

BOARD MEETING DATE: February 2, 2018

AGENDA NO. 4

**PROPOSAL:** Renew California Fuel Cell Partnership Membership and Participation, Receive and File California Fuel Cell Partnership Board Meeting Agenda and Quarterly Updates, and Participate in California Hydrogen Infrastructure Research Consortium

**SYNOPSIS:** Since early 2000, SCAQMD has been a California Fuel Cell Partnership (CaFCP) member and, even longer, has been building partnerships with various California agencies and national laboratories. These partners propose forming a consortium focused on near-term hydrogen infrastructure, and recently submitted a joint proposal led by GO-Biz to advance hydrogen infrastructure relevant to the DOE H2@Scale Initiative, a concept to explore wide-scale hydrogen production and utilization in the U.S. These actions are to execute one or more contracts with Frontier Energy, Inc., acting on behalf of the CaFCP, in an amount not to exceed \$245,000 from the Clean Fuels Program Fund (31) to renew SCAQMD's CaFCP membership for 2018, cofund 50 percent of the CaFCP Regional Coordinator position, and provide support for fuel cell truck and bus codes and standards coordination as well as to receive and file the last CaFCP Board Meeting Agenda and recent Quarterly Updates. This action is to also execute an agreement with the National Renewable Energy Laboratory for \$100,000 from the Clean Fuels Program Fund (31) to participate in the California Hydrogen Infrastructure Research Consortium.

**COMMITTEE:** Technology, January 19, 2018; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Authorize the Chairman to execute one or more contracts in an amount not to exceed \$245,000 from the Clean Fuels Fund (31) with Frontier Energy, Inc., acting on behalf of the CaFCP, to:
  - a. Continue SCAQMD's membership for Calendar Year 2018 for a total amount not to exceed \$70,000 for common expenses of the CaFCP;
  - b. Continue support for a Regional Coordinator located at SCAQMD for a total amount not to exceed \$50,000; and
  - c. Provide support for fuel cell truck and bus codes and standards coordination for a total amount not to exceed \$125,000.

2. Receive and file the attached Executive Board Agenda and Quarterly Updates.
3. Authorize the Executive Officer to execute a joint agreement for an amount not to exceed \$100,000 from the Clean Fuels Fund (31) with NREL, acting on behalf of the California Hydrogen Infrastructure Research Consortium.

Wayne Nasti  
Executive Officer

MMM:FM:NB:LHM

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## **Background**

### **California Fuel Cell Partnership**

The California Fuel Cell Partnership (CaFCP) was initiated in 1999 as a means to accelerate response to CARB's ZEV regulations. In January 2012, CARB approved Advanced Clean Car regulations, which harmonize California requirements with federal requirements from 2017–2025 and incorporate GHG emission reductions. The AQMP and the Technology Advancement Office Clean Fuels Program 2016 Plan Update have identified fuel cells for on- and off-road applications as a core technology for attaining and maintaining cleaner air quality. Because of the alignment of the SCAQMD and CaFCP goals for accelerated fuel cell vehicle commercialization, the SCAQMD Board accepted the CaFCP's formal invitation to join as a full member in March 2000.

Initially, the CaFCP Program focused on development of vehicle, infrastructure and outreach plans for future projects. The CaFCP was involved in the demonstration of cars and buses using gaseous and liquid hydrogen as well as methanol through 2003. A limited number of fleet customer placements began in 2002. The CaFCP and members demonstrated several generations of fuel cell cars and buses using gaseous hydrogen fuel at 350 bar and 700 bar pressures. Several automakers started retail placement of fuel cell vehicles near hydrogen stations in early market communities. The CaFCP with member support developed a "Roadmap" for the introduction of fuel cell passenger vehicles with sufficient hydrogen fueling stations in California, a "Bus Roadmap" and, most recently, a Medium & Heavy-Duty Fuel Cell Electric Vehicle Action Plan.

With the commitment of funding under AB 8 (2013) to develop and operate approximately 100 hydrogen retail fueling stations in California through 2023, and the collaboration of California with other states to support ZEVs, automakers are continuing to announce market launches. Some automakers are combining efforts to share intellectual property, build component supply chains and leverage resources - Daimler with Ford and Nissan, Toyota with BMW, and General Motors with Honda. Germany, Japan and South Korea have also committed funding to build more hydrogen stations, and international momentum is building with the 2017 establishment of the Hydrogen Council.

At the request of SCAQMD, the CaFCP has expanded its presence in Southern California due to the increased deployment of vehicles, the largest number of fueling stations and the greatest air quality need in this region. A CaFCP Regional Coordinator based in our region supports member activities and outreach and an Infrastructure Specialist facilitates hydrogen station development.

Major accomplishments during Calendar Year (CY) 2017 include:

- Continued retail production and deployment of fuel cell cars and buses in California. As of November 1, 2017, there have been 2,985 cumulative total fuel cell electric vehicle (FCEV) sales and leases by Hyundai, Toyota and Honda in California<sup>1</sup>, 31 retail hydrogen stations are open, and there are 20 fuel cell buses in operation.
- Engaged members in a strategic planning process to develop a Vision for 2030.
- Increased the presence of the CaFCP in Southern California through coordination of ombudsman activities in early market communities with Regional Coordinator & Infrastructure Specialist based at SCAQMD.

The CaFCP has introduced new membership levels to increase membership and reduce the cost of membership. Each CaFCP Executive Member has a representative on the Executive Board. Current Executive Members include:

- Seven auto manufacturers (General Motors, Toyota, Daimler, Honda, Hyundai, Nissan and Volkswagen);
- Four industry stakeholders (AFCC, EIN, Air Liquide and Shell); and
- Three government agencies (SCAQMD, CARB and CEC), and the Governor's Office of Economic Development (GO-Biz).

There are currently an additional 29 Full and Associate Members, with commensurate benefits and voting rights. DOE and U.S. EPA have been invited to participate as Full Members (albeit in a non-paying advisory capacity) for 2018. Additionally, hydrogen infrastructure membership increased, a goal set by Dr. Clark E. Parker when he was the CaFCP chair in 2017.

The CaFCP retains Frontier Energy, Inc., (previously Bevilacqua-Knight, Inc.) to provide the needed support for the common tasks agreed to by the CaFCP, and each member contracts directly with Frontier Energy acting on behalf of the CaFCP. In an effort to better align the beneficiaries of Frontier Energy's West Sacramento operations with the costs of those operations, Frontier Energy will transition to a costing model in accordance with federal cost principles to charge CaFCP on a cost reimbursement basis, which is cost neutral for 2017 but is easier to scale.

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<sup>1</sup>Number of cumulative total FCEV sales data from HybridCars.com and Carsalesdatabase.com

### California Hydrogen Infrastructure Research Consortium

Many stakeholders are working on hydrogen and fuel cell products, markets, requirements, mandates, and policies. California has been leading the way for hydrogen infrastructure and fuel cell electric vehicle deployment. This leadership has advanced a hydrogen network that is not duplicated anywhere in the U.S. and is unique in the world for its focus on providing a retail fueling experience. In addition, the advancements have identified many lessons learned for hydrogen infrastructure development, deployment and operation. Other interested states and countries are using California's experience as a model case, making success in California paramount to enabling market acceleration and uptake in the U.S. U.S. leadership for hydrogen technologies is rooted in California, a location for implementing many DOE H2@Scale pathways, such as reducing curtailment and stranded resources, reducing petroleum use and emissions, and developing and creating jobs. The technical research capability of the national laboratories can be used to assist California in decisions and evaluations, as well as to verify solutions to problems impacting the industry. Because these challenges cannot be addressed by one agency or one laboratory, a hydrogen research consortium has been organized to combine and collaborate. The California Hydrogen Infrastructure Research Consortium aims to:

- Ensure that data are available to evaluate projects and inform decision makers;
- Independently verify and validate component solutions;
- Provide experimental results for future hydrogen infrastructure; and
- Increase the availability of technical experts for quick-need issues for California hydrogen infrastructure development, deployment, operation and technology advances.

### **Proposal**

#### California Fuel Cell Partnership

The CaFCP completed the fourth phase of its "Preparing for Market Launch" effort through 2016 and is continuing the transition to an ongoing commercial vision. The fee of \$70,000 per Executive Member supports the activities planned for 2018, with additional membership levels designed to encourage participation with commensurate benefits. A new non-paying, advisory role is proposed to continue engagement with staff in federal agencies. The proposed budget for 2018 is reduced to \$1,011,464, with plans to encourage new membership and growth. The 2017 Vice-Chair, Dr. Christian Mohrdieck (Daimler), serves as 2018 Chair, with O. Hoefelmann (Air Liquide) serving as Vice-Chair. Dr. Clark E. Parker will serve as SCAQMD's representative, along with 13 other Executive Members. The majority of fuel cell vehicle deployment growth is anticipated to be within the South Coast Air Basin over the next couple of years, enhanced by the development of hydrogen stations in more early markets in California and beginning in several northeast states.

The proposed CaFCP activities for 2018 are to:

- Develop the necessary infrastructure and processes to support early commercial launch and expanded vehicle rollout focused in California, plus communication with new station and vehicle deployments planned in the northeastern U.S.
- Share and synchronize experience by providing forums and opportunities for members to advance group collaboration and progress within CaFCP and among stakeholders, including national coordination.
- Reach target markets and communities to educate, inform and promote hydrogen and FCEVs and accelerate commercial adoption.
- Implement CaFCP restructuring to be more inclusive and capable of meeting the expanding commercial market needs and opportunities, broaden the member base, and collaborate with stakeholder participants.

With additional support from some CaFCP members to facilitate the foundational work required for the growth of medium- and heavy-duty fuel cell truck and bus deployments, these additional tasks are proposed:

- Sponsor SAE J2600, Compressed Hydrogen Surface Vehicle Fueling Connection Devices, revision to include high flow interface geometries and align with ISO 17268
- Sponsor SAE J2601-2, Fueling Protocol for Gaseous Hydrogen Powered Heavy Duty Vehicles, from Technical Information Report (TIR 2014) to Surface Vehicle Standard & align with J2600 & ISO
- General medium-duty/heavy-duty vehicle and infrastructure safety, codes and standards, and update first responder training
- Facilitate task forces (truck and bus) and outreach; coordinate 2018 Fuel Cell Electric Truck (FCET) Action Plan

This action is to execute contract(s) with Frontier Energy to renew SCAQMD's membership in the CaFCP for CY 2018, continue to cofund the CaFCP Regional Coordinator position based in SCAQMD and reporting to the CaFCP Executive Director, and to provide directed support for medium- and heavy-duty fuel cell truck and bus fueling codes and standards coordination. There is no longer a need for in-kind office space and utilities for Frontier Energy employees in CY 2018, since staff assigned to CaFCP activities primarily work in the field visiting legislative offices, member locations and hydrogen stations. This action is also to receive and file the CaFCP Executive Board Meeting Agenda for October 2017 and Quarterly Updates for April-June and July-September 2017.

#### California Hydrogen Infrastructure Research Consortium

This action is to execute a joint agreement with NREL to participate in the California Hydrogen Infrastructure Research Consortium. The California Hydrogen Infrastructure Research Consortium proposal identifies tasks based on top research needs and

priorities to address near-term problems in order to support California's continued leadership in innovative hydrogen technology solutions. These tasks also provide significant contributions to the DOE H2@Scale Initiative, although the Consortium proposal may not be fully funded from the current solicitation. For instance, advances in fueling methods and components can support the development of supply chains and deployments. The proposed tasks include data collection from operational stations, component failure fix verification (i.e., nozzle freeze lock), analysis of data to optimize new fueling methods for medium- and heavy-duty applications, and ensuring hydrogen quality is maintained. These projects will also be managed in detail (e.g., schedule, budget, roles, milestones, tasks, reporting requirements) in a hydrogen research consortium project management plan.

### **Sole Source Justification**

Section VIII.B.2. of the Procurement Policy and Procedure identifies provisions under which a sole source award may be justified. This request for a sole source award is made under provision B.2.d.: Other circumstances exist which in the determination of the Executive Officer require such waiver in the best interest of SCAQMD.

Specifically, these circumstances are B.2.d.(1): Projects involving cost-sharing by multiple sponsors. The major sponsors contributing financially to the CaFCP include seven automakers, four industry stakeholders and three government agencies (including SCAQMD). The major sponsors currently contributing financially to the California Hydrogen Infrastructure Research Consortium include U.S. DOE, CARB and CEC.

### **Benefits to SCAQMD**

Membership in the CaFCP is consistent with the *Technology Advancement Office Clean Fuels 2017 Plan Update* under "Hydrogen and Mobile Fuel Cell Technologies & Infrastructure" and "Assessment and Technical Support of Advanced Technologies and Information Dissemination." SCAQMD supports the development, demonstration and commercialization of zero and near-zero emission vehicles and strives to educate public and private organizations regarding the benefits and characteristics of these vehicles.

### **Resource Impacts**

#### California Fuel Cell Partnership

SCAQMD's support of the CaFCP for CY 2018, provided through a contract(s) with Frontier Energy, Inc., will not exceed \$245,000 from the Clean Fuels Program Fund (31), comprised of up to \$70,000 for common project costs to cover administrative, technical and program management costs, half the cost of up to \$50,000 for the Regional Coordinator position based in SCAQMD, and directed support not to exceed \$125,000 to coordinate the development of fueling codes and standards for medium- and heavy-duty fuel cell trucks and buses.

### California Hydrogen Infrastructure Research Consortium

SCAQMD's support of the California Hydrogen Infrastructure Research Consortium, provided through a joint agreement with NREL, will not exceed \$100,000 from the Clean Fuels Program Fund (31). Project partners and proposed funding are as follows:

| <b>Project Partner</b>  | <b>Funding</b>            | <b>(In-kind)</b>     |
|---|---------------------------|----------------------|
| U.S. DOE, Fuel Cell Technologies Office                       | *\$700,000                |                      |
| CARB  | \$100,000                 |                      |
| CEC   | \$80,000<br>(**\$100,000) |                      |
| SCAQMD ( <i>requested</i> )                                   | \$100,000                 |                      |
| California Governor's Office of Economic Development (GO-Biz) |                           | Coordination & labor |
| <b>Total (not to exceed)</b>                                  | <b>\$1,000,000</b>        |                      |

\* Subject to partial award; U.S. DOE funding may be scaled.

\*\*The contribution from CEC will increase to \$100k if the Hydrogen Safety Panel Evaluation of Hydrogen Facilities CRADA (CEC with PNNL) is not funded.

Sufficient funds are available from the Clean Fuels Fund, established as a special revenue fund resulting from the state-mandated Clean Fuels Program. The Clean Fuels Program, under Health and Safety Code Sections 40448.5 and 40512 and Vehicle Code Section 9250.11, establishes mechanisms to collect revenues from mobile sources to support projects to increase the utilization of clean fuels, including the development of the necessary advanced enabling technologies. Funds collected from motor vehicles are restricted, by statute, to be used for projects and program activities related to mobile sources that support the objectives of the Clean Fuels Program.

### **Attachments**

California Fuel Cell Partnership October 17, 2017 Executive Board Meeting Agenda

California Fuel Cell Partnership Quarterly Update (April-June 2017)

California Fuel Cell Partnership Quarterly Update (July-September 2017)

**October 17 Public Forum Agenda**  
**Vision 2030 – Accelerating Commercialization in California**  
California Energy Commission—Arthur H. Rosenfeld Boardroom  
1516 9<sup>th</sup> Street, Sacramento, CA 95814

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**30 minutes**

8:45am–9:15am

C Parker, CaFCP Chair

B Elrick, CaFCP Exec Director

**1. Welcome and opening remarks**

CaFCP is crafting a consensus vision for market acceleration of FCEVs and hydrogen stations, deployment of fuel cell electric buses, and introduction of fuel cell electric trucks. Today's meeting will help guide the direction of the CaFCP Vision 2030 roadmap.

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**30 minutes**

9:15am–9:45am

B Heid, McKinsey

B Fourie, Air Liquide

H Butsch, NOW

**2. Global Perspectives and Activities**

The Hydrogen Council brings a new group and perspective into the energy transition, and station deployment in Germany is continuing to match the pace. What ideas for funding, hydrogen production, stakeholder engagement, and energy policy should we consider in our Vision 2030 roadmap?

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**30 minutes**

9:45am–10:15am

**Break**

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**90 minutes**

10:15am–11:45pm

D Sperling, UC Davis

J Duffy, ARB

CaFCP members

**3. Policy Approaches to California's Hydrogen Future**

California policy and technology efforts guide the development and speed of our energy transition, including Low Carbon Fuel Standard and grid integration. Speakers will talk about policies in which hydrogen can play a role and present concepts for CaFCP Executive Board input and discussion.

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**75 minutes**

11:45am–1:00pm

**Lunch (on own)**

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**90 minutes**

1:00pm–2:30pm

A Galiteva, CalISO

R Gonzalez, CEC EPIC

CaFCP members

**4. Hydrogen and the Grid**

Our Vision 2030 considers integrating hydrogen with the grid for demand management, energy storage, and microgrids. Speakers will provide perspectives from the electricity sector and engage in a discussion about timelines, renewables, and R&D funding focus areas.

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**30 minutes**

2:30pm–3:00pm

**Break**

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**30 minutes**

3:00pm–3:30pm  
CaFCP members

**5. A Look at Upcoming Vehicles**

Reports from automakers, heavy-duty vehicle manufacturers, and transit agencies about upcoming vehicle deployment plans in California and around the world.

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**60 minutes**

3:30pm-4:30pm  
B Elrick, Executive Director

**6. CaFCP Executive Board Business Meeting**

- April meeting decisions and assignments
  - 2018 meeting dates
  - 2018 Chair and Vice Chair
  - New member proposals
  - 2018 Program Plan and Budget
  - Public comment period
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**15 minutes**

4:30pm-4:45pm  
C Parker, CaFCP Chair

**7. Closing remarks**

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\* **Public comment period** : The public comment period provides an opportunity for members of the public to address the CaFCP Executive Board on subjects related to the mission and activities of CaFCP. Each person will be allowed a maximum of three minutes to ensure that everyone has a chance to speak.

Agenda items may be taken out of order and times may vary from those listed in the agenda. The board may choose to limit public comment at the chair's discretion.

This meeting is open to the public and will not be available by phone. This facility is accessible to persons with disabilities. Deadline for requesting ADA modification is **October 13, 2017**. Meeting materials will be posted at [www.cahcp.org](http://www.cahcp.org).

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**CaFCP Quarterly Update**  
April –June 2017**Background**

The California Fuel Cell Partnership is a unique collaborative of auto manufacturers, energy companies, fuel cell technology companies and government agencies, including SCAQMD.

CaFCP members, individually or in groups, will focus on meeting these goals to achieve market launch:

- Prepare for larger-scale manufacturing, which encompasses cost reduction, supply chain and production.
- Work on the customer channel, including identifying and training dealers and service technicians.
- Reduce costs of station equipment, increase supply of renewable hydrogen at lower cost, and develop new retail station approaches.
- Support cost reduction through incentives and targeted RD&D projects
- Continue research, development and demonstration of advanced concepts in renewable and other low-carbon hydrogen.
- Provide education and outreach to the public and community stakeholders on the role of FCVs and hydrogen in the evolution to electric drive.

CaFCP and members' activities fall within three main strategic directions:

1. Support hydrogen station and vehicle deployment to enable commercial market launch
2. Show feasibility and a clear value proposition to consumers, businesses and communities
3. Focus existing resources, engage new groups and pursue innovative concepts to overcome early market challenges

To successfully implement the vision, CaFCP activities must focus on technical, communications and business operations/strategies that require convening, collaborating and communicating.

**2017 Program Plan**  
**Q2 accomplishments**

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| <b>1. Develop Infrastructure</b>   |  |
| <i>Develop the necessary infrastructure and processes to support early commercial launch and expanded vehicle rollout.</i>   |  |
| Support the construction and commissioning of current California hydrogen stations by participating in codes, standards and regulation processes; facilitating station commissioning processes; and supporting station openings. | <ul style="list-style-type: none"> <li>• Working with members to progress two Inter-Laboratory Studies (for FTIR and CDRS) in ASTM D03.14</li> <li>• Active participation with SAE International and CSA Group to harmonize CSA HGV 4.3 and SAE J2601; also for SAE J2601/4</li> <li>• Delivered a webinar for AHJs with the City of SF and GOBiz</li> </ul>   |
| Prepare for future funding through outreach and education with fueling retailers, the investment community and hydrogen industry.  | <ul style="list-style-type: none"> <li>• Coordinated meetings with Orange County fuel retailers and Sustain OC to begin development of a sustainable H2 station business model.</li> <li>• Held meetings with potential investors to educate them on the progress of the H2 FCEV commercial market.</li> <li>• Attended the Fuels Institute annual conference in May and established connections with fuel retailers and national chain store fueling operation executives.</li> </ul> |
| Work with stakeholders to identify potential future station locations.   | <ul style="list-style-type: none"> <li>• Coordinated OEM Group effort to develop the next set of recommended priority market locations for hydrogen station deployment in California for government planning and funding.</li> </ul>   |
| Develop Road Map 2.0 with strategies for a sustainable network in California.  | <ul style="list-style-type: none"> <li>• We've completed two out of three visioning workshops and the final is scheduled for early July. Draft report expected by the end of summer.</li> </ul>  |
| <b>2. Share and Synchronize Experience</b>   |  |
| <i>Provide forums and opportunities for members to advance group collaboration and progress within CaFCP and among stakeholders.</i>   |  |
| Build and expand trust among members through open communication and forums.  | <ul style="list-style-type: none"> <li>• Held the April Executive Board meeting at UCLA</li> <li>• Held the June 21-22 Working Group meeting in West Sacramento</li> <li>• Coordinated series of meetings between OEM Group, SDO Group and state and local government officials to provide industry input for the June 2017 AB 8 Report and to discuss possible different approaches to state funding of H2 stations.</li> </ul>   |
| Communicate with stakeholders nationally   | <ul style="list-style-type: none"> <li>• Hosted visitors from <u>Mitsui &amp; Co.</u>, Japan</li> </ul>  |



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| and internationally to share learnings and amplify market launch efforts.   | <ul style="list-style-type: none"> <li>• Represented California at the Hydrogen Fuel Cell conference in Vancouver, BC, hosted by the Canadian Hydrogen and Fuel Cell Association</li> <li>• Started conversations with a new consortium in New Zealand that aims to replace diesel motor coaches with fuel cell buses</li> <li>• Participated in DOE's Annual Merit Review as peer reviewers of 12 DOE funded projects and H2USA member meeting in June.</li> <li>• Provided a California Update at DOE's Hydrogen Technology Advisory Committee</li> </ul>  |
| <b>4. Expand Markets</b>  |  |
| <i>Restructure CaFCP to be more inclusive and capable of meeting the expanding commercial market needs and opportunities, broadening the member base, and being the voice of all stakeholder participants</i> |  |
| Establish new structure and expand membership.  | <ul style="list-style-type: none"> <li>• x</li> </ul>  |
| Support deployment of fuel cell bus Centers of Excellence and the Bus Team.   | <ul style="list-style-type: none"> <li>• Represented CaFCP at APTA Bus and Paratransit Conference in Reno with booth on expo floor to inform attendees about FCEBs and support AC Transit's FCEB outreach (May 9).</li> <li>• Represented CaFCP FCEB and H2 infrastructure perspective at CARB's 5<sup>th</sup> Innovative Clean Transit Workgroup meeting (June 26).</li> <li>• Planned and organized the July 14 CaFCP Bus Team meeting at OCTA headquarters in Orange.</li> <li>• Began planning for annual factory tours of fuel cell electric buses at Eldorado National on August 1.</li> </ul>  |
| Publish and implement the Medium- and Heavy-Duty Road Map document.   | <ul style="list-style-type: none"> <li>• Attended Green Transportation Summit &amp; Expo in Portland, OR, where H2 and FCET technology was frequently referenced due to range and weight limitations of battery technology in truck applications (April 10-12).</li> <li>• Represented CaFCP at Toyota Portal Truck announcement event in Port of Long Beach/San Pedro (April 19).</li> <li>• Served as moderator for the CHBC Fuel Cell Truck Workshop and presented FCET Action Plan highlights (May 1).</li> <li>• Attended ACT Expo in Long Beach to discuss FCET feasibility with truck operators, OEMs, and component suppliers (May 2-4).</li> <li>• Facilitated a truck stakeholder group of over 20 industry and government representatives to revise the recommendations in the Medium and Heavy Duty Fuel Cell Electric Truck Action Plan on May 5.</li> <li>• Represent CaFCP at CARB Public Work Group Meeting #3 for Heavy-Duty Three-Year Plan for inclusion of FCET and FCEB considerations (May 18).</li> </ul> |

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|  | <ul style="list-style-type: none"><li>• Represented CaFCP member FCET interests at STEPS Truck Choice Workshop at UC Davis ITS (May 22).</li></ul>  |
| Support activities outside of California, as directed by members | <ul style="list-style-type: none"><li>• Organizing ER outreach in the Northeast (Toyota and Air Liquide)</li><li>• Meetings with selected stakeholders in the Seattle, WA area.</li></ul> |

**3. Reach Target Audiences**

Communicate, educate, inform and promote H2 & FCEVs benefits and opportunities to key outside stakeholders and general public for increased and continued support. Become readily recognized as the face of the industry for trustworthy information and assist.




| Activity  | Description                                     | Picture   |
|---|---|---|
| <b>CEC Board Meeting, April 12, Sacramento</b>          | <b>CaFCP staff and Honda, Toyota Test Drive</b> |   |
| <b>CARB – Earth Day 2017 April 19, Sacramento</b>       | <b>CaFCP Exhibit display</b>                    |  |
| <b>Sacramento Alt Car Expo, April 19, State Capitol</b> | <b>CaFCP Exhibit display</b>                    | No photo available  |

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|---|--|--|
| <b>First Element, GOBiz, CEC and CaFCP Bay Area Rally, April 20, San Francisco Bay Area</b> | <b>Road Rally with Toyota, Honda and CaFCP members</b> |    |
| <b>Santa Barbara Earth Day Event, April 21-23, Santa Barbara</b>                            | <b>Exhibit display</b>                                 |   |
| <b>Carthay Science Fair &amp; Environmental Expo, April 28, Los Angeles</b>                 | <b>CaFCP &amp; Hyundai display</b>                     |  |



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|---|---|--|
| <b>2017 APTA Paratransit and Expo, May 8, Reno NV</b>   | <b>Exhibit display with Ballard, CTE and CHBC</b> |    |
| <b>CAPCOA Conference, May 22, Squaw Valley</b>  | <b>Static and outreach display with Honda</b>     | No photo available   |
| <b>Green Connections Forum, May 24, La Jolla</b>  | <b>Keith - speaker</b>                            | No photo available   |
| <b>Diesel Student Awards Lunch and Employer Meet &amp; Greet, LA Trade-Tech College, June 1</b> | <b>Keith</b>                                      |  |



|  |   |  |
|--|---|--|
| <p><b>Presidio Trust Event, June 19, San Francisco</b></p>                                     | <p><b>CaFCP staff, Air Liquide, Honda – presentation and test drives</b></p>              |    |
| <p><b>Advanced Automotive Battery Conference, June 20-21, San Francisco</b></p>                | <p><b>Bill Elrick – Presenter, Honda, Toyota and Hyundai test drive</b></p>               |   |
| <p><b>Sustain OC Driving Mobility 4 Advanced Transportation Symposium, June 27, Irvine</b></p> | <p><b>H2 FCEV panel with Honda, Toyota &amp; First Element Fuel. (~100 attendees)</b></p> |  |

**Legislative, NGO & Policy**

Conduct one-on-one meetings with California state and federal elected officials and their staff in district and capitol offices. Conduct one-on-one meetings with influential NGOs at the local, state and national levels. Emphasize California's commitment to hydrogen and provide information about progress and plans. Provide education and information to policy makers.

2017 Q2 Statistics – Meetings and encounters

Elected officials: 8

Legislative staff: 11

NGOs: 3

| <b>Event name</b> | <b>Meeting Date</b> | <b>Meeting with</b><br><i>(Names and titles of all persons)</i>   |
|-------------------|---------------------|---|
| District meeting  | 4/3/2017            | Stephen Hill, district director for Assembly Member Todd Gloria (D-San Diego)   |
| District meeting  | 4/3/2017            | Michael Hadland, chief of staff and Tom Garcia, field representative to Assembly Member Rocky Chavez (R-Oceanside)                        |
| District meeting  | 4/3/2017            | Lee Hernandez, senior field representative and another staff member to Assembly Member Shirley Weber (D-San Diego)                        |
| District meeting  | 4/3/2017            | Sunana Batra, district director for Congressman Darrell Issa (R-Vista)  |
| District meeting  | 4/3/2017            | Raquel Maden, field representative to State Senator Ben Hueso (D-Chula Vista)   |
| District meeting  | 4/3/2017            | David Santillan, office of Assembly Member Sabrina Cervantes (D-Corona) and Carmen Cuevas, office of Assembly Member Medina (D-Riverside) |
| District meeting  | 4/11/2017           | Lunch with Vickere Murphy, field representative to State Senator Anthony Portantino (D-Glendale)  |
| Interaction       |                     | Had a conversation with Sacramento Mayor Darrell Steinberg at the airport.  |

|                              |           |   |
|------------------------------|-----------|---|
| Bay Area Tour of H2 stations | 4/20/2017 | State Senator Henry Stern (D-Woodland Hills), Assembly Member Bill Quirk (D-Hayward), Hayward Mayor Barbara Halliday, Hayward Council Member Barbara Lamnin, Campbell Mayor Susan Landry, San Leandro Council Member Deborah Cox (and aide to Asm. Quirk) |
| District meeting             | 6/2/2017  | Congressman Darrell Issa and district director Sunanana Batra   |

## Website and Social Media

We provide outreach and education through events, materials, video, web and social media that increase awareness in the general public, build support in early market communities and support other projects' specific goals. Our online strategy is to deliver real-world information about FCEVs and hydrogen stations to early adopter audiences. We use email, blogs, Twitter, YouTube and Facebook to share messages about FCEV commercialization and technology with different audience types.

| www.cafcp.org  | Apr-17   | May-17  | Jun-17  |
|--|--|---|---|
| <b>Number of visits</b>  | 19,982   | 19,733  | 14,453  |
| <b>Average time users spent on site</b>                          | 1:51   | 1:54  | 2:01  |
| <b>Most visited pages</b>  | Station map<br>Home page<br>Stations<br>Cars<br>Buses & Trucks                 | Station map<br>Home page<br>Stations<br>Cars<br>Buses & Trucks                            | Station map<br>Home page<br>Stations<br>Buses & Trucks<br>Cars  |
| <b>Most searched keywords on Google to land on CaFCP website</b> | truck<br>hydrogen fueling stations<br>trucks<br>hydrogene gas station<br>cafcp | truck<br>cafcp<br>hydrogen fueling stations<br>trucks<br>california fuel cell partnership | truck<br>california fuel cell partnership<br>hydrogen fueling stations<br>soss cafcp<br>sherman oaks hydrogen |
| <b>Most referred websites</b>                                    | google.com<br>automobiles.honda.com<br>bing<br>yahoo<br>afdc.energy.gov        | google.com<br>bing.com<br>yahoo<br>automobiles.honda.com<br>afdc.energy.gov               | google.com<br>bing.com<br>automobiles.honda.com<br>yahoo<br>facebook.com                                      |

| <b>FACEBOOK</b>                  | <b>Apr-17</b> | <b>May-17</b> | <b>Jun-17</b> |
|----------------------------------|---------------|---------------|---------------|
| <b>New likes</b>                 | 22            | 21            | 21            |
| <b>Lifetime likes</b>            | 2,900         | 2,912         | 2,925         |
| <b>Lifetime Post Total Reach</b> | 10,711        | 19,246        | 12,634        |
| <b>Lifetime Engaged Users</b>    | 285           | 670           | 465           |

| <b>TWITTER</b>              | <b>Apr-17</b> | <b>May-17</b> | <b>Jun-17</b> |
|-----------------------------|---------------|---------------|---------------|
| <b>Tweets for the month</b> | 48            | 74            | 60            |
| <b>Tweet Impressions</b>    | 26,100        | 45,400        | 49,400        |
| <b>Profile visits</b>       | 1,150         | 960           | 1,344         |
| <b>Mentions</b>             | 352           | 197           | 216           |
| <b>New Followers</b>        | 82            | 3,616         | 75            |
| <b>Total Followers</b>      | 3,299         | 3,616         | 3,696         |

| <b>E-blast – Bay Area Hydrogen Tour, April 20</b> |                      |
|---|----------------------|
| Sent April 12, 2017                               |                      |
| Contacts:   | 565                  |
| Opened:   | 36.5% - 206 contacts |
| Bounced:  | 3.4% - 19 contacts   |
| No Info:  | 60.2% - 340 contacts |
| Clicked:  | 1% - 4 contacts      |
| Unsubscribed:                                     | 2                    |

| <b>E-blast – Air Liquide Joins CaFCP Executive Board</b> |                        |
|--|------------------------|
| Sent May 2, 2017   |                        |
| Contacts:  | 11,134                 |
| Opened:  | 12.5% - 1,390 contacts |
| Bounced:   | 3.2% - 351 contacts    |
| No Info:   | 84.4% - 9,393 contacts |
| Clicked:   | 1% - 102 contacts      |
| Unsubscribed:  | 16                     |

| <b>E-blast – 2017 Annual Merit Review and Evaluation, June 5</b> |                        |
|--|------------------------|
| Sent May 24, 2017  |                        |
| Contacts:  | 11,055 – 11 Tweets     |
| Opened:  | 16.2% - 1,791 contacts |
| Bounced:   | 3.0% - 335 contacts    |
| No Info:   | 80.8% - 8,929 contacts |

| <b>E-blast – 2017 Annual Merit Review and Evaluation, June 5</b> |                        |
|--|------------------------|
| Sent May 24, 2017  |                        |
| Contacts:  | 11,055 – 11 Tweets     |
| Opened:  | 16.2% - 1,791 contacts |
| Bounced:   | 3.0% - 335 contacts    |
| No Info:   | 80.8% - 8,929 contacts |
| Clicked:   | 1% - 90 contacts       |
| Unsubscribed:  | 27                     |

| <b>E-blast – Members Only: CaFCP 101, June 13</b> |                      |
|---|----------------------|
| Sent June 7, 2017                                 |                      |
| Contacts:   | 194                  |
| Opened:   | 39.7% - 77 contacts  |
| Bounced:  | 1.0% - 2 contacts    |
| No Info:  | 59.3% - 115 contacts |
| Clicked:  | 3% - 5 contacts      |
| Unsubscribed:                                     | 1                    |

| <b>E-blast – Fuel Cell Electric Vehicle Test Drive and Briefing, June 19</b> |                     |
|--|---------------------|
| Sent June 15, 2017   |                     |
| Contacts:  | 57                  |
| Opened:  | 29.8% - 17 contacts |
| Bounced:   | 5.3% - 3 contacts   |
| No Info:   | 64.9% - 37 contacts |
| Clicked:   | 4% - 2 contacts     |
| Unsubscribed:  | 0                   |

| <b>E-blast – Webinar for Code Officials on Hydrogen &amp; Fuel Cells, July 19</b> |                      |
|---|----------------------|
| Sent June 19, 2017  |                      |
| Contacts:   | 294                  |
| Opened:   | 11.2% - 33 contacts  |
| Bounced:  | 12.6% - 37 contacts  |
| No Info:  | 76.2% - 224 contacts |
| Clicked:  | 2% - 6 contacts      |
| Unsubscribed:   | 0                    |

| <b>E-blast – Tours of Fuel Cell Electric Bus Manufacturing, August 1</b> |                      |
|--|----------------------|
| Sent June 22, 2017   |                      |
| Contacts:  | 428                  |
| Opened:  | 36.7% - 157 contacts |
| Bounced:   | 3.5% - 15 contacts   |
| No Info:   | 59.8% - 256 contacts |
| Clicked:   | 2% - 10 contacts     |
| Unsubscribed:  | 1                    |

| <b>E-blast – Lawndale Station Open</b> |                        |
|--|------------------------|
| Sent June 23, 2017                     |                        |
| Contacts:                              | 11,045                 |
| Opened:                                | 15.5% - 1,713 contacts |
| Bounced:                               | 3.0% - 329 contacts    |
| No Info:                               | 81.5% - 9,003 contacts |
| Clicked:                               | 2% - 188 contacts      |
| Unsubscribed:                          | 12                     |

## CaFCP Quarterly Update

### July –September 2017

#### Background

The California Fuel Cell Partnership is a unique collaborative of auto manufacturers, energy companies, fuel cell technology companies and government agencies, including SCAQMD.

In its fourth phase, 2013-2016, and continuing in 2017, CaFCP members, individually or in groups, will focus on meeting these goals to achieve market launch:

- Prepare for larger-scale manufacturing, which encompasses cost reduction, supply chain and production.
- Work on the customer channel, including identifying and training dealers and service technicians.
- Reduce costs of station equipment, increase supply of renewable hydrogen at lower cost, and develop new retail station approaches.
- Support cost reduction through incentives and targeted RD&D projects
- Continue research, development and demonstration of advanced concepts in renewable and other low-carbon hydrogen.
- Provide education and outreach to the public and community stakeholders on the role of FCVs and hydrogen in the evolution to electric drive.

CaFCP and members' activities fall within three main strategic directions:

1. Support hydrogen station and vehicle deployment to enable commercial market launch in 2015 timeframe
2. Show feasibility and a clear value proposition to consumers, businesses and communities
3. Focus existing resources, engage new groups and pursue innovative concepts to overcome early market challenges

To successfully implement the vision, CaFCP activities must focus on technical, communications and business operations/strategies that require convening, collaborating and communicating.

**2017 Program Plan**  
**Q3 accomplishments**

| <b>1. Develop Infrastructure</b>   |   |
|--|---|
| <i>Develop the necessary infrastructure and processes to support early commercial launch and expanded vehicle rollout.</i>   |   |
| Support the construction and commissioning of current California hydrogen stations by participating in codes, standards and regulation processes; facilitating station commissioning processes; and supporting station openings. | <ul style="list-style-type: none"> <li>• CaFCP staff sponsoring/chairing SAE J2600 fueling interface standard to be revised.</li> <li>• Coordinated industry stakeholder feedback on the 2017 ARB AB 8 report</li> <li>• Coordinated OEM and SDO discussions and development of updated consensus HRS technical requirements for the next CEC GFO</li> <li>• Conducted ER training/outreach for Port of LA/LB in support of Toyota Class 8 FC Drayage truck</li> <li>• Participated in the US TAG response on ISO documents (19882- Gaseous hydrogen — Thermally activated pressure relief devices for compressed hydrogen vehicle fuel containers, and ISO/DIS 19880-2, Gaseous hydrogen — Fueling stations — Part 2: Dispensers)</li> </ul> |
| Prepare for future funding through outreach and education with fueling retailers and hydrogen industry.  | <ul style="list-style-type: none"> <li>• Coordinated fuel retailer participation in the September Working Group meeting co-located at the Pacific Oil Conference in Los Angeles to discuss hydrogen fuel integration challenges</li> <li>• Worked with fuel retailers in Orange County to develop a sustainable hydrogen station business model</li> </ul>  |
| Work with stakeholders to identify potential future station locations.   | <ul style="list-style-type: none"> <li>• Coordinated OEM Group development of its 2017 list of 45 priority hydrogen station location recommendations</li> </ul>   |
| Develop Road Map 2.0 with strategies for a sustainable network in California.  | <ul style="list-style-type: none"> <li>•</li> </ul>   |
|  |   |
| <b>2. Share and Synchronize Experience</b>   |   |
| <i>Provide forums and opportunities for members to advance group collaboration and progress within CaFCP and among stakeholders.</i>   |   |
| Build and expand trust among members through open communication and forums.  | <ul style="list-style-type: none"> <li>• Organized and facilitated Sept 6-7 in-person Working Group meeting in conjunction with Pacific Oil Conference in LA and at Honda, Torrance.</li> <li>• Coordinated the August OEM-SDO-government meeting to review and discuss the OEM 2017 list of 45 priority hydrogen station location recommendations</li> </ul>   |



|   |  |
|---|--|
|   | <ul style="list-style-type: none"> <li>Facilitated on-going SDO and OEM Group meetings to address hydrogen commercialization and station development challenges</li> </ul>   |
| Communicate with stakeholders nationally and internationally to share learnings and amplify market launch efforts.  | <ul style="list-style-type: none"> <li>Presented the July CAFCP hydrogen station network update webinar to an international audience</li> </ul>  |
| <b>4. Expand Markets</b>  |  |
| <i>Restructure CaFCP to be more inclusive and capable of meeting the expanding commercial market needs and opportunities, broadening the member base, and being the voice of all stakeholder participants</i> |  |
| Establish new structure and expand membership.  | <ul style="list-style-type: none"> <li></li> </ul>   |
| Support deployment of fuel cell bus Centers of Excellence and the Bus Team.   | <ul style="list-style-type: none"> <li>Conducted tours of the ElDorado National factory in Riverside for elected officials, transit agencies, policy makers and NGOs.</li> <li>Organized and facilitated CaFCP Bus Team meeting at OCTA in Orange on July 14 to exchange lessons learned and discuss FCEB challenges, including missing information about FCEB H2 fueling infrastructure cost.</li> <li>CHBC Fuel Cell Bus Workshop, Sacramento Sept 27 - CaFCP staff provided input for agenda, participated and presented as a panelist in the session “Developing an Action Plan for FCEBs” about lessons learned.</li> </ul> |
| Support activities outside of California, as directed by members  | <ul style="list-style-type: none"> <li>Conducted ER training/outreach for Boston and New York Fire Departments in conjunction with Toyota.</li> </ul>  |



**3. Reach Target Audiences**

Communicate, educate, inform and promote H2 & FCEVs benefits and opportunities to key outside stakeholders and general public for increased and continued support. Become readily recognized as the face of the industry for trustworthy information and assist.

| Activity  | Description   | Picture   |
|---|---|---|
| <b>EES Inter Solar/SEMICON WEST, San Francisco, CA. July 11-13</b>                                  | <b>Exhibit display with Honda and Air Liquide</b><br><b>Attendees: 150</b><br><b>Keith, Juan</b><br><br><b>Presenter: Keith</b><br><b>Attendees: 20</b> |   |
| <b>Code Webinar for Cities and Authorities Having Jurisdiction, July 19</b>                         | <b>Registered: 50</b><br><b>Attended: 29,</b><br><b>Keith, Jennifer</b>   |  |
| <b>Allied Clean Fuels Plaza Networking Event with NEL and B&amp;B Consulting, Napa, CA. July 21</b> | <b>Display: Toyota Mirai and member support</b><br><b>Attendee: 75 guests</b><br><b>Juan</b>  | No photo available.   |
| <b>Leataata Floyd Elementary School, Sacramento, CA. July 25</b>                                    | <b>Display: Toyota Mirai</b><br><b>Students: 40</b><br><b>Juan</b>  | No photo available.   |

|  |  |  |
|--|--|--|
| <b>ReFire Chinese Delegation,<br/>CaFCP HQ, July 26</b>  | <b>Meeting: Bill<br/>Elrick<br/>Stakeholders:<br/>10<br/>Bill</b>  | No photo delegation.   |
| <b>ElDorado National factory<br/>tours of Fuel Cell Electric<br/>Buses under assembly,<br/>Riverside, CA, Aug. 1</b> | <b>Tour<br/>Stakeholders:<br/>30<br/>Nico and Keith</b>  |    |
| <b>Norwegian Ministry of the<br/>Environment/Vidar<br/>Helgesen, CaFCP HQ, Aug. 2</b>                                | <b>Presentation,<br/>and Linde<br/>Station tour<br/>Display:<br/>Toyota Mirai<br/>Stakeholders:<br/>11<br/>Bill and Juan</b> | No photo available   |
| <b>Green Energy Visitors,<br/>CaFCP HQ, Aug. 28</b>  | <b>Meeting 6<br/>attendees<br/>Bill</b>  | No photo available.  |
| <b>Pacific Oil Conference, Los<br/>Angeles, Sept. 5-7</b>  | <b>Exhibit: Air<br/>Liquide<br/>Attendees: 30<br/>Juan</b>   |  |

|  |  |   |
|--|--|---|
| <b>National EV Week hosted by Sierra Club, Richmond, CA, Sept. 9</b> | <b>Test drive:<br/>Honda Clarity<br/>and Toyota<br/>Mirai<br/>Attendees: 25<br/>Juan</b>   |   |
| <b>Hydrogen + Fuel Cells NORTH AMERICA, Las Vegas, Sept. 10-12</b>   | <b>Test Drive:<br/>Honda Clarity,<br/>Hyundai<br/>Tucson and<br/>Toyota Mirai<br/>Exhibit<br/>Speaker/Prese<br/>nter: Bill<br/>Elrick, Air<br/>Liquide,<br/>Toyota,<br/>Hydrogenics<br/>Test Drives: 98<br/>Attendees:<br/>125<br/>Bill, Keith, Ben<br/>and Juan</b> | <br> |



**League of California Cities  
Conference and Expo,  
Sacramento, Sept. 13-14**



**Exhibitor:  
Toyota Mirai  
and Air  
Liquide  
Attendees: 75  
Keith, Juan**



**Hydrogen and Fuel Cell  
Investment Forum, New  
York, NY. Sept. 18**

**Presenter: Bill  
Elrick  
Attendees:  
over 150**



|   |  |  |
|---|--|--|
| <b>VERGE Green, Santa Clara,<br/>Sept. 19-21</b>  | <b>Test Drive:<br/>Toyota Mirai<br/>Test drives: 50<br/>Exhibitor:<br/>Toyota<br/>Attendees:<br/>100<br/>Keith, Juan</b> |  A photograph showing two men in a trade show setting. One man, wearing a dark suit, is seen from the back, facing another man in a brown polo shirt and dark pants. They are standing on a patterned carpet. In the background, there is a booth with a sign that says "VERGE". |
| <b>California Hydrogen and<br/>Fuel Cell Summit,<br/>Sacramento, CA. Sept. 25-<br/>27</b> | <b>Presenter:<br/>Nico<br/>Attendees: 50</b>   | No photo available.  |
| <b>Tri-Valley Cities, San<br/>Ramon, Sept. 26</b>   | <b>Presenter:<br/>Keith<br/>Attendees: 30</b>  |  A photograph of a group of seven men in business attire standing behind a white Toyota Mirai. The car is parked on a paved area in front of a modern building with large glass windows. The men are smiling and looking towards the camera.                                    |
| <b>Cyclocross, West<br/>Sacramento, Sept. 30</b>  | <b>Sponsor,<br/>Toyota Mirai<br/>Attendance:<br/>over 1000<br/>Chris</b>   | No photo available.  |

**Legislative, NGO & Policy**

Conduct one-on-one meetings with California state and federal elected officials and their staff in district and capitol offices. Conduct one-on-one meetings with influential NGOs at the local, state and national levels. Emphasize California's commitment to hydrogen and provide information about progress and plans. Provide education and information to policy makers.

2017 Q3 Statistics – Meetings and encountersElected officials: **14**Legislative staff: **31**NGOs: **3**

| <b>Event name</b>              | <b>Meeting Date</b> | <b>Meeting with</b><br><i>(Names and titles of all persons)</i>   |
|--------------------------------|---------------------|---|
| Bus tours at ElDorado National | 8/1/2017            | Assembly Member Sabrina Cervantes and aide David Santillan; State Senator Tony Mendoza and aide Yahaira Ortiz; Assembly Member Jose Medina and aide Jorell Verella, Coalition for Clean Air |
| Community block party          | 8/5/2017            | Assembly Member Holden (D-Pasadena), Victor Munoz, legislative aide   |
| District meeting               | 8/8/2017            | State Senator Ben Allen (D-Redondo Beach), Field Representative Allison Towles  |
| District meeting               | 8/10/2017           | Victor Munoz, legislative aide (transportation) to Assembly Member Chris Holden (D-Pasadena)  |
| District meeting               | 8/11/2017           | State Senator John Moorlach (R-Costa Mesa), district director and another staff member.   |
| District Meeting               | 8/15/2017           | State Senator Pat Bates (D-Laguna Hills) and staff member   |
| District meeting               | 8/24/2017           | District office staff of Assembly Member Bocanegra (D-San Fernando)   |
| District Meeting               | 8/25/2017           | State Senator Anthony Portantino (D-Glendale) and Vickere Murphy, district representative   |
| District Meeting               | 9/22/2017           | Clayton Heard, field representative to Congressman Alan Lowenthal (D-Long Beach)  |
| District Meeting               | 9/25/2017           | Assembly Member Catherine Baker (R-San Ramon) and aide.   |

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|                                    |            |   |
|------------------------------------|------------|---|
| District Meeting                   | 9/25/2017  | Mallory DeLauro , office of Congressman Eric Swalwell (D-Castro Valley)   |
| District Meeting                   | 9/25/2017  | Assembly Member Rob Bonta (D-Oakland) and aide Graham Drake.  |
| District Meeting                   | 9/26/2017  | Tom Bartee, district director of State Senator Bill Dodd (D-Vallejo)  |
| District Meeting                   | 9/26/2017  | Senator Mike McGuire (D-San Rafael) and district representative Carole Mills  |
| District Meeting                   | 9/27/2017  | State Senator Scott Wiener (D-San Francisco) and district director Jeff Sparks  |
| District Meeting                   | 9/27/2017  | Mary Nicely, district director of Assembly Member Tony Thurmond (D-Oakland)   |
| District Meeting                   | 9/28/2017  | Domingo Candelas, deputy district director for State Senator Jim Bealle (D-Campbell)  |
| District Meeting                   | 9/28/2017  | Anurag Pal and Nancy Le, field representatives for Assembly Member Kansen Chu (D-Milpitas)  |
| District Meeting                   | 9/28/2017  | Christopher Moylan, district director for Congressman Ro Khanna (D-Santa Clara)   |
| District Meeting                   | 9/28/2017  | Stacie Shih, district director to Assembly Ash Kalra (D-  |
| District Meeting                   | 9/28/2017  | Kathy Tran, field representative and Allen Chiu, deputy district director to Assembly Member Evan Low (D-Cupertino)                                     |
| Community meeting                  | 10/8/2017  | Assembly Member Sebastien Ridley-Thomas (D-Los Angeles)   |
| Ribbon cutting – Torrance station  | 10/9/2017  | Assembly Member Al Muratsuchi (D-Torrance) and field representative Cody Bridges; State Senator Steven Bradford and district representative Nital Patel |
| Ribbon cutting – San Ramon station | 10/10/2017 | Assembly Member Catherine Baker, State Senator Steve Glazer, Supervisor Candace Andersen, Mayor   |

## Website and Social Media

We provide outreach and education through events, materials, video, web and social media that increase awareness in the general public, build support in early market communities and support other projects' specific goals. Our online strategy is to deliver real-world information about FCEVs and hydrogen stations to early adopter audiences. We use email, blogs, Twitter, YouTube and Facebook to share messages about FCEV commercialization and technology with different audience types.

| <b>www.cafcp.org</b>   | <b>Jul-17</b>  | <b>Aug-17</b>   | <b>Sep-17</b>   |
|--|--|---|---|
| <b>Number of visits</b>  | 14,166   | 12,487  | 11,309  |
| <b>Average time users spent on site</b>                          | 2:04   | 2:02  | 2:03  |
| <b>Most visited pages</b>  | Station map<br>Home page<br>Stations<br>Cars<br>Lawndale Station   | Station map<br>Home page<br>Stations<br>Cars<br>Blog: 30th Retail Hydrogen Station Opens                                  | Station map<br>Home page<br>Stations<br>Diamond Bar Station<br>Cars   |
| <b>Most searched keywords on Google to land on CaFCP website</b> | cafcp<br>hydrogen fueling stations<br>california fuel cell partnership<br>sherman oaks hydrogen<br>m.cafcp.org | m.cafcp.org<br>hydrogen fueling stations<br>cafcp.org<br>latest prices for h2 refueling stations<br>sherman oaks hydrogen | hydrogen fuel stations<br>m.cafcp.org<br>soss cafcp<br>latest prices for h2 refueling stations<br>hydrogen fueling stations |
| <b>Most referred websites</b>                                    | google<br>bing<br>automobiles.honda.com<br>m.cafcp.org<br>yahoo  | google<br>bing<br>t.co (Twitter)<br>yahoo<br>facebook.com   | google<br>bing<br>yahoo<br>t.co (Twitter)<br>automobiles.honda.com  |

| <b>FACEBOOK</b>                  | <b>Jul-17</b> | <b>Aug-17</b> | <b>Sep-17</b> |
|----------------------------------|---------------|---------------|---------------|
| <b>New likes</b>                 | 24            | 47            | 21            |
| <b>Lifetime likes</b>            | 2,940         | 2,977         | 2,987         |
| <b>Lifetime Post Total Reach</b> | 14,917        | 18,214        | 11,092        |
| <b>Lifetime Engaged Users</b>    | 883           | 1,142         | 716           |



| TWITTER                     | Jul-17 | Aug-17 | Sep-17 |
|-----------------------------|--------|--------|--------|
| <b>Tweets for the month</b> | 90     | 18     | 20     |
| <b>Tweet Impressions</b>    | 65,100 | 21,500 | 21,200 |
| <b>Profile visits</b>       | 1,391  | 1,627  | 1,446  |
| <b>Mentions</b>             | 276    | 207    | 160    |
| <b>New Followers</b>        | 83     | 76     | 92     |
| <b>Total Followers</b>      | 3,782  | 3,860  | 3,949  |

## E-blasts Sent

| Webinar for Code Officials on Hydrogen and Fuel Cells, July 19 |                       |
|--|-----------------------|
| Sent July 7, 2017  |                       |
| Contacts:  | 438                   |
| Opened:  | 12.8 % - 56 contacts  |
| Bounced:   | 4.6 % - 20 contacts   |
| No Info:   | 82.6 % - 362 contacts |
| Clicked:   | 2% - 8 contacts       |
| Unsubscribed:  | 0                     |

| Hydrogen Stations Webinar: Network Development Status in California, July 26 |                        |
|--|------------------------|
| Sent July 7, 2017  |                        |
| Contacts:  | 11,016                 |
| Opened:  | 12.7% - 1,397 contacts |
| Bounced:   | 2.7% - 298 contacts    |
| No Info:   | 84.6% - 9,321 contacts |
| Clicked:   | 2% - 173 contacts      |
| Unsubscribed:  | 13                     |

| Fuel cell bus costs to decline \$200,000 by 2020 |                      |
|--|----------------------|
| Sent July 24, 2017                               |                      |
| Contacts:  | 438                  |
| Opened:  | 31.3% - 140 contacts |
| Bounced:   | 0.7% - 3 contacts    |
| No Info:   | 68.1% - 305 contacts |
| Clicked:   | 2% - 9 contacts      |
| Unsubscribed:                                    | 2                    |

| Webinar Presentation for Code Officials on Hydrogen and Fuel Cells |                     |
|--|---------------------|
| Sent July 27, 2017   |                     |
| Contacts:  | 49                  |
| Opened:  | 55.1% - 27 contacts |
| Bounced:   | 0% - 0 contacts     |
| No Info:   | 44.9% - 22 contacts |
| Clicked:   | 12% - 6 contacts    |
| Unsubscribed:  | 0                   |

| San Ramon Station Open |                        |
|------------------------|------------------------|
| Sent July 27, 2017     |                        |
| Contacts:              | 10,999                 |
| Opened:                | 15.0% - 1,647 contacts |
| Bounced:               | 2.6% - 284 contacts    |
| No Info:               | 82.4% - 9,068 contacts |
| Clicked:               | 2% - 172 contacts      |
| Unsubscribed:          | 11                     |

| 2017 Priority Station Locations Letter |                        |
|--|------------------------|
| Sent August 2, 2017                    |                        |
| Contacts:                              | 10,973                 |
| Opened:                                | 13.8% - 1,514 contacts |
| Bounced:                               | 2.5% - 271 contacts    |
| No Info:                               | 83.7% - 9,188 contacts |
| Clicked:                               | 3% - 302 contacts      |
| Unsubscribed:                          | 21                     |

| July 2017 Hydrogen Station Update Webinar - Q&A |                      |
|---|----------------------|
| Sent August 2, 2017                             |                      |
| Contacts:                                       | 226                  |
| Opened:   | 53.5% - 121 contacts |
| Bounced:  | 1.8% - 4 contacts    |
| No Info:  | 44.7% - 101 contacts |
| Clicked:  | 24% - 54 contacts    |
| Unsubscribed:                                   | 0                    |

| Webinar for 2017 Annual Evaluation of Fuel Cell Electric Vehicles Deployment and Hydrogen Fuel Station Network Development (AB8) |                        |
|--|------------------------|
| Sent August 18, 2017   |                        |
| Contacts:  | 10,946                 |
| Opened:  | 12.5% - 1,373 contacts |
| Bounced:   | 2.4% - 266 contacts    |
| No Info:   | 85.0% - 9,307 contacts |
| Clicked:   | 2% - 257 contacts      |
| Unsubscribed:  | 6                      |

| Torrance Station Open |                        |
|-----------------------|------------------------|
| Sent August 18, 2017  |                        |
| Contacts:             | 10,931                 |
| Opened:               | 14.1% - 1,540 contacts |
| Bounced:              | 2.4% - 262 contacts    |
| No Info:              | 83.5% - 9,129 contacts |
| Clicked:              | 2% - 169 contacts      |
| Unsubscribed:         | 9                      |

| August 2017 AB8 Report Webinar - Q&A |                      |
|--------------------------------------|----------------------|
| Sent September 6, 2017               |                      |
| Contacts:                            | 226                  |
| Opened:                              | 52.7% - 119 contacts |
| Bounced:                             | 1.8% - 4 contacts    |
| No Info:                             | 45.6% - 103 contacts |
| Clicked:                             | 18% - 41 contacts    |
| Unsubscribed:                        | 0                    |

| 31st Retail Hydrogen Station Opens in Fremont |                        |
|---|------------------------|
| Sent September 8, 2017                        |                        |
| Contacts:                                     | 10,913                 |
| Opened:                                       | 11.7% - 1,279 contacts |
| Bounced:                                      | 2.4% - 264 contacts    |
| No Info:                                      | 85.9% - 9,370 contacts |
| Clicked:                                      | 1% - 130 contacts      |
| Unsubscribed:                                 | 14                     |

| San Ramon Hydrogen Station Ribbon Cutting Invite, October 10 |                      |
|--|----------------------|
| Sent September 22, 2017                                      |                      |
| Contacts:  | 434                  |
| Opened:  | 32.0% - 139 contacts |
| Bounced:   | 0.9% - 4 contacts    |
| No Info:   | 67.1% - 291 contacts |
| Clicked:   | 5% - 20 contacts     |
| Unsubscribed:  | 1                    |