



IMPLEMENTATION PANEL

DRAFT

"IMPLEMENTATION PLAN - Status 2006"

**Public Consultation
10-31 October 2006**

RESPONSE FORM

How to participate in the public consultation:

1. Enter you comments in this template – preferably with reference to the specific chapter you are referring to
2. Save the file and upload it through the dedicated website:
https://www.lbstserver.de/ip_consultation/up/index.html

Deadlines for comments is 31 October 2006, 3 pm.

Contacts:

For information or questions with regards to the Implementation Panel or the Draft "Implementation Plan - Status 2006" you may contact the HFP Secretariat responsible Mr Stathis PETEVES (+31 224 565245)

For technical information concerning the submission procedure, please contact Mr Patrick SCHMIDT (+49 89 60811036) from the HFP Secretariat

For information with regards to the proposed Joint Technology Initiative (JTI), please contact the HFP Secretariat responsible Mrs Silvia VAGHI (+32 2 774-9652)

Contact details sender:

First Name: José Javier

Family Name: Brey Sánchez

Institution: Spanish Hydrogen and Fuel Cell Technology Platform

Country: Spain

E-mail: jbrey@hynergreen.abengoa.com

Comments:

GENERAL COMMENTS:

This document presents a general view of the objectives and prior activities according to the SRA and DS documents of the HFP, establishing 4 Innovation and Development Actions (IDAs).

An Implementation Plan should include detailed information about the policies, entities, means and the regulating framework needed to assure a successful implementation of the objectives included in this document.

It is necessary to establish a definite calendar for short and medium term up to 2020 in order to develop a real road map to get the indicated objectives.

Related to the budget distribution for each IDA, it would be recommendable to include some graphics representing the chronological budget distribution from 2006 until 2020.

Page 36: Include the following sentence: "The JTI should consider in its structure the establishment of a Group representative of the Research Community".

COMMENTS FOR IDA 1 (Hydrogen vehicles and infrastructure technologies):

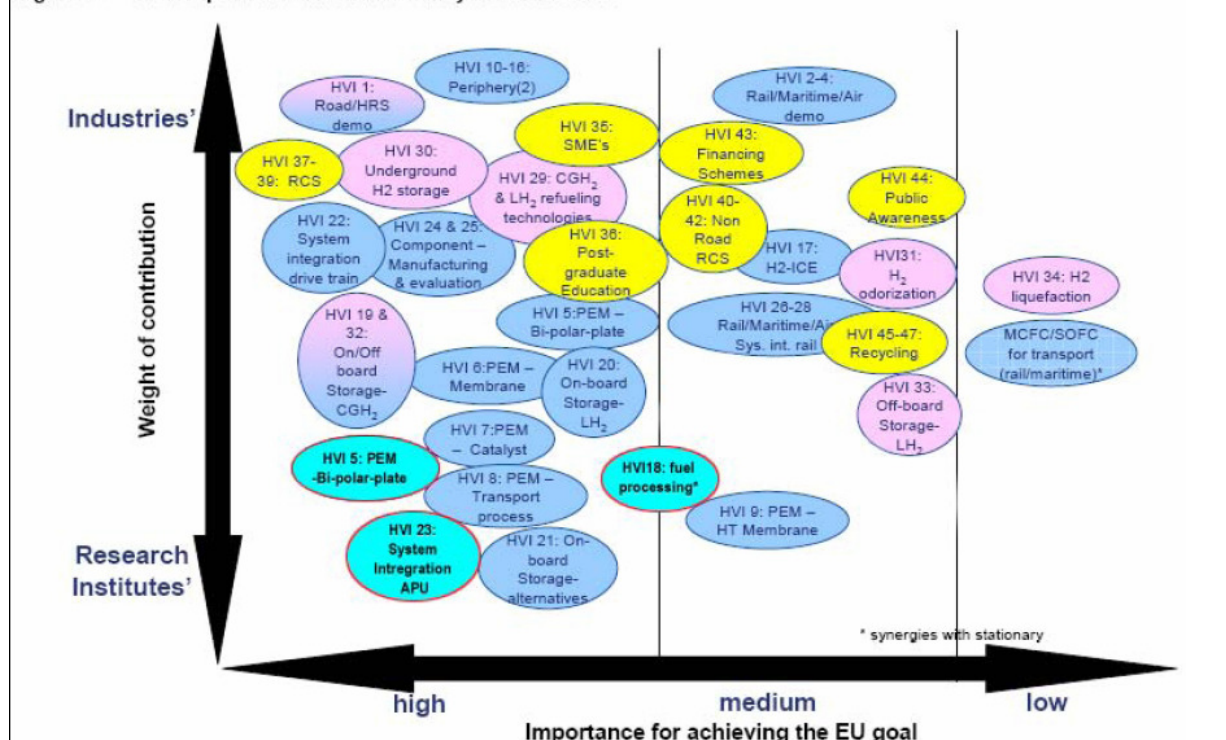
General Comment: It would be necessary to elaborate the next documents and activities:

- A present technological situation detailed analysis.
- Technological needs analysis for:
 - Prototype demonstrations
 - Entry of commercial vehicles into the hydrogen and fuel cell market.
- Establish a calendar for the production and demonstration initiatives (components and vehicles).
- Standards and regulations to assure the safety use of H2&FC vehicles.
- Establish agreements between the different parts (private and public entities, R&D centres) involved in these technologies.
- Establish and development incentive and supporting policies for the investments needed in R&D, manufacture and commercialization for these technologies.
- Analysis and supporting activities for the emerging companies.
- Development, planning and establish the activities plans for demonstration and commercialization for these technologies.
- Establish policy agreements to assure public acceptance of these technologies in transport applications.

Page 12: Include in Action type DE (Demonstration) for Action number 22-28.

Page 14: Modify the graph as follows:

Figure 3: Action portfolio of IDA 1 in its analytical framework



Explanation:

- 1.- HVI 5 -PEM Bi-polar plate is an issue that still demands a level of research more adequate to be performed by research organisations and have high importance to achieve the EU goal.
- 2.- HVI 23 system integration APU is quite important to achieve the EU goal.
- 3.- HVI 18 Fuel Processing should be considered to have some more importance that stated in the graph of the IP.

Page 34 and 35 – Modify the % budget for IDA 1 and IDA 3. Budget proposed for IDA 1: 42% and for IDA 3: 39%.

Explanation: the transport applications have higher technical challenges to overcome during the next years than the stationary applications. Besides the application in transport have a higher repercussion in the public and an eminent and high potential market and therefore the research in this area needs additional support.

COMMENTS FOR IDA 2 (Sustainable hydrogen supply):

The document does not include any reference to Renewable Energies, but for the biomass is mentioned. Wind and solar energies should be considered in the Implementation Plan.

This IDA establishes a medium term quantitative target to supply 10%-20% of the hydrogen energy demand with CO2 lean and/or free hydrogen productions technologies by 2015. It would be recommendable to breakdown these percentages into the different hydrogen production technologies: hydrocarbon, biomass and low temperature electrolysis technologies, considering other production technologies like

wind, solar or nuclear.

Hydrogen production by electrolysis technologies could have a small market share (but not negligible) by 2015. The physical connection between renewable energies (random and discontinuous, like wind energy) and electrolyzers is an important issue and it is necessary to coordinate efforts between wind and electrolyzers industries. This aspect was mentioned in the initial action related to low temperature electrolysis proposed by the WG H2 supply, but in the document is not mentioned in a clear way.

The table 5.2.1.(included in page 45) considers operating pressures for alkaline electrolyzers between 3 and 5 MPa, these seeming to be very low pressures. PEM electrolyzers present an important advantage for the future related to their capacity for working at high pressures, which will mean high compression energetic savings.

Concerning to the budget distribution, the IDA 2, which integrates the production of H2 (and other activities), has only a budget of 5% of the total budget for the whole Programme. There is an initiative called HYPOGEN related to the Hydrogen production from fossil fuels with a budget of 1.300 M€. Whether this initiative is considered in this Implementation Plan is not clearly stated. Otherwise, the IDA 2 should be increased up to levels of the others IDAs (and specifically production of H2 from fossil fuels since the transport, infrastructure, CHP and power generation has to come together with a strong development of the sustainable hydrogen supply).

COMMENTS FOR IDA 3 (FC for CHP and Power Generation)

We agree with the contents of this chapter. No comments.

COMMENTS FOR IDA 4 (FC for Portable and Early Markets)

Goal: “X000 commercial early market FC products in the market for 2010”

Regardless of what figure will finally be such “X”, the three “0”s are the worrying part of it. This is a clear JTI, market related issue. The JTI will be hopefully launched in 2007; calls for projects will also hopefully launched at the end of 2007 –is it right?-. If timing for JTI projects is similar to current framework program timings, it means that one year can be needed before a successful project actually starts. Therefore, the first Early Market related JTI projects will begin in late 2008. This means that only two years are available for the implementation of the actions needed to achieve the “X000 commercial early market FC products in the market for 2010” target.

Even if current semi-commercial prototypes falling in the Early Market category were now technically enough mature to be marketed, there remains the very big issue of the cost –who in Europe will be in the position to pay 5000€ for a 100W fuel cell system for whatever purpose?-. Therefore, the main effort should be done in the cost reduction issue. A part of this issue will be related to volume manufacturing, and volume manufacturing will come only after some level of robustness is envisaged in the products to be marketed, even though plenty of grants are made available to start up & SMEs.

In conclusion, it seems that this X000 target will be hardly achieved in the 2010 time frame, and that not enough detail is seen in the Implementation Plan concerning the actual needs to achieve it. If some time is dedicated to further technical refinement of the products, then to elaborate the final shape of the product to be marketed, followed by extensive characterization and to make sure the product is safe and consistent with current standards before it is “mass” produced and sent to customers, the above estimation of two years seems absolutely short.

By fixing too ambitious, risky goals, we are rising big expectations that will probably not be fulfilled, with the consequent loss of confidence.

Length of comment NOT limited to box size.