International Partnership
for Hydrogen and Fuel Cells
in the Economy

Brazil Update

31st IPHE Steering Committee Meeting

10 – 11 April 2019

Vienna, Austria

Announcements and/or New Initiatives
(Brazil)

- **Collaborations**
  - **Establishment of the U.S.-Brazil Energy Forum, March 19th, 2019. Additional information is available at:** https://www.energy.gov/articles/establishment-us-brazil-energy-forum

Investments/Funding: 33,244,846.82 (USD)

- **New research & development, demonstration and or deployment activities**
  - **Production-ready prototypes of two ships: an Electric-Hybrid Ferry Boat (for vehicles and passengers) and a Catamaran for 100 passengers, possessing electrical propulsion power system with on-board generation using hydrogen or ethanol and embarked electrical energy storage system with batteries; LABH2/COPPE/UFRJ/FURNAS-Aneel/TRACEL.**
  - **Energy generation with fuel cell and energy storage as hydrogen to supply power to a substation and for electrical mobility; LABH2/COPPE/UFRJ/Itaipu Technological Park (PTI)/ TRACEL.**

Announcements and/or New Initiatives
(Brazil)

- **New research & development, demonstration and or deployment activities**
  - **Electrical energy production using biohydrogen and biogas; PETROBRAS.**
  - **Technical and economic feasibility analysis of a hydrogen generation unit and new routes for production of H_2; PETROBRAS.**
  - **Synergy development between hydro and solar power sources and seasonal and intermittent energy storage with hydrogen and electrochemical systems; FURNAS.**
  - **Efficiency analysis of complementary energy storage next to hydroelectric power plants using electrochemical and hydrogen storage technologies; Companhia Energética de São Paulo (CESP).**

Events

- **The XIV Hydrogen – Power Theoretical and Engineering Solutions International Symposium – HYPOTHESYS 2019, will be held in Foz do Iguaçu, at Itaipu, from April 24th to 26th, 2019. Additional information is available at:** http://www.hypothesis.ws/index.php
- **1st Congress of the Brazilian Hydrogen Association (ABH2), November 7-8th, 2019. Rio de Janeiro, Brazil. Additional information is available at:** http://www.abh2.com.br/congressoabh2

Examples of Lessons Learned and Impact
(Brazil)

Program initiative, policy, regulation or mandate	Lessons Learned/Outcomes
Memorandum of Understanding on the establishment of a partnership to develop projects on sustainable and nonpolluting mobility initiative for buses and ships signed between LABH2/COPPE/UFRJ and Maricá Municipal Government (Rio de Janeiro, Brazil).	To deploy integrated transportation system fueled by renewable and nonpolluting sources, including hydrogen. Additional information is available at: https://www.marica.rj.gov.br/2018/12/14/prefeitura-e-coppe-ufrj-assinam-memorando-de-entendimento-para-utilizacao-de-onibus-hibrido/
The state of Paraná (Brazil) is the first Brazilian state that has eliminated an automotive tax named IPVA (Tax on Property of Automotive Vehicles) and is planning to also eliminate a tax named ICMS (Tax on the Circulation of Goods and on Services) for electric cars, which includes fuel cell vehicles.	To reduce the cost of ownership for electric cars and to better develop this particular market in the state. Additional information is available at: https://www.folhadelondrina.com.br/cidades/parana-anuncia-isencao-de-impostos-para-carros-eletricos-2936438e.html

Applications - Current Status and Goals
(Brazil)

Application	**Status** (As of *March, 2019*)	**Goal** (For *2020*)
Fuel cell vehicles	*0*	*0*
Hydrogen stations	*1*	*2*
Fuel cell buses	*5*	*7*
Primary fuel cell power units	*1*	*2*
Hydrogen Production (Fossil fuels and water electrolysis)	*1*	*3*
Passenger ferries	*0*	*1*
Hydrogen storage	*1*	*3*

Thank you

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