Contact:

Stefan Haendschke

German Energy Agency (dena) GmbH

haendschke@dena.de

+49 (0)30 726165 - 673

