

Trending: Centura Health, one of Colorado's largest hospital systems, announces its breakup

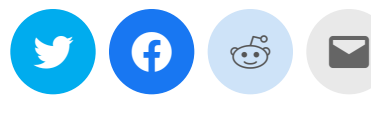


OPINION COLUMNS

# Opinion: There's more than one way to power an electric vehicle: Hydrogen

We'll need EVs powered by batteries and by hydrogen fuel cells to meet our emissions goals

Brian DeBruine 1:30 AM MST on Feb 12, 2023



Making more zero-emission vehicles of all types available to more people quickly will be essential to achieve the zero-emissions goals that policymakers have pledged to meet.

At this stage of the energy transition, two options for zero-emission vehicles have emerged as commercially viable to meet consumers' needs: battery electric vehicles and fuel cell electric vehicles. It will take both batteries and fuel cells together to decarbonize emissions across the transportation sector, especially the 57% of greenhouse gas emissions from light-duty vehicles — the passenger cars we all drive.

However, the recently released U.S. National Blueprint for Transportation Decarbonization does not recognize any long-term opportunity for fuel-cell electric vehicles to reduce emissions from light-duty transportation. While the federal agencies did see a role for hydrogen-powered mobility solutions for other transportation applications, the omission of fuel cells for light-duty is a disservice to consumers as they become more familiar with the electric-powered solutions the federal and Colorado state governments are mandating.

Underwritten By

Americans have become accustomed to picking the vehicle that fits their needs and lifestyle. Auto manufacturers developed and deployed gasoline and diesel vehicles over the past century to meet consumer demands. From transporting your family to running a business, consumers expect vehicles to fit their schedules. And like gasoline and diesel vehicles, those that run on the electricity of batteries and fuel cells can meet consumer requirements and decarbonization targets.

While a battery-powered car could meet all the needs of a local commuter, with the ability to charge while at work or in the evenings at home, the same cannot be said about a small business owner that is more reliant on their vehicle. For rural and long-distance travel, a fuel-cell electric vehicle offers a longer range and faster refueling to keep a vehicle on the road and a business operating.

Further, for drivers living in dense urban areas or in buildings without dedicated parking, charging a battery-powered vehicle while at home might not be feasible. By embracing fuel cells, refueling infrastructure similar to existing gas stations will help meet the needs of consumers without the space or means to install a charging station for their vehicles. A single hydrogen refueling station could serve hundreds or thousands of vehicles a day.

Geography will also play an important role in determining which zero-emissions vehicle will meet a driver's requirements. Rural drivers need greater range with less frequent fueling, which only fuel cell electric vehicles can provide. Additionally, fuel cell electric vehicles do not experience diminished performance in varying environments. This is especially important for Colorado drivers that navigate cold weather and changes in elevations and steep roadway inclines.

The need for multiple zero-emissions options is reflected in consumer polling on battery electric vehicles as well. While about a third of all drivers say they are considering adopting an electric vehicle, the remaining drivers will need to be accounted for to fully decarbonize the transportation sector. Some of those will find a battery electric vehicle can fully meet their personal transport needs after becoming more familiar with its capabilities, but a significant number of drivers will still need an fuel cell electric vehicle to meet their requirements and preferences. Policymakers must recognize this fact and meet consumers where they are.

The U.S. blueprint simply adopts the narrative being advanced by the loudest voices in the room, which are shouting that battery electric vehicles have won the race for the light-duty market, and why would we need to develop fuel cell electric vehicles? But the facts tell a different story.

While batteries have outpaced fuel cell deployment to date, those numbers pale in comparison to the challenge being addressed. Gasoline and diesel vehicles remain overwhelmingly dominant, encompassing 97 percent of the U.S. auto market. This transition is just getting started and all options should be on the table to meet net-zero goals.

Reframing the narrative to see the complementary attributes of battery-powered and fuel cell-powered vehicles will help us achieve 100% zero-emission vehicle deployment faster and be a far more productive use of time, energy and resources. By developing each solution, demand for critical minerals, like lithium and cobalt for batteries and platinum group metals for fuel cells, can be reduced over the long term and make resource sourcing and deployment goals more realistic across the value chain.

Additionally, demand on the electricity grid can be reduced by developing an independent hydrogen refueling network, which will make the future transportation sector more resilient in the event of a disruption to either infrastructure system.

The U.S. blueprint presented an opportunity to showcase what a resilient and decarbonized transportation sector could look like. Unfortunately, policymakers made the decision to prescribe the solutions available to drivers across the U.S. Battery electric vehicles may have jumped ahead with a larger market share for now, but over the long term, fuel cell electric vehicles of all classes will play a significant role in the race for decarbonized mobility.

### MORE IN OPINION

Do you have what it takes to work at Casa Bonita? You've never read job listings like these.

4:01 AM MST on Feb 19, 2023

Littwin: The big news in Dominion's defamation suit is why Fox kept up the Big Lie

3:05 AM MST on Feb 19, 2023

Nicolais: Colorado should ditch its archaic caucus and assembly process

3:03 AM MST on Feb 19, 2023

Brian DeBruine, of Evergreen, is co-director of the Colorado Hydrogen Network, a nonprofit advocacy organization seeking to promote hydrogen and fuel cell technology.

Follow Colorado Sun Opinion on Twitter, Instagram and Facebook.

Tagged: air quality, electric vehicles, vehicle emissions



### Brian DeBruine

Brian DeBruine, of Evergreen, is co-director of the Colorado Hydrogen Network, a nonprofit advocacy organization seeking to promote hydrogen and fuel cell technology. More by Brian DeBruine

Underwritten By

### Follow The Sun

- Newsletters
The Sunriser
The Unaffiliated
The Temperature
The Outsider
Colorado Sunday
Mike Littwin
What's Working
The Headlines
Twitter
Facebook
Instagram

### Get to Know Us

- About Us
Ethics Policy
How We're Funded
DEI Commitment
Annual Reports
Events
(720) 263-2338 — Call, text, Signal or WhatsApp
News Literacy Resources
RSS
Work For The Sun

### More

- Membership FAQs
Gift Membership
Email Membership Support
How To Support The Sun
Sponsor Us
Business Memberships
Store

Got a story tip? Drop us a note at tips@coloradosun.com

### The Colorado Sun

The Colorado Sun is a journalist-owned, award-winning news outlet based in Denver that strives to cover all of Colorado so that our state — our community — can better understand itself.



Underwritten By