

California Hydrogen Business Council April 2005 Report

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1. Welcome New Members

CHBC welcomes new Silver member Ztek; and individual members Mark Abramowitz, Douglas Cowger, Howard Grundy, and Tran Thanh Nam. We appreciate your support!

2. May 20 California Hydrogen Business Council Meeting at CalEPA

Register now for the next CHBC General Meeting, 8 a.m. - 5 p.m. May 20, in Sacramento. With two of the state's highest-ranking officials as keynote speakers, door prizes and more – it's an event you won't want to miss. Terry Tamminen, Gov. Arnold Schwarzenegger's Cabinet Secretary, will present "The Governor's Hydrogen Agenda," Alan Lloyd, PhD, Agency Secretary, CalEPA, will discuss "The Future of Hydrogen in California." Shannon Baxter-Clemmons, PhD, Special Advisor for Hydrogen and Renewable Energy Programs, Office of the Secretary, CalEPA and Government Liaison to the CHBC Board, will present an update on the California Hydrogen Highway Program. Other speakers include such notable Northern Californians as Jack Broadbent, Bay Area AQMD; Jaimie Levin, AC Transit; Joan Ogden, UC Davis; and Catherine Dunwoody, California Fuel Cell Partnership. Come at 8 a.m. for a continental breakfast and pre-meeting networking. Register early. www.californiahydrogen.org/page.cfm?content=48 <<http://www.californiahydrogen.org/page.cfm?content=48>>

3. Draft California Hydrogen Highway Blueprint Plan Released

The final draft California Hydrogen Highway Blueprint Plan documents have been transmitted from the California Environmental Protection Agency to Gov. Arnold Schwarzenegger. Volume I, "Summary of Findings and Recommendations for the CA H2 Net," was prepared by CalEPA and summarizes the major findings and recommendations regarding implementation of the CA H2 Net, which are based upon Volume II. Volume II, which is based upon findings and recommendations from the individual Topic Team reports, is entitled, "Consultant Report, Blueprint Plan for the CA H2 Net." Prepared by TIAX, it contains the complete and detailed CA H2 Net Blueprint Plan.

www.hydrogenhighway.ca.gov/plan/plan.htm

[<http://www.hydrogenhighway.ca.gov/plan/plan.htm>](http://www.hydrogenhighway.ca.gov/plan/plan.htm)

4. Senators Propose Hydrogen and Fuel Cell Technology Act

The Hydrogen and Fuel Cell Technology Act of 2005 was introduced by U.S. Senators Byron Dorgan (D-ND) and Lindsey Graham (R-SC). S. 665, The Hydrogen and Fuel Cell Technology Act of 2005, authorizes a 10-year, \$7.9 billion program, in partnership with industry, universities and national labs, for the development, demonstration and commercialization of hydrogen and fuel cell technology. www.fuelcelltoday.com

[<http://www.fuelcelltoday.com>](http://www.fuelcelltoday.com)

5. California Kids Win at NHA

Congrats to Peter Lehman, PhD, executive director of the Schatz Energy Research Center (SERC) at Humboldt State University (HSU), and the rest of his dedicated team. HSU Environmental Resources Engineering students nabbed number one in the international H2U student design competition at NHA 2005. Their design, which uses gas from a local landfill to produce electricity. hydrogen fuel and heat, fit the bill as an innovative and imaginative design for a Hydrogen Power Park. The winning students have been invited to present their design to CalEPA and contest-sponsor ChevronTexaco.

6. Linde Says Hydrogen Infrastructure in Europe Less than Previously Believed

With a total value of about EUR 3.5 billion, the cost of developing a hydrogen infrastructure in Europe by the year 2020 is significantly lower than previously believed. That is the conclusion of a study of the economic feasibility of a hydrogen infrastructure presented in Berlin on 24 February by the Linde technology group as part of International Hydrogen Day. "The results of this study are a clear signal to us," declared Dr. Wolfgang Reitzle, President and CEO of Linde AG. "A transition to the hydrogen economy is feasible." The study describes a total of 12 different scenarios for the production and distribution of hydrogen for automobiles. The calculation of the infrastructure costs is based on some 6.1 million hydrogen cars throughout Europe by 2020, which would necessitate a network of about 2,800 filling stations. Based on Germany, the infrastructure to supply 1.9 million cars with hydrogen would cost EUR 870 million.

www.hydrogenday.com <http://www.hydrogenday.com>

7. GM and DOE Sign \$88-Million Agreement to Advance Fuel Cell Development

General Motors Corp. and the U.S. Department of Energy (DOE) have signed a five-year, \$88-million agreement to build a 40-vehicle fuel cell fleet and further develop the technology. Under the program, GM will spend \$44-million to deploy fuel cell vehicle demonstration fleets in Washington D.C., New York, California and Michigan. The DOE will contribute the other half, under an agreement that expires in September 2009.

<http://media.gm.com/servlet/GatewayServlet?target=http://image.emerald.gm.com/gmnews/viewpressreldetail.do?domain=2&docid=13445>

8. QuestAir Hydrogen Purifiers Selected for AC Transit and Chino Stations

QuestAir Technologies, Inc. recently announced it will supply an H-3200 hydrogen purifier for use in the AC Transit Hydrogen Energy Station (HES) currently being constructed by ChevronTexaco in Oakland, CA. Purified hydrogen provided by the station will fuel three 40-foot fuel cell-powered buses, expected to enter passenger service in 2005 and 2006, and future fleets of light duty fuel cell vehicles. The same unit has been installed at the Chevron Hydrogen Energy Station located in Chino, CA, the first of up to six hydrogen energy stations to be constructed in California by ChevronTexaco under the U.S. Department of Energy (DOE) Controlled Hydrogen Fleet and Infrastructure Demonstration and Validation Program. www.questairinc.com
<http://www.questairinc.com>

9. New DOE and Government Hydrogen Web Sites

The Department of Energy launched a new web site focused on its Hydrogen Program, <http://www.hydrogen.energy.gov/>, and the federal government announced a new web site for the President's Hydrogen Fuel Initiative (HFI), which links to the various programs under the HFI. <http://www.hydrogen.gov/>

10. MTI Micro Announces Product Plans

MTI MicroFuel Cells Inc. plans to deliver products to the government and military markets in 2006. To realize this goal, MTI Micro is working on a range of military projects for this year, incorporating its Mobion™ technology. The company plans to deliver sensor powerpack prototypes to the Army's Special Operations Command Forces (SOCOM) in the second quarter of 2005; develop and deliver a soldier/radio power pack prototype in the third quarter; and announce an agreement with a lead customer/partner for sensor products by the end of the year. www.mtimicrofuelcells.com/news/article.asp?id=205
<http://www.mtimicrofuelcells.com/news/article.asp?id=205>

11. WilderHill Clean Energy Index ETF

PowerShares Capital Management LLC introduced a new exchange traded fund (ETF) based on the WilderHill Clean Energy Index, the first index comprised of companies focused on developing renewable sources of energy, clean energy technologies and environmentally-friendly technologies within the energy sector. (Amex: [PBW](http://finance.yahoo.com/q?s=pbw&d=t)
<http://finance.yahoo.com/q?s=pbw&d=t> - [News](http://finance.yahoo.com/q/h?s=pbw)
<http://finance.yahoo.com/q/h?s=pbw>). According to the U.S. Department of Energy,

the cost of wind and solar technology has declined by 80% over the past two decades. As the prices of crude oil and other petroleum products remain near historic highs, investment in the development and use of alternative sources of energy becomes more attractive and cost effective. Thirteen states now require utilities to obtain a portion of their electricity from renewable sources. www.Powershares.com www.WilderShares.com <http://www.WilderShares.com>

12. European Hydrogen Association (EHA) Launches New Ambitious Program

During an Extraordinary Meeting in Brussels, the EHA decided to step up its activities and to launch an ambitious program for the coming years. From its Brussels base the association will develop new activities ranging from public awareness campaigns, communicating the benefits of hydrogen based energy systems to decision makers, coordinating activities with national hydrogen associations across Europe. EHA has agreed to statutory changes to welcome new direct company memberships. The first companies to join were: Air Liquide, Air Products, BOC, Norsk Hydro, EHN, and Shell Hydrogen. http://www.h2cars.biz/artman/publish/article_658.shtml

13. Progress Energy Florida to Install Fuel Cell and Hydrogen Generator at Wildlife Park

Progress Energy Florida is constructing a sustainable hydrogen generator and fuel cell for the Florida Department of Environmental Protection (DEP) at its Homosassa Springs State Wildlife Park. DEP and Progress Energy are jointly funding the project. Hydrogenics Corporation (through its wholly owned subsidiary Stuart Energy Systems) will provide the hydrogen generation system. The fuel cell and 5-kW Photovoltaic (PV) solar system will provide a portion of the electricity used by the park's Wildlife Encounter Pavilion. <http://www.progress-energy.com/aboutus/news/article.asp?id=11322>

14. Solar Photovoltaics, Wind Energy, and Fuel Cells to Exceed \$100 Billion Market by 2014

Markets for solar energy, wind energy, and fuel cells are poised to grow from \$16 billion in global revenues in 2004 to more than \$100 billion by 2014, according to a report released by Clean Edge, Inc., an energy research and publishing firm. Solar photovoltaics (modules, system components, and installations) will grow from \$7.2 billion in 2004 to \$39.2 billion by 2014; wind power installations will expand from \$8 billion last year to \$48.1 billion in 2014; and fuel cells and distributed hydrogen will grow from \$900 million to \$15.1 billion over the next decade. The free report, entitled "Clean Energy Trends 2005," examines factors that are influencing clean-energy markets and tracks five key trends. www.cleandedge.com <http://www.cleandedge.com>

15. Clean Cities 2005 and Fuel Cell Technology Institute

CHBC is support sponsor of two key events to be held May 1-6 in Palm Springs, CA. The [11th Annual Clean Cities Conference & Exposition](http://www.afvi.org/palmsprings), (<http://www.afvi.org/palmsprings>) will be held May 1-4. Immediately after, and at the same location, the National Fuel Cell

Research Center the University of California, Irvine will present the [Fuel Cell Technology Institute](http://www.nfcrc.uci.edu/fcti2005) (<http://www.nfcrc.uci.edu/fcti2005>) and optional Hydrogen Workshop, May 4-6. The events are held concurrently to reduce travel costs. Send your customers to all three to prepare them for coming transitions in clean power and transportation.

16. CHBC 2005 Meeting Dates - Save These Dates

May 20 - Sacramento, September 16 - So Cal Location TBD, November 18 - So Cal Location TBD

17. CHBC Silver Members

CHBC gives a big thanks to our growing list Silver Members who are major contributors to our growth and success. Click here to learn about our [Silver Members](#),

18. 2005 CHBC Board of Directors

President - Henry Wedaa
Vice President - Paul Scott, PhD
Secretary - Josh Mauzey
Treasurer - John Williams, PE
Managing Director - Catherine Rips
Membership Chairman - Gene Johnson
Dinner Meeting Chairman - Elias Azrak
Communications Director - Jerald Cole
Newsletter Chairman - John Addison
Program Chairman - Henry Wedaa
Director at Large - Gary Dixon
Director at Large - Jon Slangerup
Ex-Officio Government Liaison - Shannon Baxter, PhD

To contact the board, please click info@californiahydrogen.org.

19. Be a Member of the California Hydrogen Business Council

Be involved with the leaders in making the hydrogen economy a reality. CHBC is a non-profit organization, which offers a common meeting ground for discussing the technologies, methodologies, and opportunities in the hydrogen economy. Silver Membership is \$1,000 per year and allows organizations to send five people to each meeting at reduced member rates, plus provides valuable marketing opportunities. Individual membership is \$200 per year. To join, visit our website or call (760) 341-2924 with your credit card.

We welcome important news from our members for inclusion on our website and in next month's report. Please send to: info@californiahydrogen.org. Thank you for helping build a great organization.

*CHBC Report Publisher, John Addison
Editor, Catherine Rips*