8 states join forces to promote clean cars

By Jason Dearen, Associated Press
In the Fresno Bee, Thursday, Oct. 24, 2013

SAN FRANCISCO — Eight states, including California and New York, pledged Thursday to work together to dramatically multiply the number of zero-emission cars on the nation's roads by speeding the construction of charging stations and other infrastructure.

The goal is to put 3.3 million battery-powered cars, plug-in hybrids and other clean-burning vehicles on the roads in those states by 2025. That's more than 15 times as many zero-emission vehicles projected to be in use in the entire U.S. by 2015.

Auto dealers say networks of charging stations and other conveniences are crucial to winning over drivers who are accustomed to pulling up to the gas pump and fear getting stranded by a dead battery.

The other states in the pact are Massachusetts, Maryland, Oregon, Connecticut, Rhode Island and Vermont. The eight states together represent about 23 percent of the U.S. auto market.

The Associated Press breaks down why there are not more zero-emission cars already, the keys to accomplishing the goal and the formidable challenges:

How does this agreement differ from plans already in place in the states?

Each state has already separately adopted rules to require a percentage of new vehicles sold to be zero-emission by 2025.

For example, California's mandate of 15.4 percent calls for a total of 1.5 million zero-emission vehicles to be on the state's roads by that time. Currently, plug-in hybrids and electric vehicles make up less than 2 percent of the state's market.

The agreement signed Thursday is aimed at coordinating efforts among the eight states so that incentives, zoning laws and other ideas for promoting zero-emission vehicles can be more quickly implemented.

"The idea is to make it easier for customers to operate and use zero-emission vehicles. This in turn will help pave the way for success of the auto industry," said Mary Nichols, chairman of the California Air Resources Board.

Deb Markowitz, Vermont's natural resources secretary, said her state will probably form partnerships with companies to help them build charging stations and other necessary infrastructure.

Are the states contributing money to make this happen?

The agreement signed Thursday requires no specific financial commitment from each state. But each has already launched incentive programs and other policies meant to increase sales of zero-emission vehicles.

For example, California offers up to $2,500 in buyer rebates. The state leads the nation in zero emission vehicle sales, with more than 33,000 sold through June 30, and has set aside an additional $59.55 million for some 29,000 rebates through mid-2014. The state has also dedicated $20 million annually through 2024 or until 100 hydrogen stations are built, whichever comes first.

Massachusetts pays incentives of up to $7,500 per vehicle to cities that buy electric models, and up to $15,000 for each charging station built. New York has set its own goal of adding a network of up to 3,000 charging stations over the next five years.

How many zero-emission vehicles are on road now, and how many models are available?

Industry data projects more than 200,000 zero-emissions vehicles on the nation's roads by 2015. That's out of more than 250 million registered vehicles in the U.S.

There are 16 zero-emission models from eight manufacturers on the market — nine that run on batteries alone, two hydrogen fuel cell cars and five plug-in hybrid models, which can run on battery alone or gasoline.

The Alliance of Automobile Manufacturers in Washington says there will be 26 battery electric vehicles and plug-in hybrids for sale in 2014.

Officials say every automaker will have a zero-emission model by 2015.

What are the key things needed to reach this goal?

Auto manufacturers and dealers say consumers do not yet fully trust electric vehicles because of the lack of charging stations. Also, the clean-burning vehicles tend to be more expensive than gasoline-powered cars.

Automakers applauded Thursday's agreement as an important step forward but cautioned that significant infrastructure investment will be needed to reach the goal.

Putting 3.3 million vehicles on the road "is not an achievable goal given what we're doing today from an infrastructure investment standpoint. It's just not," said Dan Gage, a spokesman for the Alliance of Automobile Manufacturers in Washington, which represents Toyota, General Motors and 10 others.

"Up to this point there's been a lack of consumer interest, and a lot of that has to do with investment in infrastructure."

There are more than 6,700 charging stations open to the public in the eight states in this agreement, which seeks to multiply that number exponentially over the next dozen years.

"We think that is going to be necessary for some of the (driving) range anxiety and other acceptance barriers that need to be broken down," said Brian Maas, president of the California New Car Dealers Association.

"The cars are coming — they're here already — but if you don't have a place to charge them, there's not going to be the level of consumer acceptance."

Whatever happened to the Hydrogen Highway?

Mark Glover
The Sacramento Bee, Friday, October 25, 2013

SACRAMENTO, Calif. -- Remember the Hydrogen Highway?

It was front-page news less than a decade ago, and the California Fuel Cell Partnership in West Sacramento was ground zero for what was touted as a forward-looking effort to green the Golden State.

Approved in 2004 by then-Gov. Arnold Schwarzenegger, who promoted it with action film hero gusto, the Hydrogen Highway envisioned construction of an extensive network of hydrogen filling stations to serve drivers of zero-emission fuel-cell vehicles - bettering California's air quality, enhancing the Golden State's reputation as a leader in national environmental policy and lessening U.S. dependence on foreign oil.

Hydrogen has long been viewed by advocates and environmentalists as an attractive option, because it can easily be pumped into a vehicle tank, with the bonus of no emissions of either greenhouse gases or smog-forming pollutants. In a fuel-cell vehicle, hydrogen combines with oxygen, yielding a current that drives an electric motor. The tailpipe spews nothing but water vapor and heat.

Supporters add that hydrogen can be produced in abundance by American companies. Environmentalists simply say that it's not oil, with all its pollution and price-volatility baggage.

Critics noted then and now that much hydrogen is processed from natural gas and that alternative methods are costly. That did not deter Schwarzenegger, who was a welcome visitor at the fuel

cell partnership headquarters. President George W. Bush also dropped by for a visit in 2006, talking up hydrogen technology.

Today, the high-flying promise of those days remains unfulfilled.

There are just nine hydrogen fueling stations open to the public statewide, and only about 225 hydrogen fuel cell vehicles in operation.

Over the past 10 years, automakers have invested millions of dollars and tens of thousands of engineering hours developing hybrids, full electric vehicles and plug-ins. As battery-powered electric vehicles took center stage, construction of electric charging stations increased. Hydrogen stations fell off the public radar, as did the Hydrogen Highway.

But backers of hydrogen fuel-cell vehicles say "not so fast." They contend that development of the critical filling station infrastructure and fuel cell vehicles was always a long-term proposition and that the Hydrogen Highway will soon wend its way back into public consciousness.

Recent events show that California still sees a future for hydrogen.

Gov. Jerry Brown just signed Assembly Bill 8 into law. It extends, until Jan. 1, 2024, existing fees on motor vehicles, boat registrations and new tires. The fees fund programs to accelerate the turnover of older vehicles and development of advanced, environmentally friendly technologies.

Officials at the fuel cell partnership said the measure provides funding for at least 100 hydrogen stations with a commitment of up to $20 million a year from the California Energy Commission's Alternative and Renewable Fuel and Vehicle Technology Program. Last year, the partnership released "A California Road Map" recommending 68 stations in strategic locations to launch the commercial market and at least 100 stations to sustain it.

"We've always operated with the understanding that the (fueling) infrastructure has to be in place first, and now we're getting closer to that," said Catherine Dunwoody, executive director of the fuel cell partnership, a public-private collaboration of auto manufacturers, experts, energy providers, fuel cell technology firms and government agencies working to promote commercialization of fuel cell vehicles. "So with AB 8 ... and automakers getting ready to bring their technology to market, it's an exciting time."

Dunwoody said she never begrudged electric vehicles' time in the spotlight, considering it "a natural progression of the technology. ... What's significant to understand now is that (consumers) are going to have a choice of technologies in the future."

University of California, Davis, professor Daniel Sperling, director of the Institute of Transportation Studies at UCD and regarded as one of the nation's most influential experts on transportation technology and policy, characterized AB 8's passage as a landmark occurrence.

"One of the biggest obstacles to introducing fuel cell electric vehicles was the lack of fueling certainty. No more. The passage of AB 8 sends a clear signal to automakers, consumers and others that California will launch a market for FCEVs," Sperling said.

AB 8 was not warmly received in all corners, including the Sierra Club, a longtime advocate of environmentally friendly fuels. The Sierra Club joined a host of critics who decried the measure for shifting the cost of building new stations from oil companies to consumers. Assemblyman Henry Perea, a Democrat, characterized his AB 8 as a compromise that at least allows hydrogen fueling infrastructure to get a foothold.

Of course, hydrogen stations won't be of much use unless someone is building the fuel cell cars that need them. And there's movement on that front, too.

Toyota will unveil its upcoming fuel cell vehicle concept next month at the Tokyo Motor Show.

Toyota's fuel cell vehicle reportedly is based on a Lexus sedan's architecture with a range of more than 300 miles. Toyota hopes to commence sales of the model in the United States, Japan and Europe by 2015. That would dovetail with Dunwoody's hope of seeing 60 hydrogen fueling

stations developed over the next five years; she said Japan and Germany have even more ambitious goals for building hydrogen fueling stations.

Satoshi Ogiso, managing officer of Toyota Motor Corp., said the auto-producing giant wants to sell "tens of thousands" Toyota FCVs a year "by sometime in the 2020s."

Critics are doubtful, saying the vehicle's hydrogen fuel cell technology is complex and costly, which will likely make the cost of the Toyota FCV prohibitive.

James Sweeney, a Stanford University engineering professor with an extensive background in energy and economic policy issues, is not a fan of the Hydrogen Highway and believes it was a byproduct of state government "betting" that hydrogen would emerge as the "technological winner" among multiple options.

Sweeney said other electric vehicle technologies - plug-ins, for example - have proved reliable and affordable. He said hydrogen technology remains "a very expensive way of generating electricity ... Fuel cells are expensive." Were it his money, Sweeney said, he "would not spend a nickel" on hydrogen development. He said he would be inclined to invest in more affordable "new technological ideas" or expand on proven electric vehicle technologies.

Others are not betting against Toyota, remembering that it introduced the then-exotic Prius gas-electric hybrid to the U.S. and other markets in 2000, with a sticker price of less than $20,000. The Prius set off a hybrid-production race among automakers worldwide, and global sales topped the 3 million threshold in June this year. California is the top market for U.S. Prius sales; it was the state's top-selling new car in 2012 with 60,688 registrations, according to the Sacramento-based California New Car Dealers Association.

"The fact that it's Toyota makes it a bit different," said Jesse Toprak, senior analyst for Santa Monica-based TrueCar.com. "The Prius was not a profitable proposition at the beginning, but you had a lot of early adopters. I think there's a lot of support for hydrogen, and I think you'll have early adapters adopters (in California) for it."

Also, Toyota is not a lone voice in the wilderness. Honda, Hyundai and Mercedes-Benz are developing fuel cell vehicles for introduction in the short term.

Robert Bienenfeld, assistant vice president of environment and energy strategy for Honda Motor Co., cited continued advancements in fuel cell vehicle technology and said "California's planned investments in hydrogen refueling will be a key enabler to create this market."

"Hydrogen-powered electric vehicles represent the next generation of electric vehicle technology," said John Krafcik, president and CEO of Hyundai Motor America. "Their refueling speed and range will delight their owners, and we'll all share the environmental benefits. We're excited to be working with California to bring H2EV technology and infrastructure to market as quickly as possible."

Krafcik's remarks came amid this month's announcement that the Governor's Office of Business and Economic Development would work to streamline the permitting process for zero-emission vehicle fueling stations to expand California's hydrogen and electric vehicle capacity. GO-Biz said it will work with local, state and federal government agencies; hydrogen station developers; electric vehicle regional planners; auto companies and others to facilitate and accelerate permitting/building of both the hydrogen fueling stations and EV charging facilities.

Kish Rajan, GO-Biz director, said "California is a world leader in zero emission technology, and our infrastructure needs to reflect that dynamism."

The California Energy Commission approved $300,000 in funding for GO-Biz over the next two years, with an eye on meeting a goal of 1.5 million zero-emission vehicles on the road by 2025.

Sacramento Bee commentary Fri., Oct 25, 2013:

Viewpoints: Coal mine methane offsets are a bad fit for California and its clean energy law

By Peter Miller

California's historic clean-energy law could become a $300 million source of new revenue for the coal industry if a state regulatory agency votes today to allow California's major polluters to offset their emissions by purchasing credits from methane-reducing projects at coal mines located primarily out of state. But it doesn't make sense to allow a compliance option that would come at the expense of pollution-control opportunities that could instead directly improve California's air quality and economy.

As a board member of the Climate Action Reserve that developed our current offsets protocols, which can be used in limited quantity for complying with the cap-and-trade program under the state's landmark AB 32 Global Warming Solutions Act, I know offsets can be an effective tool to decrease or sequester carbon pollution to help meet our 2020 reduction target.

Currently, our state's major polluters have three options for compliance under the cap-and-trade program. They can cut pollution in their businesses, buy permits to pollute from state-run auctions or from other businesses that have cut their emissions aggressively, or purchase "offsets" that represent carbon emission reductions in sectors not regulated under the AB 32 program. Providing alternatives helps ensure we achieve our emission reduction targets in the most cost-effective manner, as AB 32 requires.

The California Air Resources Board already has approved offset protocols that allow investments in forest conservation or reducing emissions from livestock practices to count against the mandatory pollution limits for our major industries. Today, the agency is scheduled to decide whether to allow coal methane offsets as well. But unlike the other protocols, which can provide a range of environmental and local benefits in California, this proposal doesn't add up.

Since California has no active coal mines and only a few small abandoned mines, virtually all of the methane-capturing projects would be outside California. That means that none of the additional benefits that can accompany greenhouse gas emission reductions – like new jobs from emissions controls and decreases in toxic air pollutants that harm our health – will occur in California.

Instead, the protocol will provide a new revenue stream – potentially upward of $300 million by the end of the decade – for coal mine operators at a time when low-carbon energy resources have king coal on the financial ropes in the United States.

That's revenue that could be invested instead in emission-reduction projects at California facilities, in existing offsets benefitting our forests and low-carbon farming practices, through the state's Greenhouse Gas Reduction Fund where the proceeds are earmarked for clean-energy investments, or as utility bill credits for California customers. With the eyes of the world watching the development of California's carbon market as a climate-control measure, the Air Resources Board needs to get this right.

When coal is mined, methane – a potent greenhouse gas pollutant – is vented into the atmosphere. If the methane is captured or injected into a pipeline instead, the climate impact is substantially diminished. Although AB 32 is the wrong vehicle to accomplish it, there's no doubt that coal mine methane emissions need to be reduced.

Methane is the second-largest source of U.S. climate-warming greenhouse gas emissions after carbon dioxide, and nearly 12 percent of all human-caused methane discharges result from coal mining. With the technology to capture and destroy this type of methane already commercially available and in use in a number of mines, the Environmental Protection Agency should require it.

Here, the Air Resources Board staff says it is recommending adoption of the coal mine methane protocol primarily because it would add tens of millions of potential emissions reductions credits to the carbon market, helping to contain cap-and-trade allowance prices. But the Air Resources Board already has proposed a number of safeguards to ensure allowance prices stay within a reasonable range. Recent market forecasts suggest that, if anything, the concern may be in the other direction, as these pollution permits are projected to stay near the floor price for the foreseeable future.

For a protocol that creates the impression – if not the reality – of helping to prop up the coal industry by providing mine operators with a new and potentially lucrative source of revenue, additional cost containment for California's biggest polluters doesn't seem like a strong enough reason to approve it when there are existing compliance options that provide more benefits to Californians. We hope the Air Resources Board agrees and rejects this proposal.