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# Sustainable Energy Systems

## Asociación Española del Hidrógeno

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### “Main conclusions of the Conference The Hydrogen: A Bridge to Sustainable Energy”

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Madrid  
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# High Level Group Report: Main Recommendations

## Five “Actions”

 ***European Political Frame*** for fostering new hydrogen and fuel cell technologies

 ***Strategic Research Agenda***

 ***Deployment Strategy***

 ***A European Hydrogen and Fuel Cell Technology Partnership***, steered by ***Advisory Council***

 ***European Roadmap for Hydrogen and Fuel Cells***









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# High Level Group Report: Co-ordinating policy measures for a European Political Frame

-  Support needed (fiscal, regulatory) for demonstration and deployment projects;
-  Promotion of energy efficiency measures;
-  Support for infrastructure design, planning and assessment of viability at various stages of market development;
-  Remove regulatory barriers to commercialisation of hydrogen and fuel cells;









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# High Level Group Report: Co-ordinating policy measures for a European Political Frame

-  **Review and develop codes and standards to support commercial development;**
-  **Simplification/ harmonisation of planning and certification requirements;**
-  **Assessment of alternative mixes of policy measures;**
-  **International co-ordination of policy development and deployment strategies;**





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# High Level Group Report: Strategic Research Agenda

- Technology challenges of H<sub>2</sub> production, distribution, storage, infrastructure and safety
- Technology challenges of fuel cell stack performance, durability and costs, as well as for the peripheral components;
- Techno-economic, environmental and socio-economic analyses of different energy carrier/converter configurations and transition pathways;
- Designation of a number of strategic European centres of excellence;
- Definition of rules on IPR to facilitate international co-operation
- Mechanisms for developing joint research programmes between MS





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# High Level Group Report: Deployment Strategy

- It should aim to identify pathways for increasing infrastructure and production volumes
- The approach should reduce costs, create market opportunities, eventually reducing the need for government support
- In certain applications FCs may offer early customer benefits and attract premium prices;
- For the emerging stationary and transport markets government intervention will be necessary, anticipating public and private benefits in the long term;
- Demonstration to commercialisation by means of prestigious “lighthouse” projects is considered critical**





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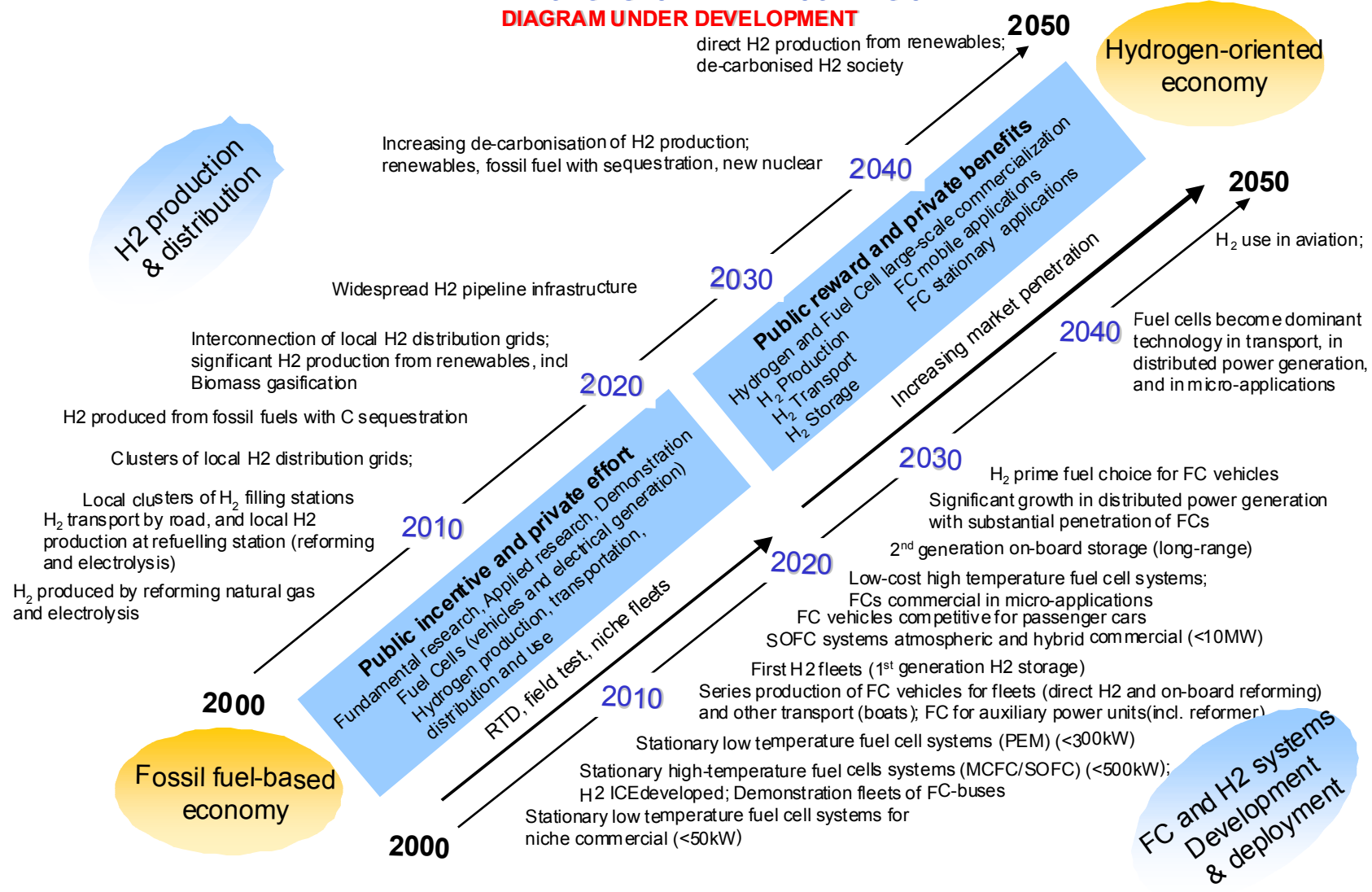
# Hydrogen and Fuel Cell Technology Partnership

- ☞ **Broaden stakeholder participation;**
- ☞ **Steered by Advisory Council;**
- ☞ **Set clear objectives and targets;**
- ☞ **Foster strategic planning and deployment, monitor progress;**
- ☞ **Launch a business development initiative – stimulate investment;**
- ☞ **Promote an education and training programme;**
- ☞ **Introduce a strategy for building international co-operation**
- ☞ **Establish a centre for consolidating and disseminating information;**





### A CHALLENGING EUROPEAN HYDROGEN VISION DIAGRAM UNDER DEVELOPMENT





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# EU Hydrogen Conference Brussels 16-17 June 2003

- Organisation of conference in the Terms of Reference of HLG
- Opened by Prodi; Speakers comprised Commissioners De Palacio, Busquin and Walltsröm, US Secretary of Energy, and several EU Ministers and state secretaries.
- 450 high and mid level policy and decision makers from public administrations and from the industrial, financial, scientific and research communities and representatives of civil society
- Main objectives: (i) present the vision report, discuss it with wide audience and seek to validate its recommendations and proposed action and (ii) discuss the creation of EU Platform on Hydrogen Technology.
- Proceedings of the conference available on the Cordis Internet site: <http://www.cordis.lu/sustdev/energy/h2.htm>





## Moving Forward- building a EU Technology Platform for Hydrogen and Fuel Cells

- ☰ Conference strongly **endorsed** HLG vision and recommendations.
- ☰ Commission aims to establish **Technology Platform** for hydrogen and fuel cells.
- ☰ Facilitate, with interested stakeholders, setting up **Advisory Council**.
- ☰ Consultation with **MS** to develop co-ordinated approach
- ☰ Build on **existing projects** and networks in FP 5 and new Integrated Projects and Networks of Excellence in FP6.
- ☰ Enhance and develop co-operation with national / regional /local initiatives, particularly for “**lighthouse**” projects.
- ☰ Develop **international co-operation**.





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# EU Hydrogen Conference

## Components of Technology Platform










- 📄 Set up Strategic Research Agenda.
- 📄 Define Deployment strategy: EU “lighthouse” deployment projects; Incentives and policy measures.
- 📄 Work on a Dynamic “H2 Road Map”.
- 📄 Importance of Socio Economic Research to guide and facilitate policy making.
- 📄 Enhance links of research/development/deployment of H2 and RES technology, without neglecting energy efficiency.





# EU Hydrogen Conference

## Possible topics for Initiative Groups:

-  International Co-operation.
-  Codes, Norms and Standards.
-  Impact of H<sub>2</sub> pathways (economic, environmental, climate change).
-  Stimulation of Public-Private Partnerships.
-  Identification and planning of “Lighthouse” projects.
-  Human resources, education and training.
-  H<sub>2</sub> Safety.
-  Public awareness and acceptance.
-  Market and investment opportunities: commercial, finance, insurance aspects.





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# EU Hydrogen Conference – Main Conclusions

- Hydrogen a “Bridge to Sustainable Energy”.
- Ultimate goal: a RES based energy system with Hydrogen and electricity as major carriers.
- Transition: use cost effectively all available technologies to achieve goal (“all options should remain open”).
- A marathon run with a long up-hill transition stage.
- Technology Platform should provide the basis to build and enhance a EU coherent approach.

