



Hydrogen and Fuel Cells R&D

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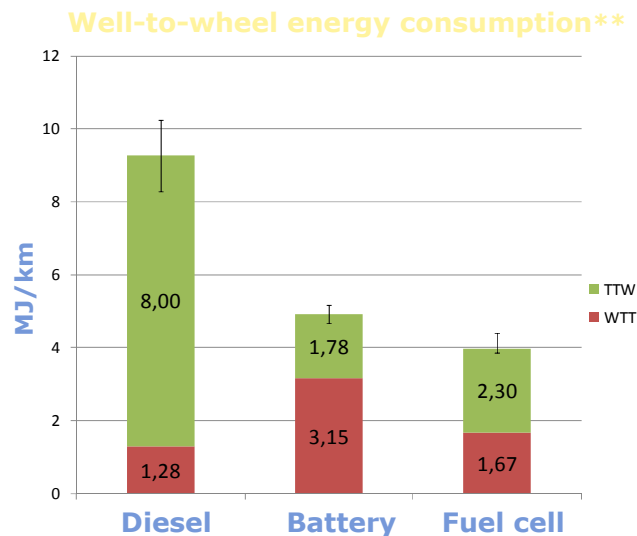
Chairman of the Member States Representative
Group

2010 Considerable Progress

- After 3 calls of proposals the JTI is fully operational
- JTI Structure has been improved
- Management has been reinforced
- There is good synergy between the research and the industry groupings
- 2010 and 2011 correspond to peaks in JTI funding
- Regions and Member States are developing complementary programs
- Important results from McKinsey extensive analysis

A glimpse of the future: Hybrid FC London taxi

- Flexible plug-in hybrid, 30kW Intelligent Energy PEM FC, 14kWh Li-Polymer battery, regen breaking, 100kW e-motor
- A fleet of 20 iconic British taxis are being planned for use in London in 2012 as “High Profile” assets
- The taxi has zero emissions, can cruise at over 80 mph and has a range of about 250 miles
- Energy consumption less than diesel or battery versions on the London taxi drive cycle*



Vehicles

*PCO-Cenex London Taxi Drive Cycle, **DTEA, Instituto Superior Técnico, Lisbon

Extending the range of Oceanography



Cleaning streets in Basel



Fuel Cells Production Storage



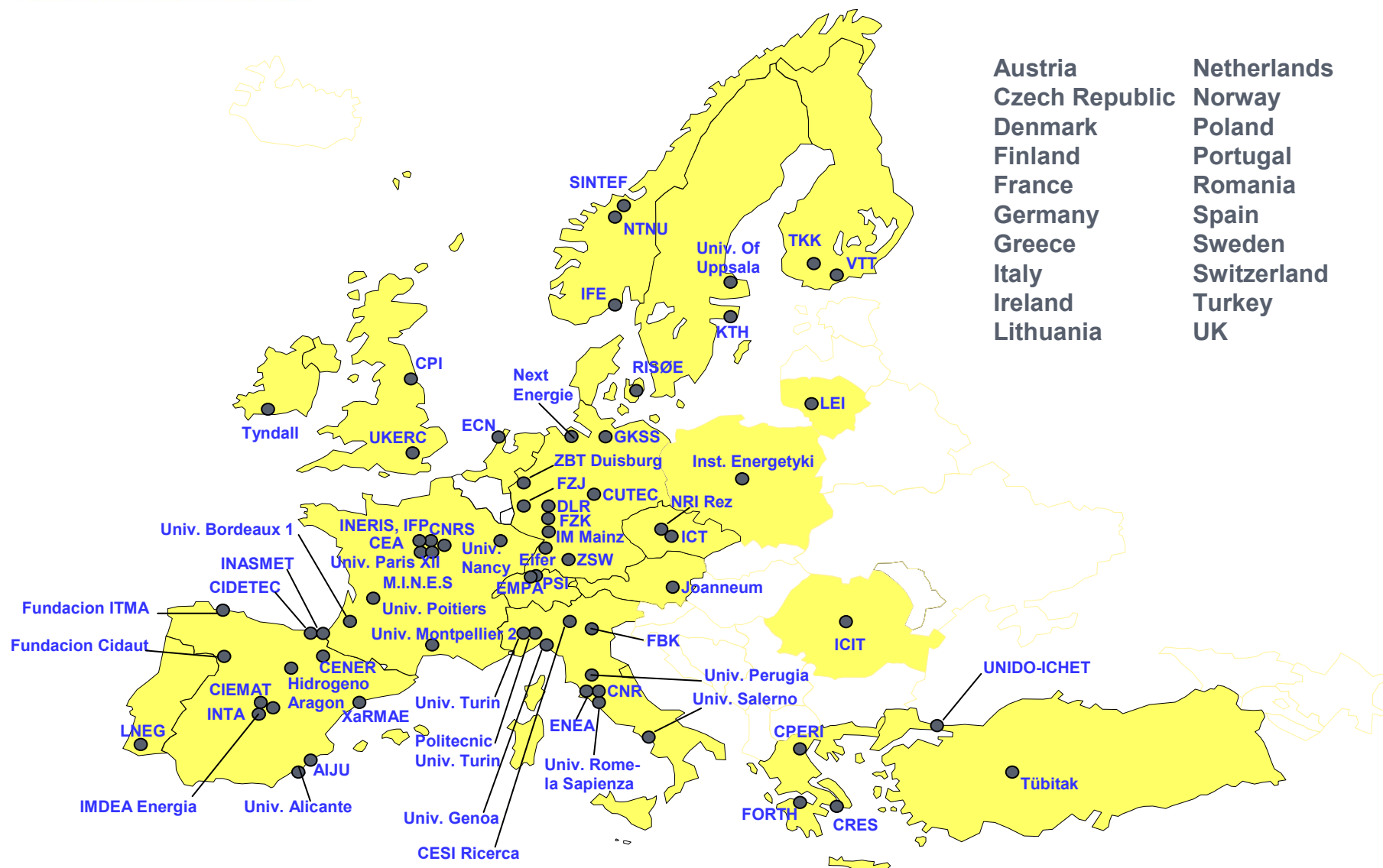
Storage of renewable energies



research on fuel cells & hydrogen

Research Grouping

68 Members – 20 Countries



Research Grouping : An Outstanding Effort

68 Members – 20 Countries



The Impact of the Research Grouping

Programming Research

- Strong Support to Industry and Research
- Contribution to FCHJU Planning
- Assessments of technology status & progress
- Creating Synergies with National/Regional Public Programs

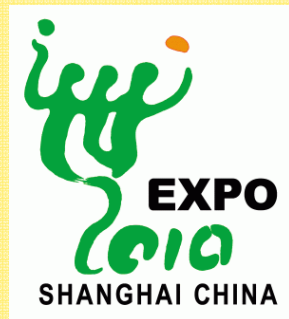
Education & Training

- Training Facilities
- Educating Students and Researchers

Infrastructure for Testing & R&D

- Mapping Research at the European level
- European Database
- Facilities for Industry





Looking Forward

- **Hydrogen and Fuel Cells will have a significant impact in the domain of new energy technologies**
- **Strong policy support is necessary from EU Commission. Regulations are a priority**
- **De-risking is essential**
- **Member states and Regions need to increase their collaborative efforts with EU and other countries**
- **Hydrogen has a full part in the Set-Plan. It is a major opportunity to define the importance of Hydrogen and Fuel Cells in Europe.**
- **The next three years will produce many new results**