

IPHE – IL Committee BRAZILIAN PERSPECTIVE



Brazilian Actions on Hydrogen Technology

- Hydrogen production from:
 - water electrolysis,
 - NG reforming,
 - ethanol and other biomasses reforming or gasification.
- Hydrogen storage technologies, including advanced materials
- PEMFC and SOFC R&D programs

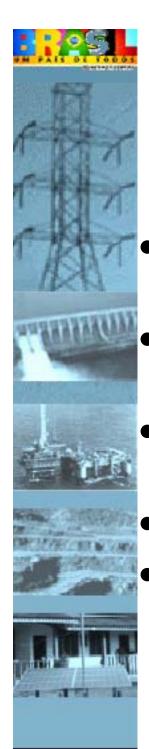


Brazilian Government Actions

Ministry of Mines and Energy

Hydrogen Economy Program:

- Applications
- Market and commercialization
- Demand for R&D&D
- Ministry of Science and Technology
 Fuel Cell Program:
 - Basic and applied R&D program
 - Financial resources to support R&D&D



Fuel Cell Facts

- Former development of 1kW alkaline FC in the 80's.
- National companies (Eletrocell, Unitech) develop PEMFC prototypes up to 50 kW.
- Four 200 kW PC25CTM PAFC power plants in operation.
- SOFC development and testing
- Ongoing fuel cell bus fleet project in São Paulo. (8 vehicles).



Brazilian Main Objectives

- To develop national technology for hydrogen production, distribution and use, including fuel cell related products, systems and processes.
- To achieve important results concerning:
 - Economic hydrogen production from water electrolysis and renewable sources.
 - Development of FC knowledge and expertise for distributed power generation.



Priority Issues on H₂ Technology

Short term:

- H₂ from ethanol reforming
- H₂ from hydroelectricity and NG reforming
- Use of H₂ powered urban buses to improve air quality in large cities

Long term:

- To supply power to remote off-grid communities
- Direct ethanol FC
- H₂ production from renewable sources such as biomass and from sun and wind driven electrolysys



Final Comment

We highlight the Brazilian proposal presented at the Steering Committee, regarding the creation of a task force to:

- Promote collaboration between IPHE members in order to build an effective technological and industrial knowledge on hydrogen technologies in developing countries.
- Create self-sustained markets oriented by the needs and resources of each country.
- Improve life quality and create more job opportunities with the development of the hydrogen economy.