

**California Hydrogen Business Council
February 2004 Report**

Summarized in this issue (with links to complete articles):

1. Cal EPA meeting about hydrogen business on February 24
2. CHBC March 4 Dinner Meeting
3. New Hydrogen Report from the National Academies
4. DOD use of fuel cells
5. Hydrogen Generation
6. Quantum to Supply Hydrogen Fuel Systems for Asia Buses
7. Texaco Ovonic Joins HaveBlue's Team
8. Praxair's CEO recognized by Institutional Investor magazine
9. PolyFuel Releases New Membrane
10. CHBC Silver Members
11. CHBC Board of Directors
12. CHBC Membership

1. Cal EPA meeting about hydrogen business on February 24

CHBC will be sponsoring a meeting at the request of Cal EPA Secretary, Mr. Terry Tamminen, and the Governor's Representative on Jobs in California, Mr. David Crane. The meeting will be February 24, 2004, from 4 p.m. to 5 p.m. The meeting will be at:

California EPA
1001 "I" Street
Coastal Room
Sacramento, CA 95812-2815

8 executives from the hydrogen community will discuss business and employment. Each will address their issues in job creation, and how state can help not hurt. Everyone is invited at no charge. On February 25, from 9:30 to noon at the State Capitol, all attendees are encouraged to attend the Fran Pavley legislative hearings about hydrogen in California. Location and transportation options:

<http://www.calepa.ca.gov/EPAldg/>

2. CHBC March 4 Dinner Meeting

The California Hydrogen Business Council presents a special event Thursday, March 4, 4:00-8:00 pm at the Milken Institute in Santa Monica. This event, Financing Hydrogen: A Look at the Year Ahead will explore near-term opportunities for investors, entrepreneurs and industrial concerns in the emerging Hydrogen Economy. Come and join us along with leading investors and organizations involved in hydrogen related technologies and infrastructure to learn about opportunities in this emerging sector. The event will begin with 2003: The Year in Review, an assessment of recent investment activity, provided by Reed Global Advisors. A buffet and beverages networking session will follow the presentations. Participants include NextGen Partners, the Rustic Canyon Group, Garage Technology Ventures, Chrysalix, ChevronTexaco, Praxair, The Hydrogen Car Company, PriceWaterhouseCoopers, South Coast Air Quality Management District, California Treasurer's Office, and many more. PREREGISTRATION IS REQUIRED. Advance registration (payment received before 2/26/04) is \$65 for CHBC members and \$100 for nonmembers. Late registration is \$100 for members and \$150 for nonmembers. Registration deadline is 03/02/04. Payment may be made by check, Visa, M/C or AMEX. Contact information is as follows: Melissa Stock melissastock@socal.rr.com or call 562-493-4014 with your credit card.

3. New Hydrogen Report from the National Academies

Although technical, economic, infrastructure and social barriers remain, a transition to hydrogen as a major fuel in the next 50 years could significantly change the U.S. energy economy, reducing pollution and expanding domestic energy resources, says a new report from the National Academy of Engineering and the National Research Council. The transition to a hydrogen economy will take many decades, and any reductions in oil imports and carbon dioxide emissions are likely to be minor during the next 25 years. Free PDF:

<http://books.nap.edu/catalog/10922.html>

4. DOD use of fuel cells

The Department of Defense is scrambling to meet the transformation requirement of converting their current incumbent sources of power supply (diesel, ICE, batteries, grid power) into that of Fuel Cells. Land Warrior, next generation combat vehicles, and portable electronics are targeted to be beneficiaries of fuel cells, as DoD is faced with the necessity of finding higher efficient energy sources for military power supplies. Other applications are being developed also — ranging from fuel-cell based hybrid propulsion systems for submarines and UUVs to robotics and UAVs. The commercial fuel cell market is poised to explode within the next 10 years as sales are predicted to soar to \$3.3 billion by 2006, \$10 billion by 2009 and \$35 billion by 2013.

http://www.ttcus.com/fc_uss04.htm

5. Hydrogen Generation

Business Communications Company, Inc. has published *RE-107 Hydrogen Generation for Fuel Cells*. The report predicts that the market will reach nearly \$1.5 billion as it grows at an average annual growth rate of 15.8% through 2008.

<http://www.bccresearch.com/energy/E107.html>

6. Quantum to Supply Hydrogen Fuel Systems for Asia Buses

Quantum Fuel Systems Technologies Worldwide, Inc. has been awarded a contract from a major transit bus manufacturer in Asia to supply hydrogen fuel systems for the production of a fleet of fuel cell buses. Each bus will be equipped with seven Quantum ultra-lightweight composite TriShield hydrogen tanks, pressure regulators and other associated hardware, which will all be integrated into a roof-mounted support structure.

http://www.qtw.com/news_events/index.shtml

7. Texaco Ovonic Joins HaveBlue's Team

Texaco Ovonic Hydrogen Systems LLC will provide the developmental metal hydride hydrogen storage system for HaveBlue's fuel cell-powered X/V-1 demonstration boat. The X/V-1 is a modified Catalina 42 mk II that will utilize hydrogen produced through renewable resources to economically deliver all required power and propulsion.

<http://www.haveblue.com/news/currentpr/011404.htm>

8. Praxair's CEO recognized by Institutional Investor magazine

Institutional Investor magazine has named Dennis Reilley as one of "the best CEOs in America," based on a survey of almost 1,400 portfolio managers and securities analysts at more than 400 firms. Reilley was voted No.1 among CEOs of basic materials companies, and, of a total of 270 CEOs listed in 62 industry sectors, only nine, including Reilley, were featured in profiles and named as "noteworthy." The other eight are: Brian Roberts, Comcast; George David, United Technologies; John Chambers, Cisco Systems; Reuben Mark, Colgate-Palmolive Co.; Lee

Raymond, Exxon Mobil Corp.; Richard Kovacevich, Wells Fargo & Co.; Henry McKinnell, Pfizer; and Michael Dell, Dell.

<http://www.praxair.com/praxair.nsf/AllContent/977DD0D5AC3686CB85256E1D00722F71?OpenDocument>

9. PolyFuel Releases New Membrane

PolyFuel has released a breakthrough membrane specifically designed for direct methanol fuel cell (DMFC) applications. The PolyFuel DMFC membrane delivers substantial performance and system cost advantages over both traditional lithium ion batteries and existing fuel cell membrane technology.

http://www.polyfuel.com/press_pr_011904.shtml

10. CHBC Silver Members

California Hydrogen Business Council gives a big thanks to these Silver Members who are major contributors to our growth and success.

- South Coast Air Quality Management District
- Air Products and Chemicals
- Apollo Power
- BOC Gases
- California Air Resources Board
- Clean Energy
- Collier Technologies
- EmeraChem
- General Atomics
- General Electric
- Hydrogen Car Company
- Hydrogenics Corporation
- Praxair
- Stuart Energy Systems

11. CHBC Board of Directors

Members have requested CHBC Board contact information. Feel free to contact us at info@californiahydrogen.org.

12. Be a member of the California Hydrogen Business Council

Be part of the organization that is on the “leading edge” of making the hydrogen economy a reality. The California Hydrogen Business Council (CHBC) provides the link between hydrogen-technology developers, businesses, energy leaders, government, and infrastructure providers. CHBC is a non-profit organization. You are invited to join the California Hydrogen Business Council (CHBC). 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. Individual membership is \$200 per year. Organizations can send five people per meeting at lower rates, plus benefit from added marketing visibility, being Silver Members for \$1,000 per year. To join, call 562-493-4014 with your credit card.

CHBC Report Publisher **John Addison** john@optimarkworks.com

California Hydrogen Business Council

Melissa Stock

melissastock@socal.rr.com

3532 Katella Avenue

Suite 108

Los Alamitos, CA 90720

Phone 562-493-4014

<http://www.californiahydrogen.org>