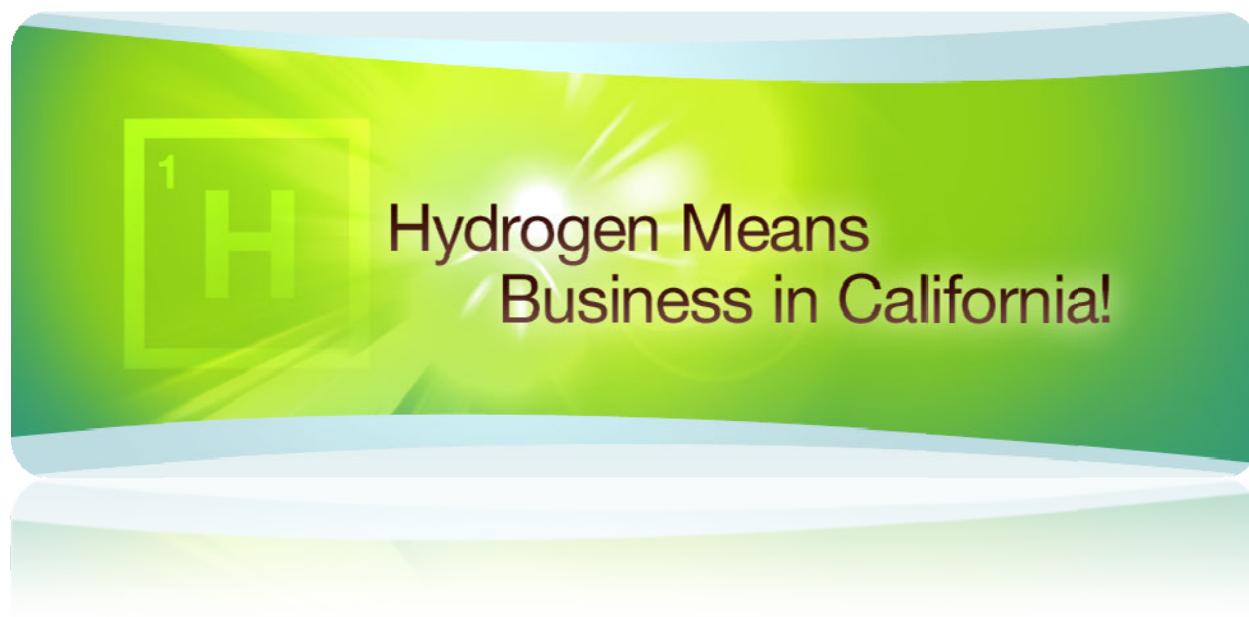

ANNUAL REPORT 2012

JUNE 10, 2013

ABOUT THE CHBC

The California Hydrogen Business Council connects hydrogen technology developers, businesses, energy leaders, government, and infrastructure providers with a common vision of energy and transportation fueled by zero-emission hydrogen.

Our members develop, adapt, and implement technology and services that are taking the hydrogen economy into the mainstream.



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EXECUTIVE SUMMARY

The 2012 Annual Report of the California Hydrogen Business Council (CHBC) is designed to inform members, potential members, and other stakeholders about the organization's activities, including advocacy, events, and membership changes in 2012, progress in the organizational restructure, as well as its plans for the 2013.

Under new management and through collaborative work of the Board of Directors, members, and staff, the CHBC made significant progress during the second year of a complete restructuring effort. The CHBC reached several important milestones, including two successful general meetings, four board meetings, two technology tours, one VIP Luncheon, three press releases, submission of several comments and position letters, and an inaugural all-hands call for membership engagement. The CHBC increased its membership by 13%, improved its strength and presence in California by recruiting strong leaders in the industry as members and Directors, and promoted networking and advocacy in the hydrogen energy industry sector to expand business opportunities in hydrogen and fuel cells.

2012 – YEAR OF TRANSITION

2012 has been an exciting time for the CHBC. January 2012 marked a transition in management of the association, leading to significant achievements throughout the year: an increase in membership, several new events and meetings, and successful committee work, among other improvements to the effectiveness of the organization.

Technology Transition Corporation (TTC) was hired to manage the CHBC on January 1st, 2012. TTC is a renowned name in the hydrogen and fuel cell industry, having managed the National Hydrogen Association from its founding in 1989 to its merger with the U.S. Fuel Cell Council in 2010. TTC provides advocacy, consulting, and management services to renewable and clean energy industries. Founded in 1986, its clients include Fortune 100 corporations, start-ups, leading universities, and government agencies across the US and worldwide.



Jeff Serfass, President of TTC has over two decades of experience in the clean energy field, much of it in the hydrogen sector from his role as President of the NHA. He is the Managing Director of the CHBC and provides strategic guidance to the association.

WWW.TTCORP.COM

Emanuel Wagner, TTC Program Coordinator for the Hydrogen Education Foundation as well as the Biomass Thermal Energy Council, is serving the CHBC as Assistant Director, managing the day-to-day operations of the organization.

James Provenzano, Executive Director of Clean Air Now!, was contracted by TTC to provide his experience and connections in California and to assist with on-the-ground support for special events like Technology Tours and General Meetings to the CHBC.

GOALS FOR 2012

The CHBC's aspirations for the year included:

- Creating a larger network for hydrogen business opportunities within California
- Helping customers understand the advantages of using hydrogen energy-related products
- Supporting the commercialization of hydrogen energy technologies and services in California
- Helping lead development of hydrogen energy government policies through education and outreach efforts
- Helping attract investments by raising CHBC visibility at the state level and nationally
- Leveraging related state, federal, and organizational resources through affiliation with the California Fuel Cell Partnership, California Stationary Fuel Cell Collaborative, and Fuel Cell and Hydrogen Energy Association

CHBC's Board of Directors is chaired by President Mark Abramowitz. The President's goals included:

- Lead continued progress on the multi-year restructuring effort
- Increasing value for existing and new members
- Decreasing administration and associated costs
- Growth of the CHBC to a strong organization with a large membership
- Development of an industry-level Board of Directors
- Use of a committee structure to better engage and use the skills and talents of the members of the Board of Directors

The organization made significant progress towards most of these goals in 2012, as the following pages will outline. These achievements would not have been possible, however, without the financial support of its many members. Special thanks goes out to the CHBC's Platinum and Gold members for their sponsorship and support of the council's activities and initiatives.

PLATINUM MEMBERS



GOLD MEMBERS



In the next sections, detailed information on the CHBC's activities in each program area will be provided. This includes Advocacy, Education and Outreach, Events, and Membership. Additionally, goals and plans for the future will be reviewed at the end of the report. Supplementary information is provided in the Appendices.

ADVOCACY

The advocacy committee was formed at the end of 2011 as a pilot effort, and is chaired by Robert Bienenfeld of American Honda. Its members in 2012 were Mark Abramowitz (Community Environmental Services), Catherine Dunwoody (California Fuel Cell Partnership), Tyson Eckerle (Energy Independence Now), and Andy Marsh (Plug Power), and Larry Watkins of South Coast Air Quality Management District.

The committee defined, and the Board ratified, its mission as advocacy for the adoption of public policies that recognize the air quality, energy savings, efficiencies, and environmental and economic benefits realized through the use of fuel cell and hydrogen energy applications in California. Through the advocacy committee, the CHBC plans to increase the percentage of California energy consumption that comes from clean and efficient hydrogen energy, maximize the demand for hydrogen and fuel cell systems in California, and achieve widespread recognition of the environmental, economic, national security, and job-creation benefits of fuel cell and hydrogen energy.

The Advocacy Committee's goals include regulatory advancement, incentive development, and market research and analysis. The association is working to identify major obstacles in legislation and regulation for new hydrogen and fuel cell projects and, once identified, challenge and remove these obstacles. The CHBC supports initiatives to increase the number of hydrogen fuel stations to advance the commercial release of hydrogen fuel cell vehicles. The CHBC also advocates for tax credits for hydrogen and fuel cell systems, the expansion of incentive programs, like the Self-Generation Incentive Program (SGIP), and bills that provide funding or assistance to new projects or retrofitting projects of existing buildings and facilities.

In the area of market research and analysis, the CHBC recognizes the need to develop annual statistics on hydrogen energy, from sources such as the Energy Information Administration. The industry would benefit from research and analysis of the economic impact of the hydrogen industry, from a government or national laboratory. A survey of market participants and end-users in the fuel cell and hydrogen industry would also support the hydrogen market. For these projects, the CHBC seeks to identify and obtain funding opportunities and government support.

The Advocacy Committee held three meetings throughout 2012, in January, February, and April. During these meetings, the committee discussed current advocacy actions (like those reviewed below), potential opportunities for advocacy, and any issues that members may have brought to the advocacy committee for support. A process was developed to streamline the existing approach to approve advocacy matters. Instead of going to the board for approval, issues that are brought to and approved by the advocacy committee go straight to the president for action. In the last board meeting of the year (December 2012), the Chair urged members to come forward with advocacy issues that the committee may not be aware of. Members should also be willing to take the lead in calling for action with a certain advocacy issue, with the support of the CHBC.

The CHBC provided comments and letters of support on several important issues in 2012. These are outlined below.

ADVOCACY ACTIONS

CLEAN FUELS OUTLET (CFO)

The Clean Fuels Outlet Regulation was intended to ensure adequate fueling stations to meet demand created by thousands of hydrogen-fueled vehicles expected on the roads over the next several years. The CHBC wrote a letter in support of amendment to the CFO Regulation proposed by staff. The CHBC's letter to the Air Resources Board can be found in Appendix A.

CALIFORNIA ENERGY COMMISSION'S INVESTMENT PLAN

Representatives from the CHBC attended the California Energy Commission's Investment Plan Meeting on February 10th, 2012, in order to express support for the 2012-2013 Investment Plan for the Alternative and Renewable Fuel and Vehicle Technology Program. The Investment Plan allocated \$11 million to the Hydrogen Fueling Infrastructure program with the goal of building up to 37 new hydrogen fueling stations.

During the Advisory Committee Meeting, Managing Director Jeff Serfass expressed appreciation for the CEC's continued support of hydrogen fueling infrastructure. He also stated that the CHBC anticipates opportunities to work with the Commission as it moves forward with the Investment plan. Other issues relating to hydrogen fueling infrastructure addressed during the meeting included the timing of the financing for new stations, funding for operation and maintenance of existing stations, and whether or not the \$11 million is supplemental to the Clean Fuels Outlet solicitation.

AB 2165

The CHBC formally supported AB 2165 in April of 2012. This bill increased the metering cap from California's Fuel Cell Net Energy Metering Program and helped in creating a competitive environment for early fuel cell technology commercialization. It also made incentives more predictably available, sending "a strong, positive signal to other investors, companies investing in fuel cell products, auto-makers, supply chain partners, and potential customers" in the fuel cell and hydrogen energy sector, according to the CHBC's letter. The letter in full is attached in Appendix B.

Status: Approved by governor and filed with Secretary of State September 27, 2012.

SB 1455

The CHBC also supported SB 1455, for its vision of developing and making more accessible alternative fuel technologies and services. SB 1455 provided \$20 million for each fiscal year through June 2016, with a similar allotment in years thereafter if necessary, supporting the development of a hydrogen refueling infrastructure of at least 100 stations. The bill also established appropriate annual reviews beginning in 2016 to assure that stations and vehicles are growing together. The CHBC stated that this monetary commitment was essential for the near-term commercial launch of fuel cell electric vehicles. The CHBC's letter to the Senator is attached in Appendix C.

Status: Last Amended in Assembly, August 24, 2012, Senate refused to concur in Assembly Amendments (August 31, 2012).

COMMENTS ISSUED TO HTAC

On November 15th, 2012, Jeff Serfass, Managing Director, submitted comments to the Hydrogen and Fuel Cell Technical Advisory Committee (HTAC) during its meeting. HTAC provides programmatic and technical advice to the Energy Secretary on the Department of Energy's hydrogen research, development, and demonstration endeavors. Since it was established in 2006, HTAC has held three or four meetings a year and continues to release an annual report.

Jeff briefly explained the CHBC as the "California link among hydrogen and fuel cell technology developers, product and service businesses, energy leaders, government, and infrastructure providers" and that it helps "Silicon Valley companies, transit systems, and other organizations" connect with potential users of hydrogen and fuel cells. He expressed to HTAC the CHBC's work and issues for which it is advocating, such as full funding of 68 hydrogen refueling stations by 2015, continuation of the Self-Generation Incentive Program beyond 2013 and the program's expansion to include fuel cell forklift trucks. Additionally, Jeff established that the CHBC supports the inclusion of hydrogen energy storage as a viable and cost-effective energy storage system in the Public Utilities Commission guide for utility procurement targets.

VIP LUNCHEONS

The CHBC held one VIP Luncheon in April of 2012, with Carla Peterman, a commissioner with the California Energy Commission. Commissioner Peterman focuses on renewable energy sources, electricity and natural gas infrastructure, and transmission. Organizational members were invited to participate in this event, with a fee that included lunch. Ten CHBC representatives attended this event. The lunch allowed CHBC members to have an informal and wide ranging discussion on key hydrogen-related issues of importance to their companies and organizations.



CARLA PETERMAN

EDUCATION AND OUTREACH COMMITTEE

The Education and Outreach Committee, newly formed in 2012, was tasked with identifying low cost high value efforts to educate customers, policymakers, investors, media, and other stakeholders on the facts related to hydrogen energy and fuel cells. Chaired by Tyson Eckerle, with members Chris White (California Fuel Cell Partnership) and James Provenzano (Clean Air Now!), the committee works to develop or connect parties to information resources that advance the level of knowledge and interest in hydrogen and fuel cell technologies, products and markets.

Unlike the Membership and the Advocacy Committee, Committee members are recruited from the entire membership. They help identify key stakeholders and key issues facing the industry that could be addressed through education and outreach. They assist in the development of materials and other educational resources; and help develop strategies for reaching out to key stakeholders and decision makers on these issues. CHBC members can use these CHBC educational resources to help build market understanding for products and services.

The Education and Outreach Committee helps guide the organization's development of educational resources and outreach strategies, and implements all hands calls for the entire membership, identifies materials and resources for website development, and provides input on hydrogen information materials. In coordination with the Advocacy Committee, the Education and Outreach Committee identifies candidates for VIP lunches, supports the development of webinars, and identifies useful partnerships with other industry-related events and conferences. In its outreach efforts, Committee members help draft and edit articles and press releases for California and hydrogen media outlets.

ALL HANDS CALL

The CHBC led its inaugural "All Hands Call" in June of 2012, in an effort to improve membership value and communication. The call was designed as a novel, interactive version of a newsletter and was open to all members of the CHBC. 1/3rd of the membership attended the call, which aimed to update the membership on the activities the CHBC is engaged in, to enable a dialogue between members, staff, and the board, and to allow members to update others on pressing issues so that the CHBC or individual members may consider involvement.


CHBC

Updates were presented on legislative and regulatory issues, industry, and education and outreach activities from their related committees. The call also included a section where all members had the opportunity to bring up issues, comments, questions, new projects, or industry updates of which all members should be aware. The call served as an effective forum for discussion and will be held regularly in 2013.

NETWORKING EVENTS

The CHBC held several successful events in 2012 in different formats, including general meetings and technology tours. The CHBC will continue and expand these events in 2013.

GENERAL MEETINGS

The CHBC conducted two general meetings in 2012. The purpose of these meetings is to connect and encourage communication between members as well as provide updates about the industry, technology, advocacy, and any other developments. Expert speakers are often from varied industry sectors and present briefings and panels in order to better inform the CHBC's membership.

SPRING GENERAL MEETING

The CHBC's spring general meeting, held May 9th at the South Coast Air Quality Management District (SCAQMD), focused on legislation, funding, and developing projects in hydrogen business. The event was paired with Electric Vehicle Symposium 26, the global electric transportation industry's premier and largest forum. Attendees learned about regulatory and legislative developments, funding opportunities, success stories and case studies of fuel cell applications, and were briefed on the developments in the hydrogen transportation sector.

Over 65 attendees participated in the May event. Speakers included Robert Bienenfeld (Honda), Gerhard Achtelik (CARB), John Boesel (CALSTART), Dr. Peter Lehman (Schatz Energy Research Center), Charlie Anderson (Air Liquide), among others.

Case studies were presented by representatives from Ballard, Intelligent Energy, and Total Transportation Services, Inc. (TTSI). TTSI showcased their fuel cell truck at the meeting for attendees to see the technology for themselves. A hydrogen transportation panel spoke about several topics, including California fueling infrastructure development and vehicle deployment plans and Dr. Shane Stevens-Romero (Advanced Power and Energy Programs, UC Irvine) gave a special briefing on developments in the hydrogen transportation sector.

This meeting owes its success to its sponsor, Plug Power, as well as the support of the CHBC members, attendees, and the gracious help of volunteers from UC Irvine and the National Fuel Cell Research Center, namely Roxy Bekemohammadi and Kersey Manliclic. The presentations featured at the meeting are available on the Members Only site of the CHBC website.



MEETING SPONSOR

FALL GENERAL MEETING

The CHBC's fall general meeting, held in October and entitled "Hydrogen and Fuel Cells in California: Ready for Prime Time," aimed to introduce hydrogen and fuel cells to Silicon Valley companies. The public meeting was a joint effort of the CHBC, the Bay Area Air Quality Management District, the California Fuel Cell Partnership, the California Stationary Fuel Cell Collaborative, and the Silicon Valley Leadership Group.

The day-long event featured an array of speakers, including several representatives from Silicon Valley companies, as well as Jack Broadbent, Executive Officer of the Bay Area Air Quality Management District, who highlighted the BAAQMD's interest in hydrogen and its potential for clean air. Carolyn Lozco and Elise Keddie (Air Resources Board) provided insights into ongoing regulatory efforts that provide interesting opportunities for the industry. Jo Zientek, Deputy Director of Environmental Services Department at City of San Jose presented the perspective of municipalities committing resources to achieve a better environment. Three industry focused panels delved into the opportunities and challenges of their respective sector in California and provided encouraging project updates, including



CHBC'S FALL GENERAL MEETING TOOK PLACE AT THE HYATT PLACE IN SAN JOSE, CA - PHOTO BY EMANUEL WAGNER

BALLARD

AIR LIQUIDE

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

Johnson Matthey Fuel Cells
the power within

presentations by key industry players such as Bloom Energy, Ballard Power Systems, Plug Power, Linde, Honda, and the California Fuel Cell Partnership.

This meeting would not have been as successful were it not for the support of its sponsors, Bay Area Air Quality Management District, Air Liquide, Johnson Matthey Fuel Cells, and Ballard, as well as the volunteer help of Carlos Uranga of Fablabs. The materials presented at the meeting are available on the Members Only site of the CHBC website.

TECHNOLOGY TOURS

Two technology tours were held in 2012, one at Orange County Sanitation District's Hydrogen fueling station and another at Gills Onions, an onion factory that produces energy from onion waste. Technology tours are advertised to CHBC members but open to any interested parties.

FOUNTAIN VALLEY HYDROGEN FUELING STATION

In January 12th, the CHBC hosted a visit to Orange County Sanitation District's hydrogen fueling station, which was opened in August 2011. The facility uses waste gas produced during the water treatment process and fuel cell technology to create electricity, heat, and hydrogen.

The tri-generation system generates heat and 250 kW of power for facility use, as well as 100 kg of hydrogen for the bus and car fueling station. The station serves as a much needed companion to UC Irvine's station (which opened in 2003). The tour involved an overview of the facility and fueling station as well as a bus tour to the fueling station.



CHBC REPRESENTATIVES VISIT
OCSD'S HYDROGEN FUELING STATION
- PHOTO BY MARK ABRAMOWITZ

GILLS ONION FACTORY

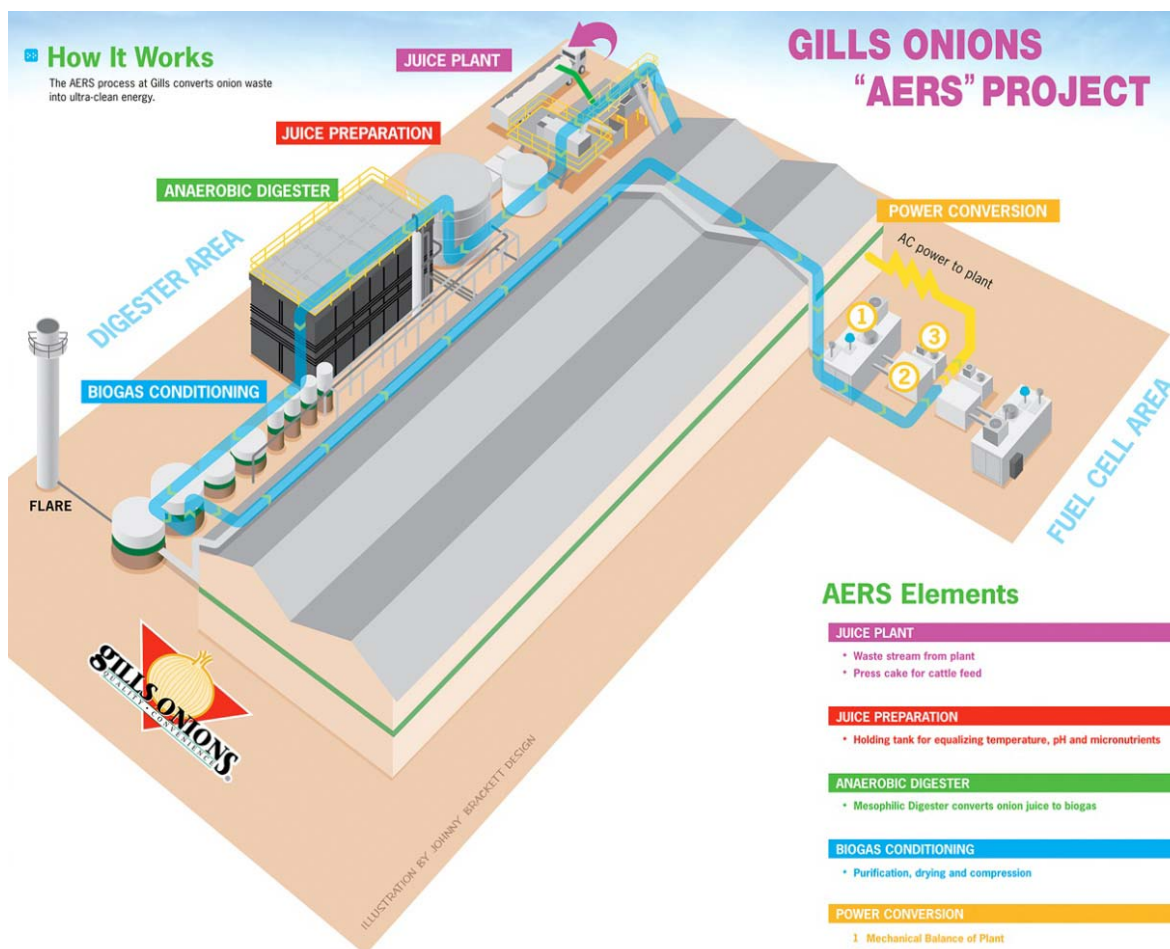


THE TOUR GROUP WITH THE
DIGESTER IN THE BACKGROUND -
PHOTO BY JAMES PROVENZANO

About 16 participants, including CHBC members and non-members, attended the technology tour to Gills Onions processing plant, which produces fresh cut onions, located in Oxnard, California. The factory's award-winning Waste-to-Energy project, the Advanced Energy Recovery System, converts 100% of their daily onion waste into renewable energy and cattle feed.

The onion waste is used to produce biogas, which is rich in methane. After the system has refined the biogas, it is fed into a fuel cell to produce electricity. For details, see the infographic outlining the entire process.

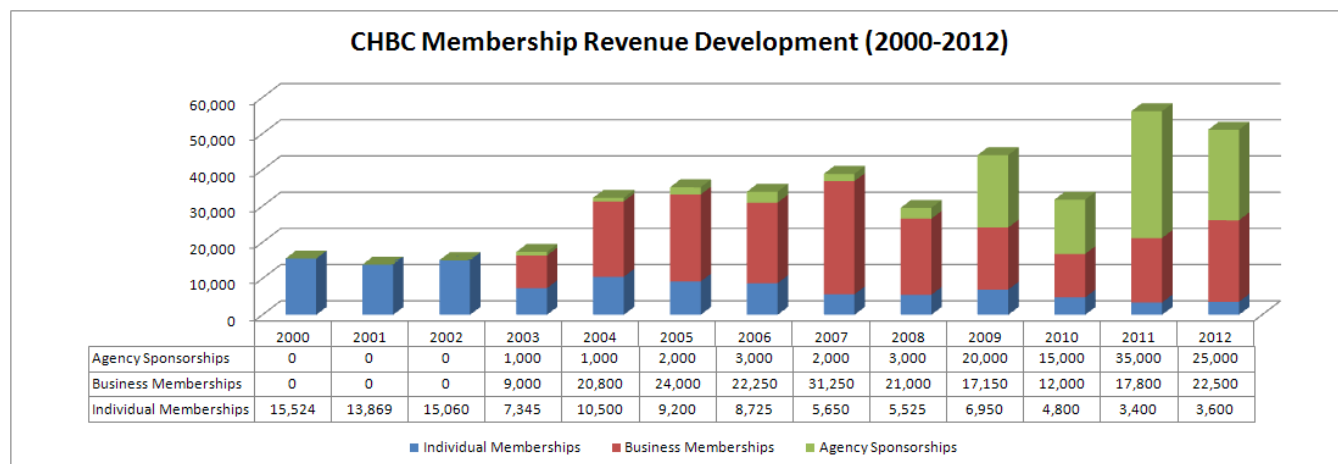
This project not only reduces greenhouse gas emissions, but also the company's electricity costs. Just before the tour, the system underwent a major expansion with the addition of a large flow battery system to store energy for use during peak times.



GILLS ONIONS ADVANCED ENERGY RECOVERY SYSTEM (AERS) - SOURCE: WWW.FUELCELLENERGY.COM

MEMBERSHIP

The transformation of the CHBC has continued to drive major increases in membership, with 7 new members in 2012 and a membership increase of 13% in 2012. The new members include a number of former members who left CHBC, but returned after the restructuring. The most notable additions to the membership in 2012 were in the silver category and included companies from the transportation sector (Hyundai and Total Transportation Services). Ballard Power Systems upgraded their membership from Silver to Gold level.



Membership overall has increased since the restructuring of the CHBC began in 2011, while strengthening the financial support provided by businesses. 2011 and 2012 have been the most successful years in raising revenue from membership dues since the CHBC's foundation, thanks in large part to a new focus on advocacy issues.

MEMBERSHIP COMMITTEE

The Membership Committee, chaired by Andy Marsh (Plug Power), worked to develop membership and membership services to grow the organization. Its members are Robert Bienenfeld (American Honda), Larry Stapleton (Ballard Power Systems), Richard Cromwell III (Richard Cromwell and Associates), Paul Scott (ISE Corporation), and Mark Abramowitz (Community Environmental Services). The committee met several times to identify, approach, and track prospective members. Their work was supported by staff and tools developed for this effort.

NEW ORGANIZATIONAL MEMBERS

ITM Power, based at two facilities in Sheffield, UK, designs and manufactures hydrogen energy systems for energy storage and clean fuel production. It is an AIM-listed company incorporated, registered and operating in England with a staff of 55. www.itm-power.com



Hyundai Motor USA was the fourth major auto manufacturer to join the CHBC. Hyundai has emerged as a leader in production of the fuel cell electric vehicle and it plans to produce up to 1,000 of its FCEV, the ix35, by 2015. www.hyundaiusa.com



Total Transportation Services, Inc. (TTSI) is one of the largest delivery carriers in Los Angeles and the Port of Long Beach, one of the busiest seaports in the world. A mid-sized American company based in Rancho Dominguez, California, TTSI is a progressive, asset-based logistics provider with distinct expertise in distributing imports within the US and Canada. With a strong central leadership, TTSI is able to offer agile distribution solutions and a variety of transportation



options, from the simplest delivery to the most complex supply networks. Their strengths lie in solving situations before they become problems and adjusting services to meet client's specific requirements. TTSI's Executive Management Team has developed a highly successful, comprehensive business model while focusing on two goals - Staying a Step Ahead and Leaving Small Footprints. www.tts-i.com

Established in 1989, **Schatz Energy Research Center (SERC)** is affiliated with Humboldt State University's Environmental Resources Engineering Program and specializes in renewable energy, energy efficiency, and hydrogen energy systems. It works in various capacities, including research and development, technology demonstration, project development, energy systems analysis, and education and training. The center provides a rare opportunity for undergraduate and graduate engineering students to acquire hands-on experience with emerging energy technologies. www.schatzlab.org



The list of members with contact information is attached in Appendix E.

CHANGES TO MEMBERSHIP STRUCTURE

In fall 2012, CHBC members were asked to provide feedback on a proposal for changes in the dues structure that were developed by staff and the membership committee. This feedback was extremely valuable, resulting in board direction to revamp the membership fee structure. Beginning February 1st, the CHBC will implement the new dues structure.

On the organizational member level, the CHBC now offers an "emerging business" category, which allows companies that are less than two years old to join for a reduced price, recognizing that they are not profitable yet. Sole proprietors may also join as an organizational member in the new "consultant" class.

	Individual Member * \$200	Emerging Business/ Consultant ** \$500	Silver Member \$1,000	Gold Member \$2,500	Platinum Member \$5,000
Logo and link to your organization on the CHBC web site		on member directory page only	on member directory page only	on each page of the site	on each page of the site
Invitations to CHBC special events and field trips	✓	✓	✓	✓	✓
Stay informed through all CHBC communication, newsletters, and updates	✓	✓	✓	✓	✓
Opportunity to attend VIP lunches during the year		✓ (as space is available)	✓ (as space is available)	✓	✓ (for free)
Opportunity to host one targeted meeting during the year				✓	✓
Recognition at general meetings				✓	✓
Free registration at general meetings				✓ (one)	✓ (unlimited)
Opportunity to contribute to the CHBC newsletter and web site				✓	✓
Two direct mailings to the CHBC mailing list					✓
Eligible for election to board of directors		✓	✓	✓	✓
Automatically receive board seat if desired					✓

* C-level executives (CEOs, CTOs, etc.) may be an individual member for no longer than one year.
 ** Companies that are less than two years old are eligible for membership in the "emerging business" category.
 ** Sole Proprietors are eligible for membership in the "consultant" category.

MEMBERSHIP DUES STRUCTURE START IN FEBRUARY 2013

The "Individual" (non-organizational) membership will continue to be available, but members in this class will not be eligible for election to the Board of Directors. Furthermore, "Chief" level (C-level) representatives of companies will be eligible for individual memberships for no more than one year.

Rather than increasing dues to continue with additional programs, CHBC has structured the budget to allow for the addition of modules to fund future work. Members will be asked to fund work on issues they wish the CHBC to engage in.

RESEARCH AND ANALYSIS

For 2012, the CHBC had identified the collection of industry data as an important item to help in messaging to legislators and companies interested in investing in the Californian hydrogen and fuel cell market. The efforts were led by the industry data project subcommittee.

INDUSTRY DATA PROJECT SUBCOMMITTEE

The Subcommittee was chaired by Richard Cromwell (Richard Cromwell and Associates), and members included Tyson Eckerle (Energy Independence Now), Chris White (California Fuel Cell Partnership), and Hank Wedaa. The subcommittee met several times to achieve several goals:

1. Outline the scope of an industry data collection
2. Describe the format of the data collection (report vs. online database)
3. Identify avenues for funding

MANAGEMENT

The CHBC held four board meetings in 2012. The first meeting was held on February 1st and was the first meeting under TTC management. It mainly focused on the transition, goals, and vision for 2012. The second meeting was held on May 9th and focused on the development and the streamlining of the committees, as well as establishing specific, concrete goals for the balance of 2012. The third Board of Directors meeting was held on September 12th, a strategic planning session to provide direction to staff in modifying the draft program plan and preparing a budget for 2013. The final meeting of the year was held on December 18th, where board elections were held, the program plan and budget for 2013 were approved, and a new membership dues structure was adopted.

A list of the 2012 Board of Directors with contact information is attached as Appendix D.

PLANS FOR THE FUTURE

The CHBC has many proposed activities and new initiatives for 2013. Expansion of the advocacy committee and its initiatives is a top priority, as well as building a strong Education and Outreach Committee, new research projects, and developing a strong member development plan. Many of the goals in advocacy, education and outreach, and research and analysis overlap and can work together in order to achieve results for both areas.

While developing the fueling infrastructure for the hydrogen vehicle rollout for 2015 is a major focus for CHBC members, it became clear during CHBC's fall general meeting that hydrogen for energy storage is a key point of interest for this industry as well. This would complement the state's efforts to expand renewable energy resources by addressing the intermittency issues that renewable energy poses. The CHBC is considering developing a continuing advocacy role on this issue in order to engage decision makers and industry on this subject.

GOALS FOR 2013

The sections below describe the main goals for Advocacy, Education and Outreach, Membership, and Research and Analysis, based on the current budget. The "supplemental" goals below may be accomplished if there is a surplus budget, raised via new memberships, upgrading of existing memberships, and external funding. If raised, this funding can be allocated to specific supplemental activity with direction from the board and input from main funders.

ADVOCACY

- Secure funding for **hydrogen fueling infrastructure** development necessary for 2015 vehicle rollout
- Secure funding for **hydrogen fueling infrastructure** development beyond 2015
- With member input, identify barriers to adoption of stationary and mobile fuel cells and hydrogen energy technology
- Maintain SGIP program beyond 2013

- Expand SGIP to be supportive of fuel cell forklift trucks
- Maintain reactive capability to provide testimony in proceedings that may develop
- Supplemental: Enable a supportive framework for stationary fuel cells and hydrogen energy storage
- Supplemental: Additional activities to support and enhance CHBC's advocacy efforts

NETWORKING

- Produce 6 high-quality in-person CHBC meetings in support of key topics to improve member benefits, build opportunities for business development; conduct workshops for potential customers; and support a potential national hydrogen and fuel cell business event in California.
- Supplemental: Develop a third General Meeting/Annual Membership Meeting

EDUCATION AND OUTREACH

- Maintain active **communications, education and outreach program** by generating interest for the technology; expand social media where effective with the goal to further elevate the CHBC as the voice of the industry in California

RESEARCH AND ANALYSIS

- Continue the development of an industry data project outlining the state of the industry, including main actors, key market data and other important information for companies interested in adding to the marketplace, by developing funding vehicles or identify other ways to achieve this goal
- Supplemental: Develop work group-led **stationary fuel cell program** with focus on hydrogen energy storage to advance the analytical, technical, and policy support within the CHBC to improve energy security and build-out of renewable energy
- Supplemental: Conceive an industry vision document describing the opportunities for California provided further legislative and regulatory support of the industry

MEMBER SERVICES AND DEVELOPMENT

- Expand CHBC membership, especially on the manufacturing side, and thereby increase membership revenue in support of CHBC activities

APPENDICIES

Appendix A



CALIFORNIA HYDROGEN BUSINESS COUNCIL

Main Office
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Washington, DC 20036

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BOARD OF DIRECTORS

Mark Abramowitz
President

Richard Cromwell, III
Vice President

Catherine Dunwoody
Secretary

Tyson Eckerle
Treasurer

Paul B. Scott, Sr.
Immediate Past President

Robert Blenendorf
Steve Eckhardt
Andy Marsh
Larry Stapleton
Larry Watkins
Henry W. Wedaa
Directors at Large

Gerhard Achleitl
Mike Kashuba
Ex-Officio Government Liaisons

PLATINUM MEMBERS

South Coast Air Quality
Management District

Bay Area Air Quality
Management District

GOLD MEMBERS

Clean Energy

Plug Power

SILVER MEMBERS

Air Liquide

American Honda Motor Corp.

Ballard Power Systems

California Air Resources Board

California Fuel Cell Partnership

CALSTART

Coalition for Clean Air

Earth Energy Fuels, Inc.

Energy Independence Now

General Motors

Intelligent Energy

Johnson Matthey Fuel Cell

NREL

Southern California Gas Co.

Toyota

The Linde Group

STAFF

Jeffrey Serfass
Managing Director

Emanuel Wagner
Assistant Director

James Provenzano
Senior Consultant

January 25, 2012

To:

Mary D. Nichols, Chair
John R. Balmes, MD
Sandra Berg
Dorene D'Adamo
Hector E La Torre
Ronald O. Loveridge

Barbara Riordan
Ron Roberts
Alexander Sherriffs, M.D.
Daniel Sperling
Ken Yeager

Re: **Comments on Proposed 2012 Amendments to the Clean Fuels Outlet**

Dear Chairman Nichols and Members of the Board:

I am Mark Abramowitz, President of the California Hydrogen Business Council (CHBC). The CHBC is a non-profit organization comprised of organizations and individuals involved in the business of hydrogen energy. Our members include:

- fuel cell manufacturers and suppliers
- manufacturers and distributors of hydrogen generation, compression and storage technologies
- manufacturers and suppliers of hydrogen internal combustion engines
- engineers and service providers
- municipal, state and federal agencies

CHBC actively supports hydrogen's growing commercial use, new hydrogen applications, and the transition of our energy infrastructure towards a cleaner, low carbon, hydrogen economy.

CHBC recognizes that the hydrogen-powered fuel cell electric vehicles (FCEVs) can play an important role in moving our economy towards a greener, more sustainable model. Several of our OEM member companies are marketing FCEVs today, and they are planning larger volumes in the future. Our OEM members have expressed concern that even in the limited FCEV introductions so far, their vehicles have sat unused for extended periods while awaiting infrastructure. As volumes increase, it is essential that infrastructure be planned in advance of and in coordination with the planned introduction of fuel cell vehicles.

Without good public policy, we will forever be stuck in neutral – automakers will not be able to build FCEVs without adequate infrastructure and adequate infrastructure will be lacking without the promise of high volumes of FCEVs. Generally speaking, the CHBC is not in favor of mandates as the optimal public policy tool to achieve social goals.

Appendix B



CALIFORNIA HYDROGEN BUSINESS COUNCIL

CA Office: 3438 Merrimac Road Los Angeles, CA 90049
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Plug Power

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California Air Resources Board

California Fuel Cell Partnership

CALSTART

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Johnson Matthey Fuel Cell

The Linde Group

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Schatz Energy Research Cent.

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Toyota Motor Corp.

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April 5, 2012

The Honorable Jerry Hill
California State Assemblymember
California State Capitol Room 3160
Sacramento, California 95814

RE: AB 2165 (Hill) – SUPPORT

Dear Assemblymember Hill:

The California Hydrogen Business Council is pleased to express strong support for AB 2165 (Hill).

California's Fuel Cell Net Energy Metering Program (FCNEM) has a proven track record of helping Californians to increasingly utilize clean, reliable, efficient distributed generation fuel cell technologies.

The program helps the state meet its clean energy, distributed generation, and air quality targets. Fuel cell technologies are cleaner than the traditional sources of energy used to supply power to California's electricity grid, improving air quality and reducing harmful greenhouse gas emissions in communities throughout the state.

In addition to environmental benefits, these technologies reduce strain on the electric grid, increase energy reliability, and lessen or eliminate costly transmission infrastructure investment that would otherwise be required to meet renewable portfolio standards.

Fuel cell and hydrogen technologies produce new high tech, high paying jobs and are a crucial part of the portfolio of advanced energy technologies that will help achieve California's energy efficiency and greenhouse gas reduction goals. Fuel cells for stationary power and material handling equipment are commercially available today and continue to create jobs in domestic and export markets in California and throughout the country. Further, the United States, with California leading the way, is poised to introduce fuel cell electric vehicles (FCEVs) by 2015, with initial introduction by many of the automobile manufacturers already well underway. Continued support for technology maturation, supplier development and infrastructure deployment, of which the FCNEM is a critical part, will continue to allow for the market transformation of the fuel cell industry.

The United States still has the worldwide lead in fuel cell manufacturing. Retaining and building upon that lead will be much cheaper and more productive than attempting to buy it back once it is lost, as we have seen in other clean energy technologies. Japan, Germany, Korea, and China have made it a national priority to develop these technologies and attract the skills and

Appendix C


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The Linde Group

National Renewable Energy
Laboratory

Schultz Energy Research
Center

Southern California Gas Co.

Total Transportation Services

Toyota Motor Corp.

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Dr. Shane Stephens-Romero
Advisor

The Honorable Christine Kehoe
California State Senator
State Capitol, Room 5050
Sacramento, CA 95814

August 29, 2012

RE: SB 1455 - SUPPORT

The California Hydrogen Business Council (CHBC) is pleased to express strong support for SB1455. The CHBC links hydrogen technology developments, businesses, energy leaders, government and infrastructure providers with a common vision of energy and transportation fueled by zero-emission hydrogen. Our members implement and use technology and services that are taking the hydrogen economy into the mainstream.

For many years now, California has been a leader in recognizing and addressing social concerns such as reducing dependence on petroleum, reducing smog forming emissions and reducing greenhouse gasses. California has taken many aggressive steps to require zero emissions vehicles like battery electric and fuel cell electric vehicles (FCEVs). Unlike other governments, California has gone beyond simply regulating lower emissions, the State has put in place an impressive regulatory structure to address carbon in fuels (the Low Carbon Fuel Standard), carbon in the economy (Cap and Trade), consumer incentives (Clean Vehicle Rebate Program), and alternative fuel vehicle infrastructure (AB118 and the Clean Fuel Outlet programs). Additionally, Governor Brown addressed the challenge of infrastructure to support ZEVs by his March 23rd Executive Order. This comprehensive approach by the state of California is unique: addressing consumers, infrastructure and vehicles.

The growth of hydrogen infrastructure can be an important component of the low carbon future that California has long envisioned. Hydrogen has been identified by the California Air Resources Board as an "ultra low carbon fuel" and FCEVs are recognized in the Zero Emission Vehicle mandate, as one of the key components to a successful approach to meeting the states goals. Automakers have consistently stated that publically accessible, broadly available hydrogen infrastructure is a necessary pre-requisite to the successful introduction of FCEVs.

SB 1455 commits roughly \$100 million in state funds over the next five years towards opening a minimum hydrogen refueling infrastructure network of at least 100 stations, with appropriate annual reviews beginning in 2016 to assure that stations and vehicles are ramping up together. We believe that this commitment is essential to the near-term, early commercial launch of FCEVs.

Thank you for your leadership on this important issue.

Sincerely,

Mark Abramowitz
Mark Abramowitz
President

California Hydrogen Business Council

Appendix D

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Appendix E

Member Type	Company	Primary Contact	Title	Phone	City	State
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Platinum	Bay Area Air Quality Management District	Jack Broadbent	Executive Officer/Air Pollution Control Officer	(415) 749-4796	San Francisco	CA
Gold	Ballard	Larry Stapleton	Vice President, Sales	(604) 412-8607	Burnaby	BC
Gold	Clean Energy	Richard Cromwell III	President and CEO	(760) 329-6462	Desert Hot Springs	CA
Gold	Plug Power, Inc.	Andy Marsh	President and Chief Executive Officer	(518) 738-0383	Latham	NY
Silver	Air Liquide Advanced Technologies U.S. LLC.	Bob Oesterreich	Director of Hydrogen Energy	(713) 402-2161	Houston	TX
Silver	American Honda Motor Co., Inc.	Robert Bienenfeld	Senior Manager, Environment and Energy Strategy	310-783-3056	Torrance	CA
Silver	California Air Resources Board	Mike Kashuba		916-323-5123	Sacramento	CA
Silver	California Fuel Cell Partnership	Catherine Dunwoody	Executive Director	(916) 371-2844	West Sacramento	CA
Silver	Earth Energy Fuels Inc.	Brenda Micetich	President	310-477-4287	Marina Del Rey	CA
Silver	General Motors	Britta Gross	R&D and Strategic Planning, Director	586-596-0382	Warren	MI
Silver	Humboldt State University - Schatz Energy Research Center	Peter Lehman	Director	(707) 826-4345	Arcata	CA
Silver	Hyundai America Technical Center	Jerome Gregeois	Powertrain Performance Manager	(909) 993-5439	Los Angeles	CA
Silver	Intelligent Energy	Kevin Tock	Senior Manager US Operations	(949) 887-9733	Long Beach	CA
Silver	ITM Power	Geoffrey Budd	Agent for Canada and the USA	(604) 542-5171	Surrey	BC
Silver	Johnson Matthey Fuel Cells	Anca Faur-Ghenciu	Development Program Manager, Fuel Cells	(484) 354-8152	West Chester	PA
Silver	National Renewable Energy Laboratory - NREL	Keith Wipke	Group Manager and Senior Engineer	(303) 275-4451	Golden	CO
Silver	Southern California Gas Company	Randal Brown	Sr. Technology Development Advisor	(818) 342-8335	Los Angeles	CA
Silver	The Linde Group	Steve Eckhardt	Head of Business Development, Alternative Energy	(510) 786-5925	Hayward	CA
Silver	Total Transportation Services, Inc.	Tony Williamson		(310) 816-0270	Rancho Dominguez	CA
Silver	Toyota Motor Sales, USA, Inc.	Jana Hartline			Torrance	CA
Individual	Burbank Transportation Management Organization (BTMO)	J. J. Weston	Executive Director	(818) 953-7788	Burbank	CA
Individual	Clean Air Now!	James Provenzano	President	(310) 472-8633	Los Angeles	CA
Individual	Community Environmental Services	Mark Abramowitz	President	(714) 970-7664	Yorba Linda	CA
Individual	Earth Protector Corporations	Leslie Davis	President	(612) 529-5253	Minneapolis	MN
Individual	Ebus, Inc.	Anders Eklov	CEO	(310) 780-1276	Downey	CA
Individual	Engineering, Procurement and Construction, LLC (EPC)	John Cornish	President	(720) 974-1709	Denver	CO
Individual	Gable Consulting	Mark Reader	Principal		Highland	CA
Individual	Global Education Systems Alliance	William Prouty	Managing Director	(951) 301-0605	Sun City	CA
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Individual	Ramco Consulting	Ram McCormack	President	(858) 452-5963	La Jolla	CA
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Individual		Hank Weeda		(714) 282-3226	Anaheim	CA
Individual		Neil Otto			San Diego	CA
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