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California Hydrogen Car Owners Association (CHCOA) Proton Monthly – November 2023

November 28, 2023

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Our Chance to Make a Difference

Like many of you, each day I read about a hydrogen car driver expressing exasperation over the dreadful state of our H₂ refueling infrastructure in California. Today, as I write this (Nov. 21), one of our members posted in Facebook about being stranded in Coalinga, unable to refuel for her trip from SoCal to the Bay Area. Sadly, it is said that one hasn't "earned their stripes" in the FCEV world until they've been towed at least once.

State Senator Josh Newman, an FCEV driver himself, has graciously offered to moderate a Town Hall just for hydrogen car drivers like us. The meeting will be the first of its kind and will primarily focus on solutions to the lack of reliable H₂ stations. This is our chance to regroup and recommit in order to put the puzzle pieces together. We can jump-start the process and do our part to reach the goal of 200 H₂ stations by 2030. The Town Hall will be next Sunday, Dec. 3, from 1 pm to 3 pm with an optional (complimentary) lunch "Meet and Greet" from noon to 1 pm. **Join us in-person, or by Zoom!**

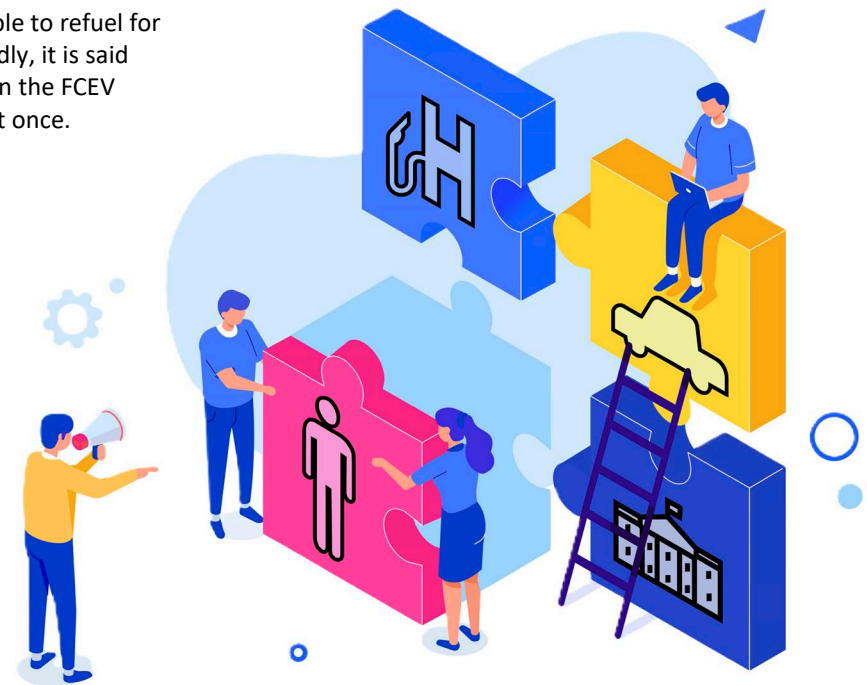
Details can be found in the [What's New section](#) of our website.

We've got a great Proton Monthly issue for you this month. In keeping with our theme, we report on two interviews with people working daily toward our common goal of a more robust and reliable hydrogen refueling infrastructure. The first is with Matt Miyasato, Vice President of Strategic Growth and Government Affairs for First Element Fuel - True Zero (pg. 2). The next is Keith Malone, RE+ Hydrogen Program Director (pg. 3). Both are hydrogen car drivers. 🚗 Enjoy!

Just a note, the figures on the following pages are copies of posters to be displayed at the Town Hall.

- Greg and Bobbie Cane

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A Chat with True Zero's Matt Miyasato, PhD



We had an upbeat Zoom chat with Matt Miyasato from First Element Fuel (FEF) in mid-October.

Matt has undergrad and graduate degrees from the robust fuel cell program at UC Irvine. His classmates included such H₂ notables as Andrew Martinez, from the California Air Resources Board (CARB), and Jack Brouwer, now Director of the National Fuel Cell Research Center at UC Irvine. Matt's work experience includes 20 years working at the South Coast Air Quality Management District, 10 of those years as Chief Technologist. He was closely involved in funding the first H₂ retail station in Diamond Bar. Matt started his job at FEF in May 2022.

As the largest H₂ retailer in the world, FEF was invited to be a Tier 1 partner in California's ARCHES program, which was just recently awarded \$1.2 Billion from the U.S. DOE, designating California as a "hydrogen hub". The company operates True Zero H₂ fueling stations. Although they, too, have their challenges, their stations have greater than 80% "up-time", with a goal of 90%

Miyasato (cont.)

plus. But, he realizes this does not provide any comfort in the moment when a driver is trying to get hydrogen fuel and finds that the station where he or she happens to be is down. As an FCEV driver himself (he drives a Hyundai Nexo) he knows firsthand of the frustrations, and that station reliability is one of the biggest issues right now.

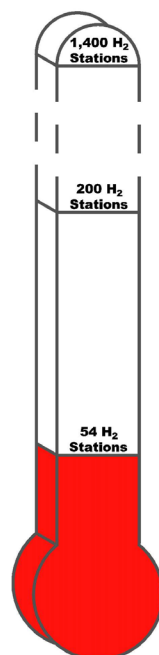
We touched on the issue of the high prices that FEF is now charging, and, like many others, he indicated that the "cratering" price decline of the Low Carbon Fuel

Standard (LCFS) is the biggest single contributor to the current high prices. In an effort to save costs, and keep price hikes to a minimum, the company has had to lay off employees, (which is why customer service may not be as good as it used to be). Since they did not want to close any stations, the only other option besides layoffs was to raise the price of fuel. He is hopeful that with the changes that CARB is making, the LCFS credit will go back up, and the price of fuel will come down.

Fun Fact: Matt worked on the "Hydrogen Highway" idea back in the day when it was called "BC to BC," Baja California to British Columbia. This was the brainchild of then-Governor Arnold Schwarzenegger.

Continued on Page 5

**Regroup
and
Recommit
- - -
200 by
2030**



Steadfast and Visionary Goal:
At least 1,400 light-duty stations by 2045. The purpose of this goal is to provide market confidence to manufacturers and station developers.

Major Milestone:
At least 200 light-duty stations by 2030. By achieving this milestone, we provide hope to current and future FCEV drivers.

Where we are:
Assembly Bill 126 becomes law, October 7, 2023





Coffee with a Font of H₂ Knowledge

- - -

Our Chat with Keith Malone

We met Keith in person at a coffee shop near his home in Highland Park, CA way back in August. We had seen Keith at a couple of different H₂ events in the last two years, but never had a chance to sit down and draw from the font of his hydrogen experience.

Here are excerpts from our interview:

CHCOA: You spent many years at the Hydrogen Fuel Cell Partnership but have recently started a new job. What does the work at your new job entail? How is it connected with hydrogen?

KM: The Company is called [RE+ Events](#) (formerly Solar Power International). RE+ is a global event management organization focusing on the clean energy industry - wind, solar, microgrids, energy storage, and hydrogen. They host seminars and conventions for companies working to address climate change. My work entails being a resource to university researchers, industry folks and the public, while also identifying potential exhibitors and speakers for the events.

CHCOA: Do you have a feeling for why the car

companies who make FCEVs are not more active in lobbying for a more reliable fueling infrastructure?

KM: I think they are actually very aggressive, but work in the background.

CHCOA: We are glad that Toyota (Mirai) and Hyundai (Nexo) remain in the market, but do you think other car companies will be joining them in marketing new LD FCEVs?

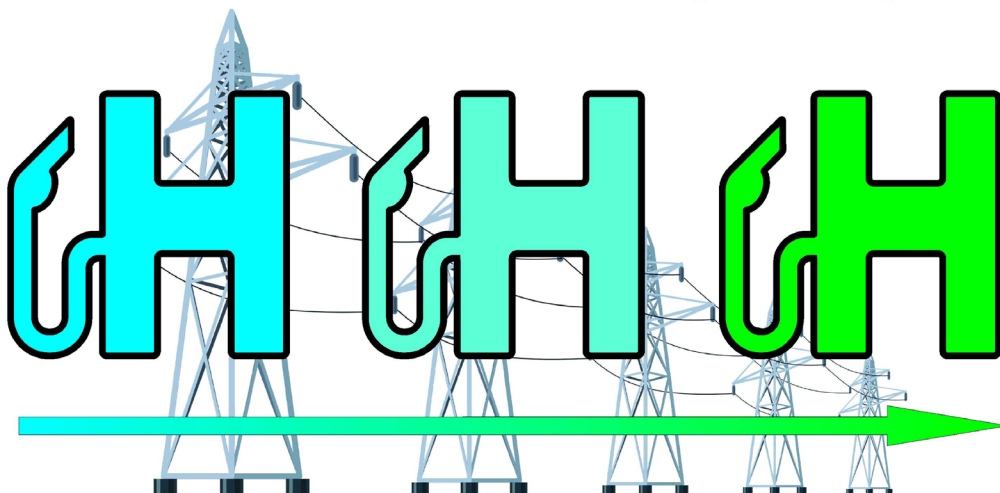
KM: First, let's remember that Honda is bringing a plug-in fuel cell CR-V to market next year. Other car companies are not yet ready to commit. There are just not enough market signals out there to convince them that they will be successful. However, it is important to note that no automaker has walked away from this technology.

CHCOA: What should we be asking of the hydrogen decision-makers?

KM: Oh boy. As you can imagine, after all these years in the H₂ industry, I have a whole list:

- What's it going to take to get cars to market?
- What signals aren't we sending to the automakers?
- What additional incentives do we need? How do we stabilize this?
- How can we speed up the station building process?
- The Government needs to stop holding the FCEV rollout to a "perfect synchronization" ideal; BEVs

Transportation Hydrogen



Green Before the Grid



Malone (cont.)

did not have that same expectation.

- Also, among some, there seems to be a “false choice” narrative of light-duty (cars) BEVs vs. FCEVs – as some have said, it’s AND, not OR.

CHCOA: Off the top of your head, what is new in the hydrogen world?

KM: Let’s see, off the top of my head, here’s a few:

- In Germany, the Volkswagen Group in 2022 submitted a significant fuel cell patent that raised a few eyebrows;
- In Northern California, the Redding Rancheria Tribe has received a grant to develop a hydrogen production facility that will take dead and diseased trees and underbrush from the Sierras to make green hydrogen; several projects like this have been funded;
- Only a few years ago, we had a couple of transit agencies pursuing fuel cell technology as part of their fleets – that number has grown to more than 40 statewide. Transit buses are the canaries in the coal mine; showing the strengths and challenges of fuel cells in the heavy-duty sector and in fleets.

CHCOA: A just for grins question: Is there a famous person that you know of who could be the spokesperson for FCEVs (like Musk is for BEVs)?

KM: We could look at race car drivers. It is very likely that the 2026 Le Mans race will include an FCEV; maybe

Malone (cont.)

consider French race car driver Olivier Lombard? He currently drives his company’s high-end hydrogen-powered car, [Hopium Machina](#).

CHCOA: Do you drive an FCEV?

KM: Yes, I have been driving an FCEV since 2013. I currently drive a 2nd generation Mirai (named Sharkey), but used to own a first gen model.



Sharkey at the Lunch Counter

What a repository of hydrogen knowledge! Most of what we learned was new to us and we walked away hoping we could read our copious notes in order to write this report 😊.

Keith can be followed on LinkedIn, where he posts regularly about hydrogen issues. Find him also on Instagram threads as [@keithman63](#), or on Twitter/X as [@ANativeAngeleno](#).



Funny Pages:

A bumper sticker recently seen on a hydrogen car: Look Ma, No Musk!



Hydrogen Fuel Cell Vehicles



A Trip Along the Hydrogen Highway

September 2025 - Join Us!



Miyasato (continued from page 2.)

In addition, he said maintenance is a huge part of their costs; a stunning three-quarters of their staff is dedicated to making sure the stations stay operational. In the meantime, the FEF staff is dedicated to building a better station. They have been awarded a grant from CEC to assist them in increasing their manufacturing output by more than 10 times at their Santa Ana facility, which will allow them to fabricate their own parts for their stations.

He has been a guest speaker on many government panels regarding hydrogen. His message to decision-makers:

- Don't give up on light-duty FCEVs; all the learning that has been done for heavy-duty fuel cell trucks has relied on the experiences with light-duty vehicles; they are needed to help with the maturing of the supply chain, and they are especially necessary if we are concerned about environmental justice (apartment dwellers do not have easy access to BEV chargers);
- Hydrogen is reliant on fossil fuels for now, but that is not going to be that way for long;
- We need all the tools in the toolbox to achieve California's green energy future;
- Funding between BEVs and FCEVs has been inequitable;
- BEVs are not relying totally on green energy, so H₂ vehicles deserve the same consideration - "Don't let the perfect be the enemy of the good."



Miyasato (cont.)

His words of wisdom to FCEV drivers:

- Changing the world is hard; the wheels of bureaucracy turn slowly, it takes patience.
- Do talk to your representatives in support of light-duty FCEVs. Help them to see that FCEVs are needed in order for California to meet the goal of 100% ZEV sales by 2035; there is no way it can be done with just BEVs. The Government needs to be on board to fix the problem with LCFS, or find another mechanism to provide an incentive for station construction. He reassured us that FEF heavy duty stations will include light-duty fueling dispensers. For example, they are commissioning a multi-use heavy-duty truck hydrogen station near the Port of Oakland, which includes a separate island with 4 dispensers for light-duty.
- He is very aware of the dire situation in Sacramento (for those of you who live elsewhere, Sacramento is down to one station, which almost always has a long line of vehicles trying to fuel). He said they don't like to see stations go down, because it negatively impacts those remaining. FEF is in discussions with all competitors to keep as many stations operational as possible.

All in all, a very informative and pleasant conversation with Matt!