

BOARD MEETING DATE: February 1, 2019

AGENDA NO. 5

PROPOSAL: Renew SCAQMD's Membership in CaFCP for Calendar Year 2019 and Receive and File California Fuel Cell Partnership Executive Board Meeting Agenda and Quarterly Updates

SYNOPSIS: The SCAQMD has been a member of the California Fuel Cell Partnership (CaFCP) since 2000. These actions are to renew SCAQMD's membership in the CaFCP in an amount not to exceed \$70,000 for Calendar Year 2019 and cofund 50 percent of the CaFCP Regional Coordinator position located at SCAQMD in an amount not to exceed \$50,000 from the Clean Fuels Program Fund (31). This action is to also receive and file the CaFCP Executive Board Meeting Agenda for October 17, 2018, and Quarterly Updates for the third and fourth quarters of 2018.

COMMITTEE: Technology, January 18, 2019; Recommended for Approval

RECOMMENDED ACTIONS:

1. Authorize the Chairman to execute one or more contracts in an amount not to exceed \$120,000 from the Clean Fuels Program Fund (31) with Frontier Energy, Inc., acting on behalf of the CaFCP, to:
 - a. Continue SCAQMD's membership for Calendar Year 2019 for a total amount not to exceed \$70,000 for common expenses of the CaFCP; and
 - b. Continue support for a Regional Coordinator located at SCAQMD for a total amount not to exceed \$50,000.
2. Receive and file the attached Executive Board Agenda for October 17, 2018, and quarterly updates for the third and fourth quarters of 2018.

Wayne Natri
Executive Officer

Background

The California Fuel Cell Partnership (CaFCP) was initiated in 1999 as a means to accelerate response to CARB's Zero Emission Vehicle (ZEV) regulations. In January 2012, CARB approved Advanced Clean Car regulations, which harmonize California requirements with federal requirements from 2017–2025 and incorporate greenhouse gas (GHG) emissions reductions. The AQMP and the Technology Advancement Office's Clean Fuels Program 2018 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 a Medium & Heavy-Duty Fuel Cell Electric Vehicle Action Plan.

With the commitment of funding under AB 8 in 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. Germany, Japan and South Korea have also committed funding to build more hydrogen stations, and international momentum is building with establishment of the Hydrogen Council in 2017 and in 2018 Governor Brown's Executive Order (EO B-48-18) to work with the private sector to support 200 hydrogen retail fueling stations by 2025.

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) 2018 include:

- Continued retail production and deployment of fuel cell cars and buses in California. As of January 1, 2019, there have been 5,899 cumulative total fuel cell electric vehicle (FCEV) sales and leases by Hyundai, Toyota and Honda in

California¹, 39 retail hydrogen stations are open (21 in South Coast) with 25 more new/upgraded retail stations funded, and there are 25 fuel cell buses in operation.

- Completed and released a Vision for 2030, the California Fuel Cell Revolution².
- Increased the presence of the CaFCP in Southern California through coordination of ombudsman activities in early market communities with Regional Coordinator and Infrastructure Specialist.

The CaFCP has introduced varying levels of fees to increase interest and reduce the overall 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, Volkswagen and Nikola Motor Co.);
- Four industry stakeholders (Anglo American, Air Liquide, EIN and Shell); and
- Three government agencies (SCAQMD, CARB and CEC); and
- The Governor's Office of Economic Development (GO-Biz).

Note that industry stakeholders now include a platinum supplier and a heavy-duty truck developer. There are currently an additional 33 Full and Associate Members, with commensurate benefits and voting rights.

The CaFCP retains Frontier Energy, 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.

Proposal

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, while celebrating its 20th anniversary in 2019. The fee of \$70,000 per Executive Member supports the activities planned for 2019, with additional membership levels designed to encourage participation with commensurate benefits. The non-paying, advisory role is proposed to continue engagement with staff in federal agencies. The proposed budget for 2019 is reduced to \$1,075,500, with plans to continue encouraging new membership and growth. The 2018 Vice-Chair, O. Hoefelmann (Air Liquide), serves as 2019 Chair, with Mary Nichols (CARB), 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.

¹Number of cumulative total FCEV sales data from HybridCars.com and Carsalesdatabase.com

² <https://cafcp.org/sites/default/files/CAFCCR.pdf>

The proposed CaFCP activities for 2019 are to:

- Develop the necessary infrastructure and processes to support early commercial launch and expanded vehicle rollout focused in California, developing the tools necessary to accomplish the 2030 vision.
- 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.
- Continue efforts to be more inclusive and capable of meeting the expanding commercial market needs and opportunities, broaden the member base, and collaborate with stakeholder participants to add value and avoid duplication of effort.

These actions are to execute a contract with Frontier Energy to renew SCAQMD's membership in the CaFCP for CY 2019 and continue to cofund the CaFCP Regional Coordinator position based at SCAQMD and reporting to the CaFCP Executive Director. There is no need in 2019 for further funding from SCAQMD for support of medium- and heavy-duty fuel cell truck and bus fueling codes and standards coordination. This action is also to receive and file the CaFCP Executive Board Meeting Agenda for October 2018 and Quarterly Updates for the third (April-June) and fourth (July-September) quarters of 2018.

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).

Benefits to SCAQMD

Membership in the CaFCP is consistent with the *Technology Advancement Office Clean Fuels Program 2018 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 emissions vehicles and strives to educate public and private organizations regarding the benefits and characteristics of these vehicles.

Resource Impacts

SCAQMD's support of the CaFCP for CY 2019, provided through a contract(s) with Frontier Energy, Inc., will not exceed \$120,000 from the Clean Fuels Program Fund (31), comprised of up to \$70,000 for membership which supports common project costs and covers administrative, technical and program management costs, and up to \$50,000 for half the cost of the Regional Coordinator position based at SCAQMD.

Sufficient funds are available from the Clean Fuels Program 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

1. California Fuel Cell Partnership October 17, 2018, Executive Board Meeting Agenda
2. California Fuel Cell Partnership Quarterly Updates (April-June and July-September 2018)

October 17 CaFCP Public Forum Agenda

California Fuel Cell Revolution – Activating the California Market

California Lottery Headquarters
700 North 10th Street, Sacramento, CA 95811

10 minutes

9:00am–9:10am

Dr. Mohrdieck, CaFCP Chair

1. Welcome and opening remarks

Welcome comments and recognition of new board members

50 minutes

9:10am–10:00am

Daimler, M Forrest
CaFCP, B Elrick

2. CaFCP’s 2030 Vision and Strategies

In July, CaFCP released [The California Fuel Cell Revolution](#), the vision and strategies to transition California’s early-market launch success into a self-sustaining market. Executive Board members will identify consensus priorities and initiate CaFCP member-led teams to create a three-year plan for CaFCP to achieve the first milestones in the 2030 vision of 1,000 stations and 1 million vehicles.

30 minutes

10:00am–10:30am

Break

90 minutes

10:30am–12:00pm

3. Activating the Market

The right mix of a supportive policy environment and private investment can lead to scale, cost reductions, and a self-sustaining market. Speakers will highlight actions to build market confidence and expand private investments for large-scale deployment, and the Board will determine priorities and milestones for the CaFCP planning team going forward.

60 minutes

12:00pm–1:00pm

Lunch

60 minutes

1:00pm–2:00pm

4. Large-scale Hydrogen Production

The Revolution outlines the need to have hydrogen infrastructure lead vehicle deployment, including dedicated hydrogen production for transportation use. Market-based mechanisms that reward renewable hydrogen production and enable grid and utility asset integration can hasten scale and increase value to transportation and energy markets. As speakers identify opportunities and challenges the Board will provide guidance on CaFCP priorities and action.

60 minutes

2:00pm–3:00pm

5. Hydrogen Network Buildout

The timing, placement and capabilities of hydrogen stations for light-, medium-, and heavy-duty vehicles is essential to build and maintain consumer demand. Developers and funders need to create a compelling value proposition to buyers while building out the network as efficiently and effectively as possible. Speakers will talk about lessons learned from the current network and what more is needed to create a compelling value proposition while achieving the milestones and goals found in the Revolution document.

30 minutes

3:00pm–3:30pm

Break**45 minutes**

3:30pm–4:15pm

CaFCP Executive Board members

6. Three-Year CaFCP Program Plan

Since its inception in 2009, CaFCP has worked on an annual program plan and budget. The Steering Team proposes moving to a three-year plan to better accomplish the 2030 vision. The Board will discuss and decide the merits of a three-year program plan and budget to achieve the first milestones of the 2030 vision.

30 minutes

4:15pm–4:45pm

B Elrick, Executive Director

7. CaFCP Executive Board Business Meeting

- July 19 meeting decisions and assignments
- New member proposals
- 2019 CaFCP meeting dates (April is CaFCP's 20th anniversary)
- 2019 CaFCP vice chair
- 2019 Program Plan and Budget
- Public comment period

15 minutes

4:45pm–5:00pm

Dr. Mohrdieck, CaFCP Chair

8. Closing remarks**ANTITRUST GUIDELINES**

It is the express intent of the CaFCP and its Members that none of the CaFCP's activities violate or be in conflict with any federal, state or local antitrust law, rule or policy (collectively, the "antitrust laws"). Each Member will conduct its affairs in conformity with this intent. Each Member is aware that there are significant civil and criminal penalties for violating the antitrust laws. To the extent possible, the Members of the CaFCP will act in a manner substantially in compliance with the policy entitled "Antitrust Guidelines for Collaboration Among Competitors" issued by the Federal Trade Commission and the Department of Justice in April 2000 ("Antitrust Guidelines"). The Antitrust Guidelines are available for reference on the CaFCP's Member resources website. The Antitrust Guidelines will be referenced in advance of the CaFCP meetings.

CAFCP MONTHLY REPORT APR 2018



EVENTS/ACTIVITIES | Staff Lead: J Contreras

UPCOMING

May 9	CEC ARFVTP Business Meeting ride and drive
May 9	Alt Car Expo
May 14	CEC workshop re charging and hydrogen fueling infrastructure
May 17	CARB 50th Anniversary Technology Symposium and Showcase
June 20	CaFCP Working Group, Sacramento
TBD	Mountain View hydrogen station ribbon cutting

RECENT

Apr 10–11	CaFCP Executive Board/Steering Team meeting, SoCal – SCAQMD
Apr 19-21	Shell's Make the Future California, Sonoma Raceway
Apr 14	FCEV driver educational event at Caltech, Pasadena, CA
April 23	U.S. Energy Policy A Regional Project for Europe Delegation Visitors
April	Shenzhen Chinese Delegation Visitors and MOU
Apr 28	Woodside/Portola Valley Earth Day Event
April 28	Thousand Oaks Earth Day
Apr 30-May 4	ACT Expo, Long Beach, CA

SECTOR GROUPS

AUTOMOTIVE GROUP | Member Lead: M McClory | Staff Lead: B Xiong

- Ben Xiong is the new CaFCP staff group lead.
- The group met to discuss CaFCP's proposal to integrate capacity into the SOSS status logic. The group was in favor of the general approach but wanted more discussion on the criteria.

GOVERNMENT GROUP | Member Lead: G Vacin | Staff Lead: B Xiong

- GO-Biz led ongoing Station Confirmation Group calls to coordinate efforts to bring the next group of funded hydrogen stations to Open-Retail. OEMs completed confirmation testing and Ontario CNG Station's Ontario station came online as the 34th Open-Retail station in the network. Group

members continued discussions on a potential pathway to bring the Newport Beach and Cal State LA stations onto SOSS under a proposed “Open Limited Performance Retail Station” category.

- GO-Biz led monthly Hydrogen Coordination meeting with CARB and CEC to discuss current challenges and ensure ongoing communication and alignment between the agencies.
- GO-Biz and CARB attended a meeting with the City of Rancho Palos Verdes Planning Department and Air Products to discuss the proposed hydrogen station permit application questions and identity an outreach plan to help build community awareness and support.

STATION DEVELOPER/OPERATOR GROUP | Member Lead: A Harris | Staff Lead: B Xiong

- Ben Xiong is the new CaFCP staff lead for this group.

MHD GROUP (FCET & FCEB) | Member Lead: N Berry | Staff Lead: K Malone

- CARB hosted an April 4 Advanced Clean Trucks Sub Group meeting. The following includes a few of many observations.
 - Established truck OEMs offered input that a) timelines are unclear; b) codes and standards are a concern, including considerations of bringing vehicle technology from elsewhere in the world to the U.S. market; c) California does not make a market, and d) a sustainable business case is most important, with support for vehicle operators/customers
 - All established truck OEMs are cautiously optimistic about fuel cell technology, but refer to high cost and significant need for R&D to develop technology for trucks

PROJECT TEAMS

SAFETY CODES & STANDARDS | Member Lead: A Harris | Staff Lead: J Hamilton

- **CSA HGV 4.3:** meetings to commence for the completion of a document to harmonize with the 2016 SAE J2601.
- **NFPA 2 and 55:** Public comments for both NFPA 2 and NFPA 55 closed May 9. Two separate second draft meetings are to be held, one for NFPA 55 and the other for NFPA 2. The NFPA 55 meeting is tentatively scheduled for July 24 and 25, and the NFPA 2 meeting is scheduled for August 13-17. (<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=2&tab=nextedition>)
- **IFC:** 2018 version is currently in effect and in the process of being adopted by the CA Office of the State Fire Marshal; hearings for 2021 version were held in April.



N999_TC_197_Liaison_Report_2018-04-2

- **ISO/TC 197:** See attached Liaison Report from CGA.

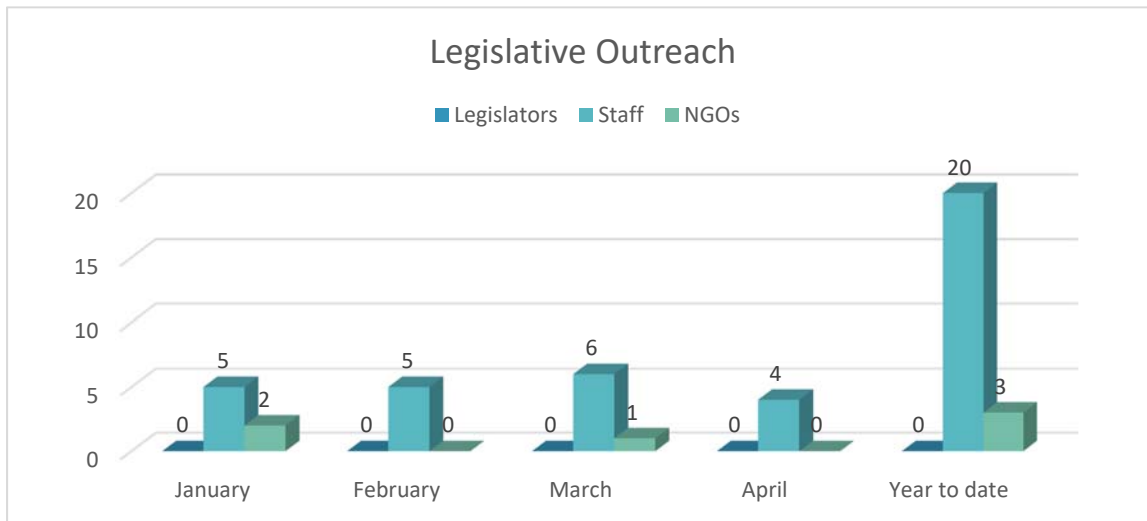
- **WG 24: ISO DIS 19880-1 Gaseous hydrogen — Fueling stations — Part 1: General requirements** – March 28 meeting to determine the U.S. position and comments resulted in “Approve with Comment”
- **In person meeting: July 10th-12th, 2018 at Shell Deutschland Oil GmbH Hamburg, Germany** to address comments from the recent ballot.
- **ASTM D03.14 Subcommittee on Hydrogen and Fuel Cells:** Inter Laboratory Studies for two ASTM methods: FTIR method, (ILS #851 for ASTM D7653-2010) and Continuous Wave Cavity Ring- Down method (ILS #1121 for ASTM D7941) needs Air Gas to prepare the samples and send out to labs.
 - Preparing for the in person meeting June 26th in Pheonix, AZ.
- **SAE J2600 Compressed Hydrogen Surface Vehicle Fueling Connection Devices:** Document open for revision, N Bouwkamp sponsor. Accepting technical proposals for revision of document
- **SAE J2601 Fueling Protocols for Light Duty and Medium Duty Gaseous Hydrogen Surface Vehicles:** under revision; June 5-6 in-person meeting in Torrance.
- **SAE J2601-4 Ambient Temperature Fixed Orifice Fueling:** document under development; all comments due October 2018.
- **SAE J2579 Standard for Fuel Systems in Fuel Cell and Other Hydrogen Vehicles:** goal is to publish the 2018 version prior to the next GTR 13 meeting in June.

ROADMAP 2.0 | Member Lead: M Forrest | Staff Lead: C White/B Elrick

- Roadmap is undergoing final edits with steering team before final board presentation for approval.

GOVERNMENT AFFAIRS | Member Lead: S Baker | Staff Lead: K Malone

- Meetings with district offices of Assembly Member Chris Holden (D-Pasadena) State Senator Connie Leyva (D-Chino). Met with policy aide to Long Beach Council Member Dee Andrews to talk about FCEVs, the Long Beach port, etc.
- CaFCP frequently receives emails via our info@ address inquiring about station locations throughout California. All are encouraged to reach out to their state legislators.



OUTREACH/EDUCATION | Member Lead: L Renz | Staff Lead: K Malone/ Juan Contreras

- Mountain View ribbon cutting postponed.
- Discussions will be necessary with station developers regarding possible celebration of Ontario and the best way to celebrate upgrades of Burbank, Newport Beach and, eventually, Emeryville.

HYPPO REPORT | Member Lead: A Harris | Staff Lead: B Elrick / B Xiong

- Bill Elrick and Ben Xiong are new co-leads of this group.

SOSS | Member Lead: J Birdsall | Staff Lead: B Xiong

- SOSS home page updated to show open hours for stations with limited hours of operation.
- SOSS home page updated to show a hollow, gray box when stations with limited hours are closed for operation.
- Ontario added to SOSS

H2 MARKET ACTIVATION | Member Lead: W Leighty | Staff Lead: Bill Elrick

- ARB board accepted the hydrogen proposal at April 27th LCFS meeting. Presentations were well received. ARB staff are now tasked with preparing details and prepping for final confirmation/addition during the fall ARB board meeting.
- Priority activities and areas of discussion to possibly pursue include:
 - *Identifying cost per kw for electricity* (electrolysis and compressors)
 - *Consumer mechanisms, e.g. fuel rebate*
 - *Station performance* (to confirm station capabilities)

CAFCP MONTHLY REPORT MAY 2018



EVENTS/ACTIVITIES | Staff Lead: J Contreras

UPCOMING

June 13	CARB Innovative Clean Transit
June 15	CARB AQIP/GGRF 2018/2019 funding
June 20	2018 Roadmap 11: Test Drive the Future Conference,
June 20	CaFCP Working Group
July 10-12	Semicon West
September 12-14	Global Climate Action Summit
September 24-27	Hydrogen + Fuel Cells NORTH AMERICA

RECENT

May 9	CEC ARFVTP Business Meeting ride and drive
May 9	Alt Car Expo
May 14	CEC workshop re charging and hydrogen fueling infrastructure
May 17	CARB 50th Anniversary Technology Symposium and Showcase
May 9	CEC ARFVTP Business Meeting ride and drive
May 9	Alt Car Expo
May 14	CEC workshop re charging and hydrogen fueling infrastructure
May 17	CARB 50th Anniversary Technology Symposium and Showcase

SECTOR GROUPS

AUTOMOTIVE GROUP | Member Lead: M McClory | Staff Lead: B Xiong

- The OEM group met to discuss developing an updated hydrogen priority list. OEMs have begun sending in their lists to be aggregated and then prioritized.
- The OEM group agreed to list Newport Beach on SOSS under the Open-retail category with a note to alert customers of its limited performance versus creating a new category.

GOVERNMENT GROUP | Member Lead: G Vacin | Staff Lead: B Xiong

- GO-Biz led ongoing Station Confirmation Group calls to coordinate efforts to bring the next group of funded hydrogen stations to Open-Retail.
- The Newport Beach station completed upgrade to become the 35th Open-Retail station. The group agreed to list Newport Beach on SOSS under the Open-retail category with a note to alert customers of its limited performance versus creating a new category.
- GO-Biz led monthly Hydrogen Coordination meeting with CARB and CEC to discuss current challenges and ensure ongoing communication and alignment between the agencies.

STATION DEVELOPER/OPERATOR GROUP | Member Lead: A Harris | Staff Lead: B Xiong

- The group met to discuss SOSS as it aligns to future station development activities. The group agreed on the following items:
 - Remove disclaimer notes about station operating hours
 - Not time to show price yet
 - Do not use capacity in LIMITED logic
 - Update Station Map default display to only show Open stations
 - Do not update how capacity is displayed on SOSS; leave as-is
- Additional SDOs (Stratos Fuel) were granted access to add notes to their stations.
- SOSS stickers have been sent out to SDOs requesting to add the stickers to their stations
- The group discussed polling customers on how they want to be notified when a station is closed. Do they want a SOSS alert (email/SMS) if it closes and when it reopens?

MHD GROUP (FCET & FCEB) | Member Lead: N Berry | Staff Lead: K Malone

- CARB hosted a June 1 Advanced Clean Trucks Sub Group meeting. The following includes a few of many observations.
 - Established truck OEMs offered input that current offering of meeting customer needs makes it challenging to identify truck vocations and platform that may be best to start with in meeting California customer demands for electrified power trains and be able to reduce cost.
 - Established truck OEMs continue to be cautiously optimistic about fuel cell technology. Infrastructure for both electric and H2 fueling are identified as challenging, particularly for larger fleets.
 - CARB is working on developing a truck TCO model for internal zero-emission truck regulatory decision making.
 - Hydrogen and fuel cells for truck input from industry needs more involvement, due to current focus of CARB staff.

PROJECT TEAMS

SAFETY CODES & STANDARDS | Member Lead: A Harris | Staff Lead: J Hamilton

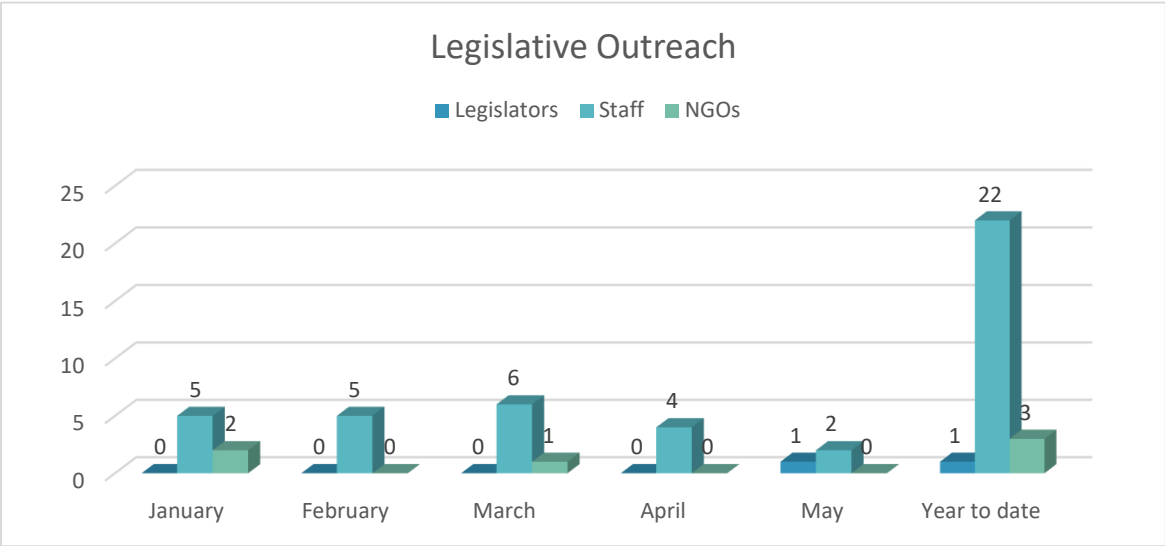
- **CSA HGV 4.3:** No updates.
- **NFPA 2 and 55:** No updates.
- **IFC:** No Updates.
- **ISO/TC 197:** No updates.
 - **WG 24:** No updates.
- **ASTM D03.14 Subcommittee on Hydrogen and Fuel Cells:** No updates.
- **SAE J2600 Compressed Hydrogen Surface Vehicle Fueling Connection Devices:**
 - Document open for revision, N Bouwkamp sponsor. Received significant number of revision proposals, with most proposals focusing on aligning document with ISO 17268. Increased engagement from H2 nozzle manufacturers.
- **SAE J2601 Fueling Protocols for Light Duty and Medium Duty Gaseous Hydrogen Surface Vehicles:** No updates.
- **SAE J2601-4 Ambient Temperature Fixed Orifice Fueling:** No updates.
- **SAE J2579 Standard for Fuel Systems in Fuel Cell and Other Hydrogen Vehicles:** No updates.

ROADMAP 2.0 | Member Lead: M Forrest | Staff Lead: C White/B Elrick

- Draft presented to Board and Steering Team, with acceptance of general direction and content. Additional feedback taken and to be incorporated before final draft 'locked down' to enable document design finalization. Anticipated release July.

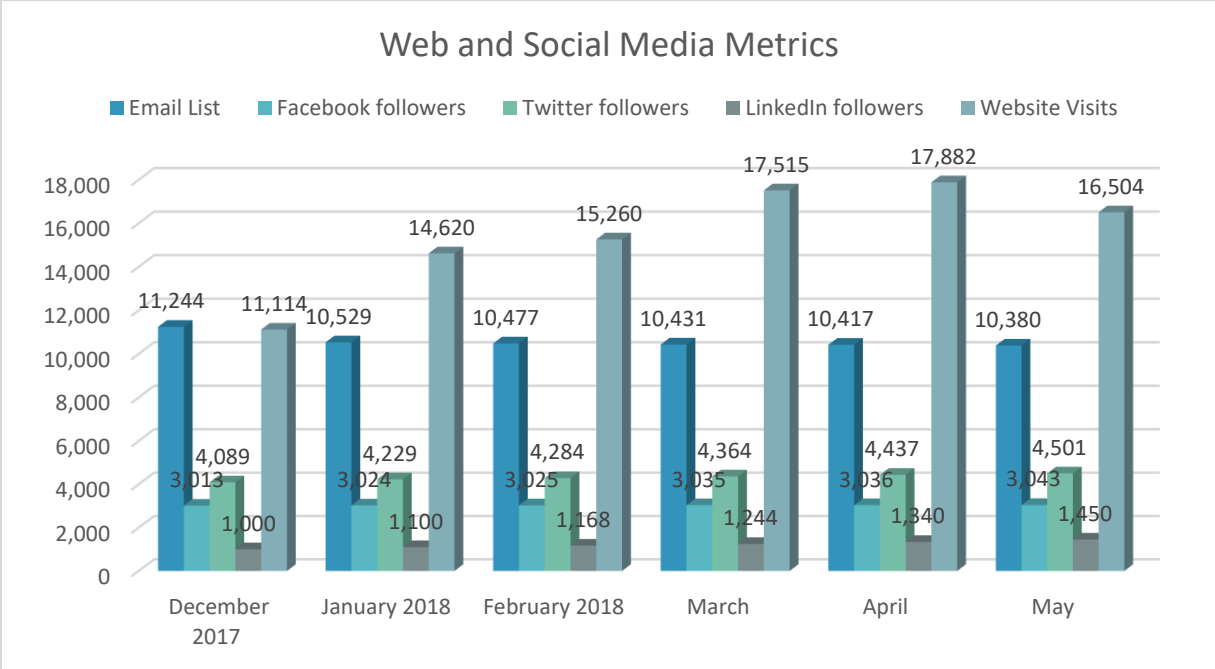
GOVERNMENT AFFAIRS | Member Lead: S Baker | Staff Lead: K Malone

- Assembly Speaker Rendon requested a briefing on FCEVs and H2 from Keith. A call was scheduled but did not take place. A sit-down briefing will eventually take place in the district office.
- Briefed staff to Long Beach city council member.
- Developing new "2 pager" overview of 2030 Vision and near-term needs, used as talking points in legislative outreach supporting Gov Brown's EO and 2018 budget request.



OUTREACH/EDUCATION | Member Lead: L Renz | Staff Lead: K Malone/ Juan Contreras

- Mountain View ribbon cutting postponed.
- Discussions will be necessary with station developers regarding possible celebration of Ontario and the best way to possibly celebrate upgrades of Burbank, Newport Beach and, eventually, Emeryville.
- Submitted 3 proposals to Governor’s Global Climate Action Summit, all accepted. Working with Hydrogen Council, GO Biz and stakeholders on implementation details.



HYPPO REPORT | Member Lead: A Harris | Staff Lead: B Elrick / B Xiong

- Bill Elrick and Ben Xiong are new co-leads of this group.

SOSS | Member Lead: vacant | Staff Lead: B Xiong

- Newport Beach added to Open-retail
- Additional SDOs (Stratos Fuel) granted access to add messages to SOSS
- Proposal for using capacity to determine a LIMITED state was reviewed by SDO group. The group prefers not to use capacity as part of the LIMITED logic.
- Additional backend development work was done to speed up the load time of the SOSS homepage
- The XML feature is in beta mode. Internal testing is in process. SDOs will soon be able to test the XML feature.

H2 MARKET ACTIVATION | Member Lead: W Leighty | Staff Lead: Bill Elrick

- ARB board approved concept of new hydrogen LCFS proposal (based upon station capacity); group activities focused on developing consensus feedback and support for ARB staff in moving forward. Next step is ARB's mid-June 15-day notice.
- Participated in May 14th CEC GFO workshop. Reviewing previous CEC solicitation feedback, preparing for pending CEC GFO workshops.
- Provided feedback to *Vision 2030* document and SOSS activities.

EVENTS/ACTIVITIES | Staff Lead: J Contreras

UPCOMING	
June 7-8	CPUC Forum on Electric Rates, San Francisco (B. Elrick)
June 12-15	DOE Annual Merit Review, Washington, D.C. (Tech Team)
June 13	CARB Innovative Celan Transit Workshop (Tech Team)
June 15	CARB AQIP/GGRF2018/2019 Funding Mtg. (Tech Team)
June 20	CaFCP In-Person WG
RECENT	
April 30	Briefing for Senator Leyva’s, Chino (K. Malone)
April 30 – May 4	ACT Expo, Long Beach (K. Malone)
May 3	CaFCP MD/HD Facilitated Workshop, Long Beach (N. Bouwkamp and K. Malone)
May 4	Roundtable discussion: Bringing Zero-Emission Infrastructure Technology Manufacturing to California, Long Beach (K. Malone)
May 9	FCEV ARVTP Business Mtg. Ride and Drive (J. Contreras)
May 10	CaFCP ST Phone Mtg (B. Elrick)
May 17	CARB 50 th Anniversary Technology Symposium and Showcase, Riverside (K. Malone)
May 24	Norwegian Delegation Financial Sector Group, CaFCP HQ (J. Contreras and B. Elrick)

SECTOR GROUPS

AUTOMOTIVE GROUP | Member Lead: M McClory | Staff Lead: B Xiong

- The group met to discuss putting together a new hydrogen station location list. OEMs have begun sending their list to CaFCP to aggregate.

GOVERNMENT GROUP | Member Lead: G Vacin | Staff Lead: B Xiong

- GO-Biz led ongoing Station Confirmation Group calls to coordinate efforts to bring the next group of funded hydrogen stations to Open-Retail. OEMs completed confirmation testing and Newport Beach Station came online as the 35th Open-Retail station in the network.
- GO-Biz led monthly Hydrogen Coordination meeting with CARB and CEC to discuss current challenges and ensure ongoing communication and alignment between the agencies.

STATION DEVELOPER/OPERATOR GROUP | Member Lead: A Harris | Staff Lead: B Xiong

- Staff are developing a survey of drivers regarding preferences in station payment options and performance at the request of a member. Results will be shared among all members.

MHD GROUP (FCET & FCEB) | Member Lead: N Berry | Staff Lead: K Malone

- Staff attended CARB Innovative Clean Transit Workshop on June 13.
- Supporting CTE to spread the word about the American Zero Emission Bus Conference at LA Metro's headquarters, September 10-11.

PROJECT TEAMS

SAFETY CODES & STANDARDS | Member Lead: A Harris | Staff Lead: J Hamilton

- **CSA Group:**
 - **CSA HGV 4.3:** Web ex meeting held June 27th; draft nearly completed; reviewed draft which includes testing for the MC Formula method; moving in the direction of doing tests at the factory/pre-installation; draft for ballot in the coming weeks.
 - **CSA HGV 4.1 and 4.9:** J. Hamilton leading a task force to address conflicts and harmonization of the dispenser document (HGV 4.1) and the station document (HGV 4.9).
 - Working with CSA Group and Natural Resources Canada for California to host the second Hydrogen Forum on a North American C&S Roadmap
 - A. Harris and J. Hamilton chair and vice-chair of the Hydrogen Transportation Technical Committee
- **NFPA 2 and 55:** NFPA 55 and NFPA 2 draft meetings coming in July and August, respectively.
 - NFPA 2 First Responder Task Force (J. Hamilton, lead) is working to develop (a) proposal(s) to PHMSA for changes to the DOT Emergency Response Guide for hydrogen
- **IFC:** No Updates.
- **ISO/TC 197:**
 - **WG 24:** ISO/DIS 19880-1, *Gaseous hydrogen — Fueling stations — Part 1: General requirements*- Draft International Standard (DIS) out for comment; meeting to be held in July in Hamburg, Germany to address co
 - **WG 27:** Hydrogen Fuel Quality- ISO 14687 – DIS has been registered
 - When this document is published, SAE J2719 (Fuel Quality) will be opened for revision to harmonize with 14687

- **WG 28:** Hydrogen Quality Control- ISO 19880-8 to be published late 2018
- **JWG 7:** *Analytical methods for hydrogen fuel — Proton exchange membrane (PEM) fuel cell applications for road vehicles*-ISO 21087 - the DIS is in ballot - comments due by July 9th. The ASTM D03 committee has opportunity to submit comments through the D03.14 vice chair, Christina Daniels.
- **ASTM D03.14 Subcommittee on Hydrogen and Fuel Cells:** Held in person meeting June 26 (D03 Main meeting June 27)
 - Creating two collaboration committees for D7650 Sampling of Particulate Matter in High Pressure Hydrogen and D7652 Sulfur Compounds in Hydrogen Fuel by GC-SCD documents
 - Withdraw of Work Item 48876 Weight of Hydrogen Fuel Dispensed from Hydrogen Fueling Station due to it being out of scope for the committee
 - Samples for ILS 861 (FTIR) and 1121 (Cavity Ring Down) are being generated
 - Proposed two workshops for future meetings: Hydrogen Fuel Sampling and Analysis and Workshop on In-Line Analyzers
 - Introduced the idea of a cleaning standard for fueling stations (CGA not taking that on, as previously thought)
- **SAE International:**
 - **SAE J2600 Compressed Hydrogen Surface Vehicle Fueling Connection Devices:** Document open for revision, N Bouwkamp sponsor. Received significant number of revision proposals, as presented at June SAE meetings, with most proposals focusing on aligning document with ISO 17268. Increased engagement from H2 nozzle manufacturers.
 - **SAE J2601 Fueling Protocols for Light Duty and Medium Duty Gaseous Hydrogen Surface Vehicles:** Document discussed during FC Interface Task Force in person meetings held in Torrance June 5-6;
 - **SAE J2601-4 Ambient Temperature Fixed Orifice Fueling:** Document discussed during FC Interface Task Force in person meeting held in Torrance June 5-6
 - **SAE J2579 Standard for Fuel Systems in Fuel Cell and Other Hydrogen Vehicles:** 2018 version published in June
- FCHEA Regulatory Matrix (as of April): <http://www.hydrogenandfuelcellsafety.info/s/FCHEA-Regulatory-Matrix-markup-March-31-2018.pdf>

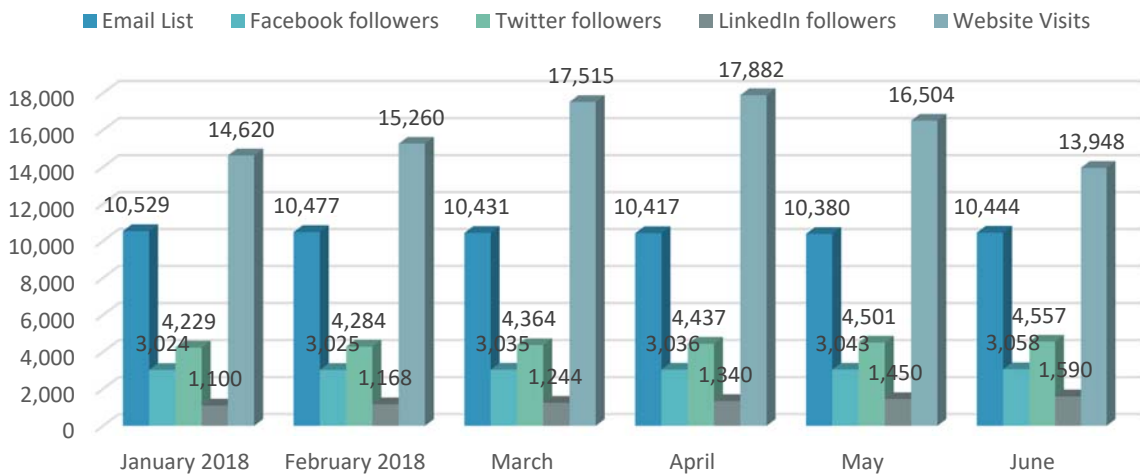
ROADMAP 2.0 | Member Lead: M Forrest | Staff Lead: B Elrick

- Draft presented to Board and Steering Team, with acceptance of direction and content. Additional feedback taken and to be incorporated before final draft 'locked down' to enable document design finalization. Design group engaged to develop final product that matches content. Anticipated release mid-July.

OUTREACH/EDUCATION | Member Lead: L Renz | Staff Lead: K Malone/ Juan Contreras

- CaFCP moderated a fuel cell panel at Sustain OC's 5th Annual Advanced Transportation Symposium.
- Initiated outreach plan for pending 2030 Vision document.

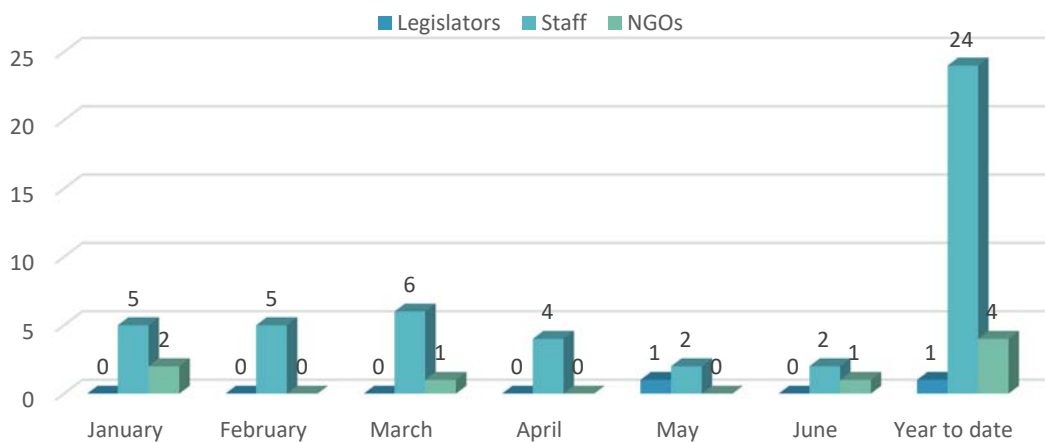
Web and Social Media Metrics



GOVERNMENT AFFAIRS | Member Lead: S Baker | Staff Lead: K Malone

- Briefed district staff of Assembly Member Blanca Rubio (D-Covina). Briefed staff of State Senator Anthony Portantino (D-Glendale) and toured La Canada and Cal State LA stations.
- Lunch meeting with Cody Rosenfield of Coalition for Clean Air. Discussed possible CaFCP membership.
- Coordinated with CHBC on Capital education regarding Governor Brown’s proposed ZEV budget.
- Note: this section does not include activity conducted by CaFCP legislative consultant Teresa Cooke.

Legislative Outreach



HYPPO REPORT | Member Lead: A Harris | Staff Lead: B Elrick / B Xiong

- Reevaluating need after many of the identified items have been addressed via AB8 et al.

SOSS | MEMBER LEAD: J BIRDSALL | STAFF LEAD: B XIONG

- Newport Beach added to SOSS

H2 MARKET ACTIVATION | Member Lead: W Leighty | Staff Lead: Bill Elrick

- CaFCP staff and members gave input to CARB at the Low Carbon Fuel Standard workshop, where the new hydrogen pathway was discussed.
- CaFCP staff and members presented and participated in the PUC's Zero-Emission Vehicle Rate Design Forum, and discussed follow up opportunities with PUC and several.
- CaFCP staff and members attended CEC staff workshop on a Hydrogen Station Capacity Model (HyC). Continue providing feedback to both Vision 2030 document and SOSS activities.



EVENTS/ACTIVITIES | Staff Lead: J Contreras

UPCOMING

July 9-12	Semicon West, San Francisco
July 31 – August 2	NCLS – National Conference of State Legislatures, Los Angeles (K. Malone)
August 1	CaFCP Legislative Outreach Event, Sacramento, CA (K. Malone, B. Xiong, L. So)
August 9	Visit California Hwy 1 Re-Opening Rally Event, CA (J. Contreras, B. Elrick and K. Malone)
August 10	DOE deadline for stakeholder input re regulatory barriers
August 12-17	NFPA 2, Quincy, MA (J. Hamilton)
August 30	CARB AB 8 Webinar, CaFCP HQ (A. Martinez)

RECENT

June 7-8	CPUC Forum on Electric Rates, San Francisco (B. Elrick)
June 12 – 15	DOE Annual Merit Review
June 13	CARB Innovative Clean Transit Workshop
June 15	CARB AQIP/GGRF 2018/2019 funding
June 20	CaFCP in-person Working Group meeting

SECTOR GROUPS

AUTOMOTIVE GROUP | Member Lead: M McClory | Staff Lead: B Xiong

- Most activity of this group has taken place within the Market Activation Group for the time being.

GOVERNMENT GROUP | Member Lead: G Vacin | Staff Lead: B Xiong

- GO-Biz led ongoing Station Confirmation Group calls to coordinate efforts to bring the next group of funded hydrogen stations to Open-Retail. OEMs completed confirmation testing and Newport Beach Station came online as the 35th Open-Retail station in the network.
- GO-Biz led monthly Hydrogen Coordination meeting with CARB and CEC to discuss current challenges and ensure ongoing communication and alignment between the agencies.

STATION DEVELOPER/OPERATOR GROUP | Member Lead: A Harris | Staff Lead: B Xiong

- Staff are developing a survey of drivers regarding preferences in station payment options and performance at the request of a member. Results will be shared among all members.

MHD GROUP (FCET & FCEB) | Member Lead: N Berry | Staff Lead: K Malone

- Staff participated in CARB's Work Group Meeting for Updates to the Heavy-Duty Three-Year Investment Strategy on July 19. Provided comments about need for dedicated funding of HD H2 fueling infrastructure and HD ZEV codes & standards development (SAE, ISO, etc).
- Staff participated in US DOE FCTO's "End Use Applications Fuel Cell Truck Powertrain R&D Activities and Target Review" industry workshop on July 30-31. Presentations from workshop are posted at: <https://www.energy.gov/eere/fuelcells/fuel-cell-truck-powertrain-rd-activities-and-target-review-workshop-h2-scale-end-use>

PROJECT TEAMS

SAFETY CODES & STANDARDS | Member Lead: A Harris | Staff Lead: J Hamilton

- **CSA Group:**
 - **CSA HGV 4.3** (hydrogen fueling parameters) is an active project to develop the next edition. Industry review closed EOM, August for the draft document, and the TSC will meet to discuss comments.
 - **CHMC 2** (chemical compatibility for non-metals) is an active project to develop the first edition. The Technical Sub-Committee plans to send the draft standard for Industry/Public Review in early October, with the goal of publishing in late 2018/early 2019.
 - **HGV 4.1** (dispensers) is a new project to develop the next edition. The TSC will be meeting via WebEx, and then in person in October in San Antonio.
 - **HGV 4.9** (stations) is a new project to develop the next edition. The TSC will be meeting on September 19 via WebEx, and then in person in October in San Antonio.
 - **CSA Group U.S. Committee Week** is planned for San Antonio, Texas, with the Hydrogen Transportation Technical Committee meeting on the afternoon of October 16, HGV 4.9 (stations) TSC meeting on October 18 and HGV 4.1 (dispensers) TSC meeting on October 17.
- **NFPA 2:** Second draft meeting took place at NFPA headquarters in Quincy, MA August 13-17. The TC resolved all comments and discussed how to move forward with the next version. The TC will hold a pre-first draft meeting in August of 2019 in an effort to avoid holding continuation meetings for the first draft, as was the case with this edition. The document revision cycle was discussed. Until further notice, NFPA 2 is on a three- year cycle (2023). Due to issues with document timing, the 2023 version of NFPA 2 will not extract from the 2023 NFPA 55.
 - The "Permit Checklist" Task Force was discussed, as was the document proposed for annex material into NFPA 2. Outcome: the TF is updated with other members of the

NFPA 2 TC and will move forward developing material that will be posted onto NFPA web site, with a link in the NFPA 2 annex.

- NFPA 2 First Responder Task Force (J. Hamilton, lead) is working to develop (a) proposal(s) to PHMSA for changes to the DOT Emergency Response Guide for hydrogen
- **NFPA 55:** Second draft hearing July 24-25. NFPA 2 could not extract from the new version as it is not yet published.
- **IFC:** Hearing on second draft taking place in Richmond, VA in October (for the 2021 version)
- **ISO/TC 197:**
 - **WG 24:** ISO/DIS 19880-1, *Gaseous hydrogen — Fueling stations — Part 1: General requirements*- Draft International Standard (DIS) out for comment; meeting to be held in July in Hamburg, Germany to address comments
 - **WG 27:** Hydrogen Fuel Quality- ISO 14687 – DIS has been registered
 - When this document is published, SAE J2719 (Fuel Quality) will be opened for revision to harmonize with 14687
 - **WG 28:** Hydrogen Quality Control- ISO 19880-8 to be published late 2018
 - **JWG 7:** *Analytical methods for hydrogen fuel — Proton exchange membrane (PEM) fuel cell applications for road vehicles*-ISO 21087 - the DIS is in ballot - comments due by July 9th.
- **ASTM D03.14 Subcommittee on Hydrogen and Fuel Cells:**
 - Samples for ILS 861 (FTIR) and 1121 (Cavity Ring Down) are being generated
- **SAE International:**
 - **SAE J2600 Compressed Hydrogen Surface Vehicle Fueling Connection Devices:** Document open for revision, N Bouwkamp sponsor. Received significant number of revision proposals, as presented at June SAE meetings, with most proposals focusing on aligning document with ISO 17268. Increased engagement from H2 nozzle manufacturers.
 - **SAE J2601 Fueling Protocols for Light Duty and Medium Duty Gaseous Hydrogen Surface Vehicles:** Document being revised; to be discussed at upcoming in person meeting in September (Troy, MI)
 - **SAE J2601-4 Ambient Temperature Fixed Orifice Fueling:** in process; regular meetings held with the Task Force; to be discussed at the upcoming in person meeting in September (Troy, MI)
 - **SAE J2579 Standard for Fuel Systems in Fuel Cell and Other Hydrogen Vehicles:** 2018 version published (in June)
- FCHEA Regulatory Matrix (as of June 30):
<https://static1.squarespace.com/static/53ab1feee4b0bef0179a1563/t/5b47bf02758d467d3e3ebb9f/1531428610811/FCHEA+Regulatory+Matrix+markup+June+30+2018.pdf>

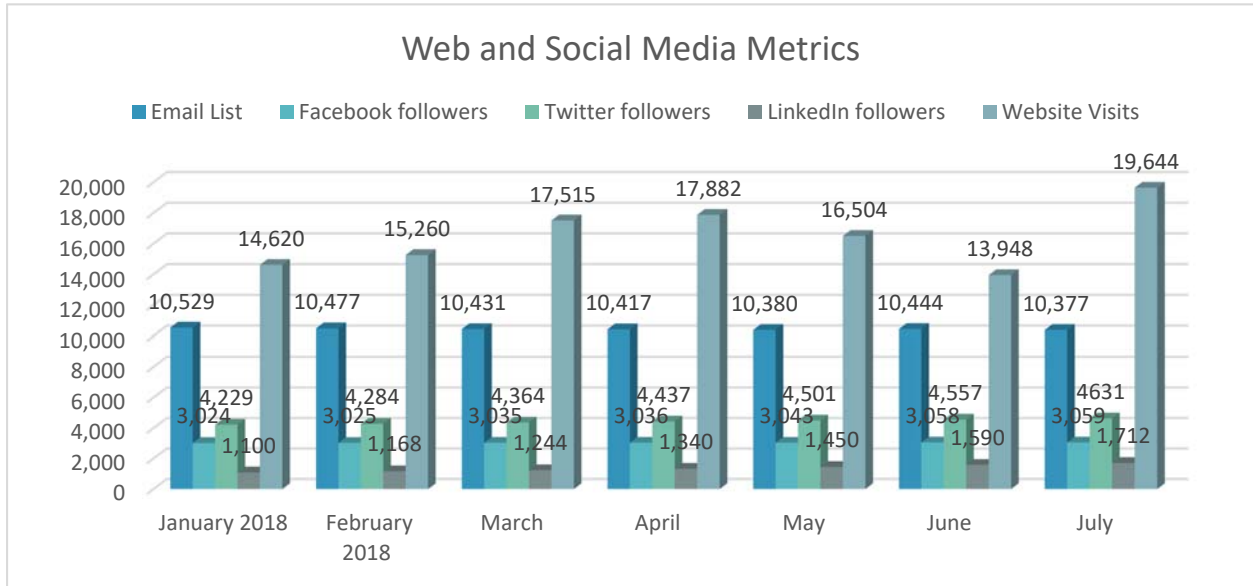
ROADMAP 2.0 | Member Lead: M Forrest | Staff Lead: B Elrick

- Draft presented to Board and Steering Team, with acceptance of direction and content. Additional feedback taken and to be incorporated before final draft 'locked down' to enable document design

finalization. Design group engaged to develop final product that matches content. Anticipated release mid-July.

OUTREACH/EDUCATION | Member Lead: L Renz | Staff Lead: K Malone/ Juan Contreras

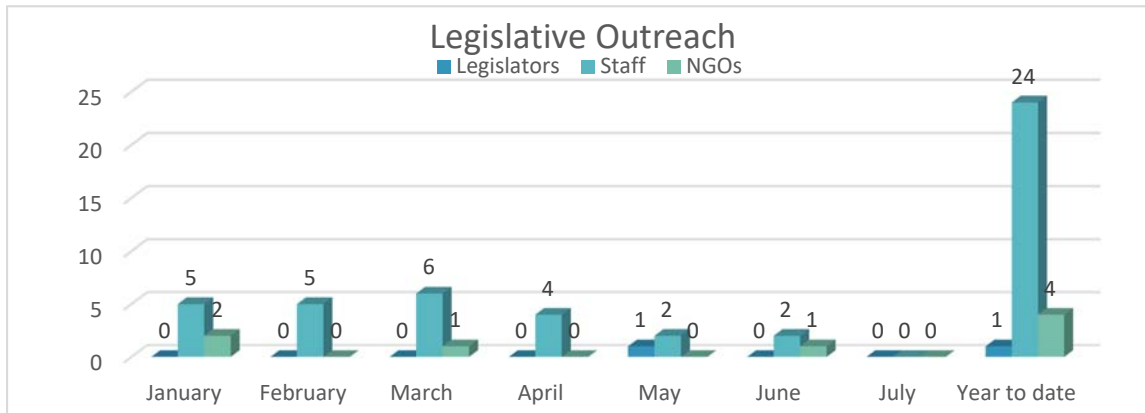
- Quarter webinar regarding station status in California.
- Participated in Semicon West with Honda Clarity. Presented at Transportation Pavillion on the status of FCEVs.



GOVERNMENT AFFAIRS | Member Lead: S Baker | Staff Lead: K Malone

- Coordinated with CHBC on Capital education regarding Governor Brown’s proposed ZEV budget.
- August 1 is set for Capitol briefing. Invitations were developed and are being distributed to legislative offices.
- Handouts are being developed for Capitol Briefing, including one document that identifies the three major pots of money (CPUC, Electrify America and ARVFTP) and which are available to battery electric and fuel cell electric vehicles.
- Staff participated in FCHEA’s test drive opportunity at National Conference of State Legislatures in Los Angeles.

- Note: this section does not include activity conducted by CaFCP legislative consultant Teresa Cooke.



HYPPO REPORT | Member Lead: A Harris | Staff Lead: B Elrick / B Xiong

- Reevaluating need after many of the identified items have been addressed via AB8 et al.

SOSS | MEMBER LEAD: J BIRDSALL | STAFF LEAD: B XIONG

- No group activity. CaFCP continues to maintain stations currently open.

H2 MARKET ACTIVATION | Member Lead: W Leighty | Staff Lead: Bill Elrick

- No report for this month.



EVENTS/ACTIVITIES | Staff Lead: J Contreras

UPCOMING	
September 4-6	Pacific Oil Conference
September 10-11	U.S. Zero Emission Bus Conference, Los Angeles
September 11	California-Germany Bilateral Energy Conference
September 11-12	Removing Carbon, Increasing Equity and Maintaining Economic Prosperity
September 12-14	Global Climate Action Summit , San Francisco
September 24-27	Hydrogen + Fuel Cells NORTH AMERICA , Anaheim
RECENT	
July 9-12	Semicon West, San Francisco (J. Contreras, K. Malone and B. Xiong)
July 31 – August 2	NCLS – National Conference of State Legislatures, Los Angeles (K. Malone)
August 1	CaFCP Legislative Outreach Event, Sacramento (K. Malone, B. Xiong and L. So)
August 9	Visit California Hwy 1 Re-Opening Rally Event, Coast (B. Elrick, J. Contreras and K. Malone)
August 10	DOE Deadline for stakeholder input regarding regulatory barriers
August 12 – 17	NFPA 2, Quincy, MA (J. Hamilton)
August 30	CARB AB 8 Webinar, CaFCP HQ (A. Martinez)

SECTOR GROUPS

AUTOMOTIVE GROUP | Member Lead: M McClory | Staff Lead: B Xiong

- Most activity of this group has taken place within the Market Activation Group for the time being.

GOVERNMENT GROUP | Member Lead: G Vacin | Staff Lead: B Xiong

- GO-Biz led ongoing Station Confirmation Group calls to coordinate efforts to bring the next group of funded hydrogen stations to Open-Retail. OEMs completed confirmation testing and Newport Beach Station came online as the 35th Open-Retail station in the network.

- GO-Biz led monthly Hydrogen Coordination meeting with CARB and CEC to discuss current challenges and ensure ongoing communication and alignment between the agencies.

STATION DEVELOPER/OPERATOR GROUP | Member Lead: A Harris | Staff Lead: B Xiong

- Staff distributed a survey of drivers regarding preferences in station payment options and performance at the request of a member. Results Can be found on Member Resources.
 - Fuel Cell Driver Survey - 2 pager summary (formatted for use in reports, etc.)
<http://cafcpmembers.org/system/files/documents/Fuel-Cell-Driver-Survey-2pg.pdf>
 - Fuel Cell Driver Survey - Summary
http://cafcpmembers.org/system/files/documents/Summary-Fuel-Cell-Driver-Survey-Data_All_20180817.pdf
 - FCEV Driver Survey - Summary with responses
http://cafcpmembers.org/system/files/documents/Summary-with-responses-FCEV-Driver-Survey-Data_All_20180817.pdf
 - FCEV Driver Survey – Responses By Age
http://cafcpmembers.org/system/files/documents/By-Age-FCEV-Driver-Survey-Data_All_20180817.pdf

MHD GROUP (FCET & FCEB) | Member Lead: N Berry | Staff Lead: K Malone

- Staff participated in CARB’s Work Group Meeting for Updates to the Heavy-Duty Three-Year Investment Strategy on July 19. Provided comments about need for dedicated funding of HD H2 fueling infrastructure and HD ZEV codes & standards development (SAE, ISO, etc).
- Staff participated in US DOE FCTO’s “End Use Applications Fuel Cell Truck Powertrain R&D Activities and Target Review” industry workshop on July 30-31. Presentations from workshop are posted at: <https://www.energy.gov/eere/fuelcells/fuel-cell-truck-powertrain-rd-activities-and-target-review-workshop-h2-scale-end-use>

PROJECT TEAMS

SAFETY CODES & STANDARDS | Member Lead: A Harris | Staff Lead: J Hamilton

- **CSA Group:**
 - **CSA HGV 4.3** (hydrogen fueling parameters) is an active project to develop the next edition. Industry review closed EOM, August for the draft document, and the TSC will meet to discuss comments.
 - **CHMC 2** (chemical compatibility for non-metals) is an active project to develop the first edition. The Technical Sub-Committee plans to send the draft standard for Industry/Public Review in early October, with the goal of publishing in late 2018/early 2019.

- **HGV 4.1** (dispensers) is a new project to develop the next edition. The TSC will be meeting via WebEx, and then in person in October in San Antonio.
- **HGV 4.9** (stations) is a new project to develop the next edition. The TSC will be meeting on September 19 via WebEx, and then in person in October in San Antonio.
- **CSA Group U.S. Committee Week** is planned for San Antonio, Texas, with the Hydrogen Transportation Technical Committee meeting on the afternoon of October 16, HGV 4.9 (stations) TSC meeting on October 18 and HGV 4.1 (dispensers) TSC meeting on October 17.
- **NFPA 2:** Second draft meeting took place at NFPA headquarters in Quincy, MA August 13-17. The TC resolved all comments and discussed how to move forward with the next version. The TC will hold a pre-first draft meeting in August of 2019 in an effort to avoid holding continuation meetings for the first draft, as was the case with this edition. The document revision cycle was discussed. Until further notice, NFPA 2 is on a three- year cycle (2023). Due to issues with document timing, the 2023 version of NFPA 2 will not extract from the 2023 NFPA 55.
 - The “Permit Checklist” Task Force was discussed, as was the document proposed for annex material into NFPA 2. Outcome: the TF is updated with other members of the NFPA 2 TC and will move forward developing material that will be posted onto NFPA web site, with a link in the NFPA 2 annex.
 - NFPA 2 First Responder Task Force (J. Hamilton, lead) is working to develop (a) proposal(s) to PHMSA for changes to the DOT Emergency Response Guide for hydrogen
- **NFPA 55:** Second draft hearing July 24-25. NFPA 2 could not extract from the new version as it is not yet published.
- **IFC:** Hearing on second draft taking place in Richmond, VA in October (for the 2021 version)
- **ISO/TC 197:**
 - **WG 24:** ISO/DIS 19880-1, *Gaseous hydrogen — Fueling stations — Part 1: General requirements*- Draft International Standard (DIS) out for comment; meeting to be held in July in Hamburg, Germany to address comments
 - **WG 27:** Hydrogen Fuel Quality- ISO 14687 – DIS has been registered
 - When this document is published, SAE J2719 (Fuel Quality) will be opened for revision to harmonize with 14687
 - **WG 28:** Hydrogen Quality Control- ISO 19880-8 to be published late 2018
 - **JWG 7:** *Analytical methods for hydrogen fuel — Proton exchange membrane (PEM) fuel cell applications for road vehicles*-ISO 21087 - the DIS is in ballot - comments due by July 9th.
- **ASTM D03.14 Subcommittee on Hydrogen and Fuel Cells:**
 - Samples for ILS 861 (FTIR) and 1121 (Cavity Ring Down) are being generated
- **SAE International:**
 - **SAE J2600 Compressed Hydrogen Surface Vehicle Fueling Connection Devices:** Document open for revision, N Bouwkamp sponsor. Received significant number of revision proposals, as presented at June SAE meetings, with most proposals focusing on aligning document with ISO 17268. Increased engagement from H2 nozzle manufacturers.

- **SAE J2601 Fueling Protocols for Light Duty and Medium Duty Gaseous Hydrogen Surface Vehicles:** Document being revised; to be discussed at upcoming in person meeting in September (Troy, MI)
- **SAE J2601-4 Ambient Temperature Fixed Orifice Fueling:** in process; regular meetings held with the Task Force; to be discussed at the upcoming in person meeting in September (Troy, MI)
- **SAE J2579 Standard for Fuel Systems in Fuel Cell and Other Hydrogen Vehicles:** 2018 version published (in June)
- FCHEA Regulatory Matrix (as of June 30):
<https://static1.squarespace.com/static/53ab1feee4b0bef0179a1563/t/5b47bf02758d467d3e3ebb9f/1531428610811/FCHEA+Regulatory+Matrix+markup+June+30+2018.pdf>

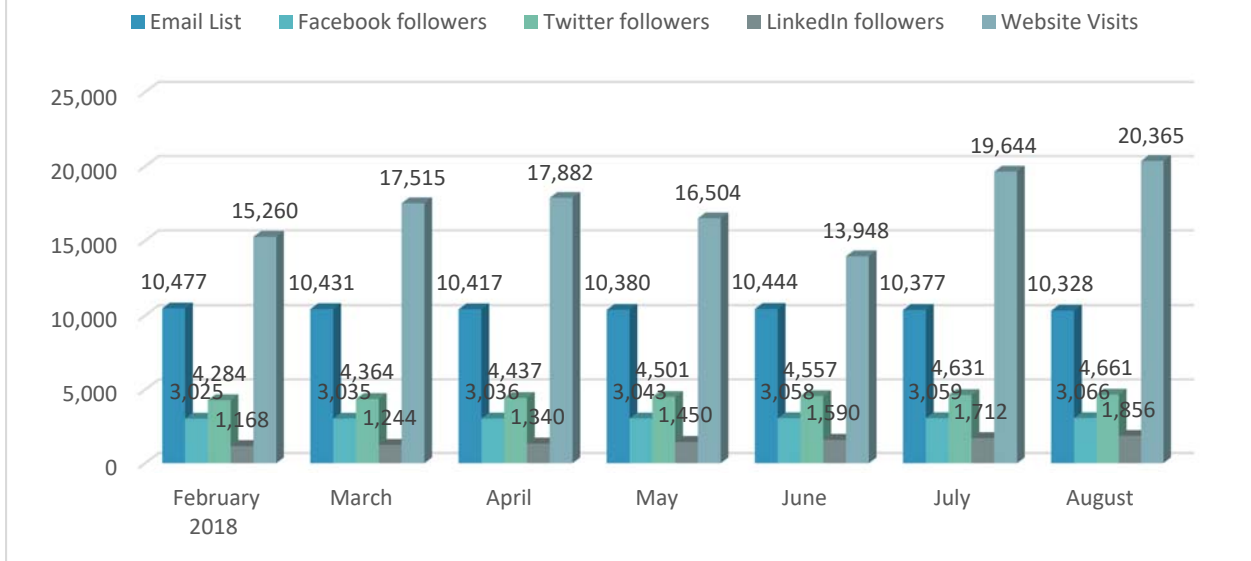
ROADMAP 2.0 | Member Lead: M Forrest | Staff Lead: B Elrick

- Staff participated in US DOE H2@Scale meeting on August 1st and presented high-level overview of CaFCP's California Fuel Cell Revolution 2030 vision document.
- CARB publishes AB 8, referencing California Fuel Cell Revolution.
- CAFCP conducts member and public presentations of California Fuel Cell Revolution on August 23 and 28.

OUTREACH/EDUCATION | Member Lead: L Renz | Staff Lead: K Malone/ Juan Contreras

- Quarter webinar regarding station status in California. CaFCP participates in Visit California's Hwy 1 Re-Opening Rally with a Honda Clarity and Toyota Mirai on August 9 with 80 journalists and 100 cars of various decades. Keith Malone won the social media award.
- Initiated outreach plan for pending 2030 Vision document.
- Participated in Semicon West with Honda Clarity. Presented at Transportation on the status of FCEVs.

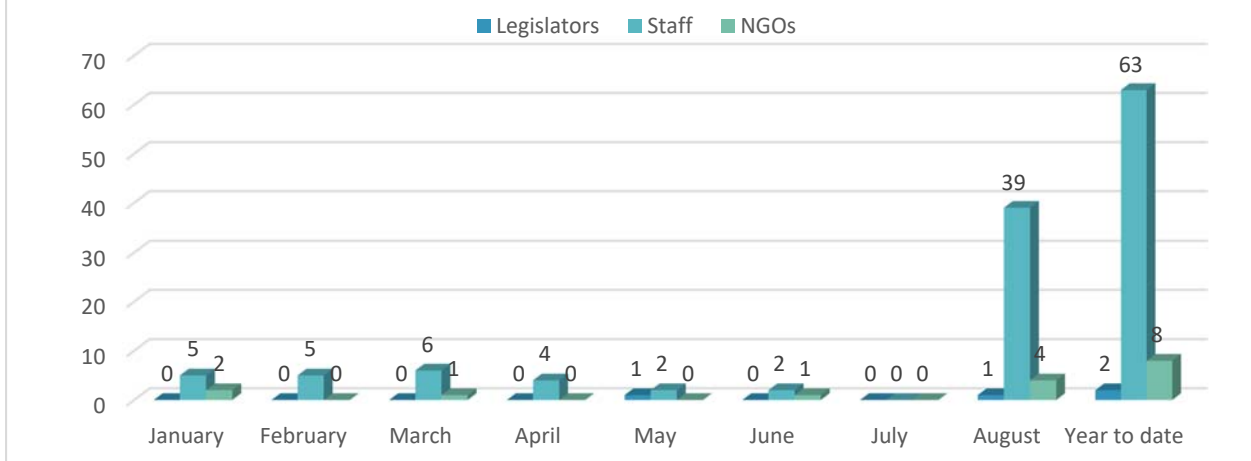
Web and Social Media Metrics



GOVERNMENT AFFAIRS | Member Lead: S Baker | Staff Lead: K Malone

- Attended Assembly Member Chris Holden's community block party with Toyota Mirai.
- Hosted Capitol briefing on August 1 on FCEVs. More 40 attended, with 37 staff from legislative offices, and other attendees from American Lung Association, CA Assn of Sanitation Agencies, New Vehicle Motor Board and Sempra.
- Handouts are being developed for Capitol Briefing, including one document that identifies the three major pots of money (CPUC, Electrify America and ARVFTP) and which are available to battery electric and fuel cell electric vehicles.
- Bill later met with Susan Reyes of State Senator Ed Hernandez's office as a follow up to the briefing.
- Bill and Keith met with Assembly Speaker Anthony Rendon and transportation aide Marie Liu.
- Note: this section does not include activity conducted by CaFCP legislative consultant Teresa Cooke.

Legislative Outreach



HYPPO REPORT | Member Lead: A Harris | Staff Lead: B Elrick / B Xiong

- Revaluating need after many of the identified items have been addressed via AB8 et al.

SOSS | MEMBER LEAD: J BIRDSALL | STAFF LEAD: B XIONG

- No group activity. CaFCP continues to maintain stations currently open.

H2 MARKET ACTIVATION | Member Lead: W Leighty | Staff Lead: Bill Elrick

- No report for this month.



EVENTS/ACTIVITIES | Staff Lead: J Contreras

UPCOMING

October 8	National Hydrogen Day
October 15-16	Sacramento Clean Cities Workshop – Hydrogen 101 Tour
October 17	CaFCP Executive Board meeting, Sacramento
October 15-18	CSA Committee Week
October 24	Hyundai NEXO Test Drive Event for CEC, CARB and GO-Biz
November 29-December 9	LA Auto Show, Los Angeles
December 12	CaFCP Working Group, Sacramento

RECENT

September 4-6	Pacific Fuels and Convenience Summit (formerly Pacific Oil Conference), Los Angeles
September 10-11	U.S. Zero Emission Bus Conference, Los Angeles
September 11	California-Germany Bilateral Energy Conference
September 11-12	Removing Carbon, Increasing Equity and Maintaining Economic Prosperity
September 12-14	Global Climate Action Summit , San Francisco
September 17	Japan H2 Mobility
September 19	Assn of Energy Engineers SoCal, Downey
September 24-27	Hydrogen + Fuel Cells NORTH AMERICA , Anaheim (including FCEV test drive & Air Liquide station tour)
September 27-28	CARB Board Meeting, Sacramento
September 28	NESCAUM Event, Sacramento

SECTOR GROUPS

AUTOMOTIVE GROUP | Member Lead: M McClory | Staff Lead: B Xiong

- Refer to Market Activation Group

GOVERNMENT GROUP | Member Lead: G Vacin | Staff Lead: B Xiong

- Outcome from the Station Confirmation Group included discussions to move Cal State LA, Woodside, Burbank, Emeryville and Palo Alto to open-retail status. Please refer to the Go-Biz SmartSheet for details.

STATION DEVELOPER/OPERATOR GROUP | Member Lead: A Harris | Staff Lead: B Xiong

- Keith and Juan hosted a booth Pacific Fuels and Convenience Summit (formerly Pacific Oil Conference) in Los Angeles to continue building bridges with the California Fuels and Convenience Association (formerly CIOMA) and its members.

MHD GROUP (FCET & FCEB) | Member Lead: N Berry | Staff Lead: K Malone

- Nico and Keith attended American Zero Emission Bus Conference at LA Metro's headquarters, September 10-11.
- Keith presented at CHBC FCEB Workshop on 11th. Staff is in discussion with Bus Team members about 2019 Bus Road Map in anticipation of passage of the CARB Advanced Clean Transit regulation that will likely pass in January 2019.
- Staff attended the CARB Board meeting on September 28, and during comment period for Innovative Clean Transit regulation topic provided contextual comments to warrant continued consideration of fuel cell electric bus technology as part of the solution.

PROJECT TEAMS

SAFETY CODES & STANDARDS | Member Lead: A Harris | Staff Lead: J Hamilton

- **CSA Group:**
 - **CSA HGV 4.3** (hydrogen fueling parameters) is an active project to develop the next edition. Industry review has closed for the draft document, and the TSC will meet to discuss comments.
 - **CHMC 2** (chemical compatibility for non-metals) is an active project to develop the first edition. The Technical Sub-Committee plans to send the draft standard for Industry/Public Review in early October, with the goal of publishing in late 2018/early 2019.
 - **HGV 4.1** (dispensers) is a new project to develop the next edition. The TSC will be meeting on September 26 and October 3 via WebEx, and then in person in October in San Antonio.

- **HGV 4.9** (stations) is a new project to develop the next edition. The TSC will be meeting on September 19 via WebEx, and then in person in October in San Antonio.
- **CSA Group U.S. Committee Week** is planned for San Antonio, Texas, with the Hydrogen Transportation Technical Committee meeting on the afternoon of October 16, HGV 4.9 (stations) TSC meeting on October 18 and HGV 4.1 (dispensers) TSC meeting on October 17.
- **NFPA 2**
 - NFPA 2 First Responder Task Force (J. Hamilton, lead) submitted a proposal to PHMSA for informational material to be added to the 2020 DOT ERG on hydrogen vehicles. CGA led the effort for a submission to update guide 115 to remove hydrogen and deuterium and add a new guide for hydrogen and deuterium only
- **IFC/CFC:** Confirmed with the CA Office of the State Fire Marshal that the 2020 NFPA 2 (if published on schedule) will be adopted in the Intervening Code Cycle for the 2019 CA Fire Code
- **ISO/TC 197:**
 - **WG 24:** ISO/DIS 19880-1, *Gaseous hydrogen — Fueling stations — Part 1: General requirements*-. Working back comments from DIS. Hope to have them ready for the Plenary in December. Hope to get this to International Standard by 2019. **WG 27:** Hydrogen Fuel Quality-ISO 14687 – DIS has been registered
 - When this document is published, SAE J2719 (Fuel Quality) will be opened for revision to harmonize with 14687 – proposed to open SAE J2719 in November, 2018
 - **WG 28:** Hydrogen Quality Control- ISO 19880-8 to be published late 2018
 - WG 27 and 28 are meeting on October 8th in Paris
 - **JWG 7:** *Analytical methods for hydrogen fuel — Proton exchange membrane (PEM) fuel cell applications for road vehicles*-ISO 21087 Meeting to address comments from the DIS to be held in Paris on October 8 -.
- **ASTM D03.14 Subcommittee on Hydrogen and Fuel Cells:** Held in person meeting June 26 (D03 Main meeting June 27)
 - Creating two collaboration committees for D7650 Sampling of Particulate Matter in High Pressure Hydrogen and D7652 Sulfur Compounds in Hydrogen Fuel by GC-SCD documents
 - Withdraw of Work Item 48876 Weight of Hydrogen Fuel Dispensed from Hydrogen Fueling Station due to it being out of scope for the committee
 - Samples for ILS 861 (FTIR) and 1121 (Cavity Ring Down) are being generated; ILS 1121 will have results to present at the December in person meeting
 - Proposed two workshops for future meetings: Hydrogen Fuel Sampling and Analysis and Workshop on In-Line Analyzers
 - Introduced the idea of a cleaning standard for fueling stations (CGA not taking that on, as previously thought)
 - In person meeting December 12-13 in Atlanta.
- **SAE International:**

In person meeting at SAE International HQ September 12-13

- **SAE J2600 Compressed Hydrogen Surface Vehicle Fueling Connection Devices:** Document open for revision, N Bouwkamp sponsor. Presented update on activities, focus continues to emphasize alignment with ISO 17268.
- **SAE J2601 Fueling Protocols for Light Duty and Medium Duty Gaseous Hydrogen Surface Vehicles:** Document discussed during FC Interface Task Force in person meetings held in Troy, MI Sept. 12-13; document publication date moved to June/July 2019 (approximately 3 months later than originally thought)
- **SAE J2601-4 Ambient Temperature Fixed Orifice Fueling:** Document discussed during FC Interface Task Force in person meeting held in Troy, MI Sept 12-13; looking for funding to support modeling efforts
- FCHEA Regulatory Matrix (as of June): <http://www.fchea.org/s/FCHEA-Regulatory-Matrix-markup-June-30-2018.pdf>

2030 VISION | Member Lead: M Forrest | Staff Lead: B Elrick

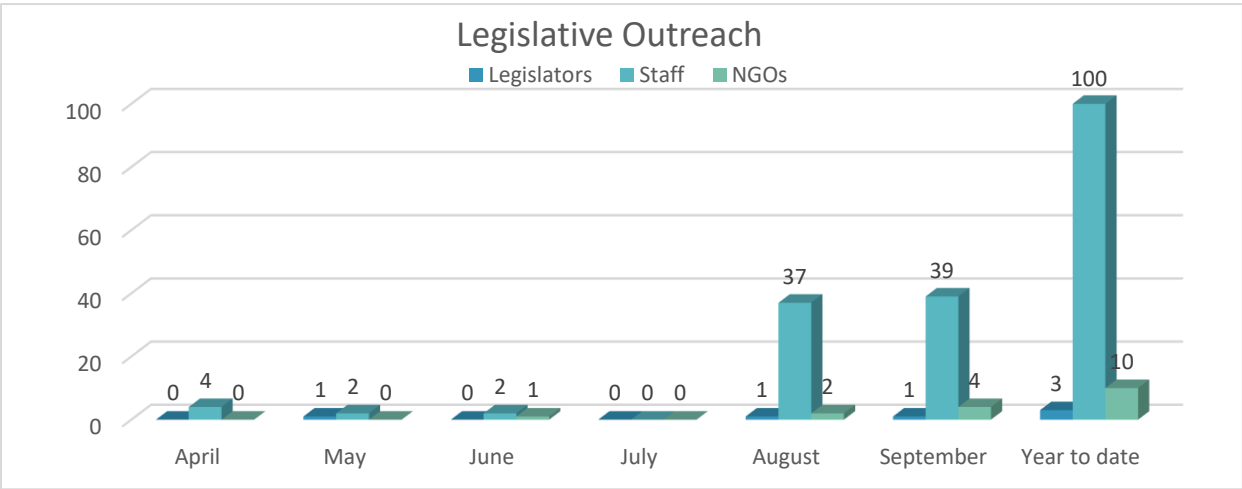
- California Fuel Cell Revolution continues to be referenced and insinuated in all CaFCP public activities. Members can access *The California Fuel Cell Revolution* slide deck on Member resources (http://cafcpmembers.org/system/files/documents/CAFCCR_Vision2030-Presentation-Final.zip)
- Steering team discussed developing small teams to lead development of strawman implementation plans for achieving the 2030 vision, focusing on the greatest priorities of market commercialization. This will be integrated into the agenda and discussed during the Oct 17 executive board meeting. This info is being considered as the input into developing a more robust and bolder 3-year CaFCP program plan to activate the market and achieve the 2030 vision.

OUTREACH/EDUCATION | Member Lead: L Renz | Staff Lead: K Malone/ Juan Contreras

- Bill attended Governor's Global Climate Action Summit. During the activities, he signed MOU with Shenzhen Province, China.]
- Keith attended the Association of Energy Engineers SoCal annual conference, in support of Steve Jones' presentation regarding hydrogen and fuel cell electric vehicles. On static display was a Toyota Mirai and Honda Clarity.
- Nico presented CaFCP perspective on FCEBs in California to transit industry representatives from the Netherlands.
- Staff helped organized panel discussions with CHBC at the Hydrogen + Fuel Cells NORTH AMERICA conference in Anaheim, in tandem with Solar Power International.

GOVERNMENT AFFAIRS | Member Lead: S Baker | Staff Lead: K Malone

- Alerted staff of State Senator Connie Leyva and Assembly Member Freddie Rodriguez of the strong likelihood of a heavy-duty hydrogen station in their districts (Ontario) after Port of LA/Toyota/Kenworth/Shell truck announcement. He has briefed both offices in the last year; these announcements provide opportunities to engage staff and answer questions.
- Note: this section does not include activity conducted by CaFCP legislative consultant Teresa Cooke.



SOSS | MEMBER LEAD: J BIRDSALL | STAFF LEAD: B XIONG

- Newport Beach added to SOSS
- Discussions are underway internally for user interface updates. Topics include ways to better notify customers of station status changes and report out capacity available.

H2 MARKET ACTIVATION | Member Lead: W Leighty | Staff Lead: Bill Elrick

- CaFCP members spoke on behalf of proposed infrastructure amendments to Low Carbon Fuel Standard at CARB board meeting in Sacramento. CARB board approved amendments. CARB staff will prepare final program adjustments for Jan 2019 implementation.
- Discussions have begun about next steps regarding activities (road maps, reports, etc.) related to the *California Fuel Cell Revolution*; identifying greatest priorities for activating the market.