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CHBC - Report - May 2010

June 11, 2010

TO ATTEND!

1. [Eighth Annual ASME Fuel Cell Science, Engineering and Technology Conference - Brooklyn, New York, USA - 14-16 June 2010](#)
2. [International Conference on Hydrogen Production \(ICH2P- 2010\): With Emphasis on Storage and Safety - Istanbul, TURKEY - 16-18 June 2010](#)
3. [Green Vehicle Expo - Shanghai, CHINA, - 17-19 June 2010](#)
4. [CALSTART Webinar Series- EPA's New Criteria Emissions Rules: Industry and Fleet Impacts and Opportunities - Wednesday, June 30, 2010, 11:00 AM - 12:30 PM PDT, \[Click here to go to the CALSTART website and register.\]\(#\)](#)
5. [Fifth Annual New Energy Symposium \(NES\) - New York, New York, USA - 9-10 August 2010](#)

THE REST OF THE NEWS:

6. [Welcome new members: Kerry D Fritz II, FEMSGRID, Ronald McLeish, The Green Machine Ent., Inc., Bhupen \(Ben\) Mehta, and John Osigaard, Amctrans](#)
7. [Does BP Run the Department of Energy as well as the Department of the Interior?](#)
8. [CaFCP Releases Progress & Next Steps for FC Vehicle Commercialization](#)
9. [A Detailed Study Comparing FCEVs and BEVs by LBST & Fraunhofer ISI](#)
10. [UTC 400-Kilowatt FC Installed in a New Haven, CT Apartment Complex](#)
11. [ClearEdge Power will Distribute 800 ClearEdge5 Fuel Cell Units to Korea](#)
12. [Cogeneration in Single Family Homes with Fuel Cell Heating](#)
13. [Toyota Targets \\$50,000 Price for First Hydrogen Car](#)
14. [ISE Corp Introduces its Next-Gen CNG Hybrid System - an Industry First for Transit Buses](#)
15. [CTE Awarded Forklift and Infrastructure Contract](#)
16. [Air Products Hydrogen Fuelling Technology for US Defense Project in CA](#)
17. [Cummins and Protonex Successfully Demonstrate SOFC Truck APU](#)
18. [Hawaii Hydrogen Pipeline Project](#)
19. [Proton Energy Systems Starts an East Coast Hydrogen Highway](#)
20. [Quantum Awarded Contract to Supply Fuel Metering & Energy Storage Technology](#)
21. [TTEngines and Falcon Power Ink Strategic Alliance Agreement](#)
22. [Horizon Shipping First Miniaturized H-Cell 2.0](#)
23. [SFC Selects Marine Retailer for Swedish Yacht and Boat Builders](#)
24. [Kia to Sell 10,000 Fuel Cells by 2015](#)
25. [Linde Hydrogen Technology to Fuel AC Transit Buses](#)

7. [Does BP Run the Department of Energy as well as the Department of the Interior?](#)

Question: Why would our current Secretary of Energy, Dr. Steven Chu, try to "kill" the DOE's hydrogen and fuel cell R&D and Deployment program, specifically for transportation? [For the complete article, click here to go to the LA Examiners website.](#)

Site Design by **Graphtek** 

8. CaFCP Releases Progress & Next Steps for FC Vehicle Commercialization

The California Fuel Cell Partnership (CaFCP) released their Hydrogen Fuel Cell Vehicle and Station Deployment Plan: Progress and Next Steps report at the National Hydrogen Association Conference & Expo. The "next steps" report further refines CaFCP's 2009 action plan with specific steps needed in 2010 and 2011 to prepare for fuel cell vehicles to enter the commercial market in 2015.

CaFCP's executive director, Catherine Dunwoody said, "The most important next step is to build retail-ready stations. Today just a few publicly accessible hydrogen stations are serving a handful of customers, and stations being developed now will enable more customers to fuel. Expanding the retail-ready network in 2011 will prepare California to move from hundreds of fuel cell vehicles to thousands over the next few years."

Please refer to page 4, table A to find a list of publicly funded stations in progress, and estimated dates of completion. [Click here to visit the CaFCP's website for print materials.](#)

9. A Detailed Study Comparing FCEVs and BEVs by LBST & Fraunhofer ISI

The study pursues the question of where it makes most sense to use electricity or hydrogen as final energy sources in comparison to conventional solutions. Based on Life Cycle Analysis (LCA) and looking at the energy chain from the source to the application, the study focused on aspects of economic efficiency, greenhouse gas emissions and energy efficiency in vehicles. The analyses are valid for Germany and were conducted for the years 2015 and 2030.

[The complete press release in English can be found by clicking here.](#)

10. UTC 400-Kilowatt FC Installed in a New Haven, CT Apartment Complex

Developer Becker + Becker made history Friday, when a 400-kilowatt fuel cell was installed in its 32-story downtown apartment complex.

"This is the largest application of a fuel cell in a residential project in the world," Bruce Becker told city, state and industry officials gathered at 360 State Street to watch a huge crane move the clean energy source into place.

With the largest environmental disaster in the U.S. playing out in the Gulf of Mexico, as BP oil works to stem a massive oil leak, Becker saw the fuel cell installation as an example of smart energy production, hopefully on a larger scale.

Later this summer Becker + Becker will install a fuel cell at its Octagon residential project in New York City.

"Fuel cells provide the energy trifecta of distributive generation, combined heat and power and homegrown innovation," Becker said. The developer said only by changing the way we build and generate power can "we find an environmentally and sustainable way to live."

The \$3 million investment will provide nearly 100 percent of electricity for the 500 apartments and a ground-floor grocer at the mixed-use complex, as well as thermal energy for domestic hot water and to heat the clubhouse swimming pool. [For the complete article, click here.](#)

11. ClearEdge Power will Distribute 800 ClearEdge5 Fuel Cell Units to Korea

A Hillsboro-based manufacturer that makes fuel cell systems for homes and businesses will soon export its technology to Korea.

ClearEdge Power announced recently that it has signed a three-year \$40 million distribution agreement with LS Industrial Systems, a Korean-based electric power generation company. The company plans to purchase more than 800 of ClearEdge's ClearEdge5 fuel cell units, which convert natural gas into electricity.

LS Industrial Systems partners with the Korean government on energy projects. The government there recently mandated that all new buildings have 10 percent of their power come from alternative sources.

"A government mandate in Korea is driving our opportunities back here," said Mike Upp, vice president of marketing for ClearEdge. "They took a wide look at the market and honed in on us." [For the complete article, click here.](#)

12. Cogeneration in Single Family Homes with Fuel Cell Heating

Since beginning of the year 2006 Hexis Ltd. is working as an independent company on the further development of SOFC heating appliances for the environmentally sound and costeffective energy supply of single family and small multi family homes. Hexis restarted its business with the background of more than 20 years experiences in solid oxide fuel cells (SOFC) ranging from materials to systems development as well as field trials. In 2007 Hexis started its new business in Konstanz, Germany. A Swiss foundation in Winterthur funds this effort as a 100 percent owner of the company. [Click here for more.](#)

13. Toyota Targets \$50,000 Price for First Hydrogen Car

Toyota Motor Corp., the biggest seller of hybrid cars, said it has cut the cost of making fuel-cell vehicles by about 90 percent since the mid-2000s and may be able to price its first retail hydrogen model at about \$50,000. [For the rest of the article, click here to go to Business Week's website.](#)

14. ISE Corp Introduces its Next-Gen CNG Hybrid System - an Industry First for Transit Buses

California-based ISE Corporation, a wholly owned subsidiary of ISE Limited (TSX: ISE), announced it will begin accepting orders for its next-generation, battery-dominant CNG (Compressed Natural Gas) Hybrid System for transit

© 2010 California Hydrogen Business Council. All rights reserved. buses with production units expected to be available in 2011. The next-generation CNG Hybrid System maximizes proven technology already in production in hundreds of ISE Hybrid Systems on roads today and supports ISE's leadership in alternatively fueled hybrid vehicle offerings.

The new, clean fuel ISE CNG Hybrid System offers unique competitive advantages over conventional CNG systems. [For more information, click here to go to ISE Corp's website.](#)

15. CTE Awarded Forklift and Infrastructure Contract

The Center for Transportation and the Environment (CTE) has been awarded a \$6 million contract for the development of a Department of Defense hydrogen fuel cell pilot program at the Defense Depot San Joaquin (DDJC), in Tracy, California. The project scope includes development of a hydrogen pilot at DDJC utilizing 20 hydrogen-powered forklifts for warehousing activities, and an electrolysis-based hydrogen generation system using renewable energy. The project consists of approximately 12 months of infrastructure and vehicle development and deployment followed by two years of pilot program operations and data collection. The project team, led by CTE, consists of industry-leading organizations, including Plug Power Inc., Air Products and Chemicals, and Proton Energy Systems. [Click here for more.](#)

16. Air Products Hydrogen Fuelling Technology for US Defense Project in CA

Air Products has announced that its hydrogen fuelling technology will be used to power forklifts, as part of a demonstration project at the US Defense Distribution Depot San Joaquin in Tracy, California.

The company will supply a hydrogen compression, storage and dispensing system.

This is the fourth warehouse materials handling project which Air Products has participated in with the US Defense Logistics Agency.

The hydrogen will be generated using Proton Energy electrolysis systems, and the forklifts will be powered by Plug Power fuel cells. [For more, click here to visit the Hydrogen Journal article.](#)

17. Cummins and Protonex Successfully Demonstrate SOFC Truck APU

Cummins successfully demonstrated a tubular solid oxide fuel cell (SOFC) in a hybrid-configured auxiliary power unit (APU) configured to power a Class 7/8 truck's "hotel loads" while running on commercial ultra-low sulfur diesel (ULSD) fuel. The Cummins APU incorporated hybrid power electronics, system controls, and balance-of-plant components combined with SOFC modules supplied by Protonex Technology Corporation. The SOFC power unit was integrated with a modified power electronics section derived from Cummins Power Generation's Hybrid Quiet Diesel™ (HQD) recreational vehicle power system. The hybrid power electronics provide dynamic load sharing between the SOFC and a battery pack. The testing replicated the ten-hour rest period that is part of the daily routine of a typical over-the-road truck. [Click here to visit Cummins' website.](#)

18. Hawaii Hydrogen Pipeline Project

General Motors has joined up with The Gas Co, which operates 1,000 miles of pipeline on Oahu Island, Hawaii, to test hydrogen refuelling technology for fuel cell vehicles.

The Gas Co is able to produce hydrogen at its plant in Campbell Industrial Park, which reacts imported petroleum to make methane gas.

The idea is that the methane could be reacted to produce hydrogen at hydrogen fuelling stations located along the pipeline.

"This is the type of enabler that a hydrogen transportation infrastructure needs because it addresses both the source of the hydrogen and a feasible way to deliver it for fuel cell vehicle use," said Charles Freese, executive director of GM Global Fuel Cell Activities.

"The Hawaii infrastructure could eventually support tens of thousands of fuel cell vehicles."

Hawaii is very keen to develop a hydrogen fuel cell infrastructure, so it can ultimately get away from dependence on imported petroleum - if it can generate hydrogen from other sources of energy, such as wind or solar. Also, when living on a small island, you are never too far away from the fuelling station. [Click here for more and visit the Hydrogen Journal website.](#)

19. Proton Energy Systems Starts an East Coast Hydrogen Highway

Proton Energy Systems in Wallingford broke ground last week on the first connection of its planned Hydrogen Highway, a network of nine stations stretching from Maine to Miami where hydrogen cars can be refueled. The SunHydro/Proton Energy fuelling station installation at the Las Vegas, Nev., Valley Water District, offers a glimpse into the future.

The Hydrogen Highway spearheads the company's effort to create an East Coast market for cars powered by hydrogen fuel cells and, therefore, boosting the need for Proton Energy's products that create hydrogen out of water.

Even though these SunHydro stations will operate at a loss for the conceivable future, the effort is vital to convincing automakers an American market exists for fuel cell cars, particularly on the East Coast, said Rob Friedland, Proton president and CEO.

"As people get more comfortable with this technology, they will realize it has all the benefits you want from an alternative energy," Friedland said. "It's not as daunting or complicated as some people make it out to be." [Click here for the HartfordBusiness.com article.](#)

20. Quantum Awarded Contract to Supply Fuel Metering & Energy Storage Technology

Quantum Fuel Systems Technologies Worldwide, Inc. (Nasdaq: QTWW), announced that it has been awarded a contract for expanded support of Lockheed Martin's Space Systems' development of ISIS (Integrated Sensor in the Structure) airship powered by a Regenerative Fuel Cell (RFC). Quantum will supply critical hydrogen metering systems in conjunction with the hydrogen and oxygen storage systems that it is currently supplying to Lockheed Martin.

The ISIS uses solar rays during daylight hours to generate renewable electricity that electrolyzes water to generate hydrogen and oxygen to run the RFC at night. Quantum has worked closely with Lockheed Martin to develop one of the lightest advanced carbon fiber composite hydrogen storage vessels in the world for this application. Quantum will expand the scope of the program by developing precision fuel metering devices that are compatible with a wide array of environmental conditions. [For more, click here.](#)

21. TTEngines and Falcon Power Ink Strategic Alliance Agreement

Turbine Truck Engines, Inc. reported that the company has entered into a Strategic Alliance with Falcon Power Co., Ltd. ("FPC"), a Taiwanese company specializing in hydrogen-based energy applications. The collaborative agreement states that the two companies will jointly explore, engineer, and develop an innovative energy application that would take advantage of TTE's Detonation Cycle Gas Turbine (DCGT) engine and FPC's hydrogen generating process using methanol. Further details specify that, once a viable commercial application emerges, FPC and TTE will establish a Joint Venture to manufacture and market the patented device.

Dr. Magdy Attia, TTE Chief Technology Officer, said, "We strongly believe that Falcon's hydrogen generating process using methanol will produce enough hydrogen to run our engine without having to store the hydrogen on board. This is a major breakthrough which eliminates the need to package, deliver, and store hydrogen with all of the problems inherent in that process. This patented process is the only one in the world which accomplishes this objective. Any home or industrial user of heavy oils could easily convert to this system and, in doing so, would reduce costs and harmful emissions." [For the rest of the story, click here to visit marketwatch.com.](#)

22. Horizon Shipping First Miniaturized H-Cell 2.0

Horizon Fuel Cell Technologies has begun shipments of the world's first miniaturized hydrogen fuel cells and refueling stations for use in model hobby radio controlled vehicles, the "H-Cell 2.0." The hybrid power kit is also adaptable to other electric vehicles, including robots and boats, greatly extending their normal runtimes. [For more, click here to visit the Horizon website.](#)

23. SFC Selects Marine Retailer for Swedish Yacht and Boat Builders

SFC Smart Fuel Cell's EFOY marine fuel cells will be available for Swedish yacht and boat builders and owners through Thermoprodukter, the new EFOY distribution partner for the marine market in Sweden. Thermoprodukter offers the complete EFOY product range for the marine market with charging capacities ranging from 600 Wh to 2160 Wh per day. [Click here for more.](#)

24. Kia to Sell 10,000 fuel cells by 2015

Kia says it will be biggest in fuel cells

Restricted sales start this year

106mph and 375-mile range

Kia is gunning to become the world's leading producer of fuel cell vehicles and says it will have 10,000 on the road by 2015.

It plans to sell between 1000 and 2000 a year between now and 2012, although initially cars will be offered only to government bodies and research institutions.

Currently the company's fuel cell powers a 4x4 called the Borrego or Mohave, depending on market, but the platform underneath could be turned to other large applications, such as an MPV. [For more on this story, click here to go to whatcar.com.](#)

25. Linde Hydrogen Technology to Fuel AC Transit Buses

The air in California's San Francisco Bay area is about to get cleaner as new fuel cell buses in the Alameda-Contra Costa Transit District (AC Transit) hit the road, powered in part by hydrogen from two refueling stations Linde North America is building. Linde has contracted with AC Transit to supply the hydrogen fueling technology and the hydrogen for the new stations, which will be located at AC Transit's Emeryville and Oakland operating divisions. [For more, click here to visit Lindeus.com.](#)