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Air Resources Board

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California Joins H_2 USA to Advance Hydrogen Transportation

Increasing zero-emission vehicles is critical to achieve greenhouse gas and air quality targets

SACRAMENTO – In California's latest effort to advance hydrogen transportation, the Energy Commission and the Air Resources Board announced today that California has joined H_2 USA, a public-private partnership led by the U.S. Department of Energy.

H_2 USA is dedicated to accelerating the commercialization of clean transportation solutions, primarily fuel cell electric vehicles (FCVs) and a fueling infrastructure that will make these vehicles more accessible and affordable.

California's pledge to join H_2 USA adds the state to the growing partnership of government agencies, automakers, gas suppliers, and the hydrogen and fuel cell industries across the nation. The partnership will identify actions designed to encourage early adopters of fuel cell vehicles, conduct coordinated technical and market analyses, and evaluate approaches to an alternative fueling infrastructure that drives cost reductions and economies of scale.

"California is committed to advancing zero-emission vehicles to help meet climate change, clean air, and energy security goals," said Energy Commissioner Janea A. Scott. "We look forward to working with the partners in H_2 USA to identify and deploy solutions that will speed the transition to a zero-emission vehicle fleet."

"California is committed to seeing more zero-emission vehicles on our roads and highways. This new partnership helps us reach that goal by accelerating the development of a fueling infrastructure to support the commercial market launch of hydrogen fuel cell vehicles," said Air Resources Board Chairman Mary D. Nichols. "Joining this public-private partnership is a big step toward the development and deployment of a broader, consumer-friendly hydrogen infrastructure for California and the rest of the country."

California leads the nation in energy efficiency standards and promoting zero-emission vehicles (ZEVs), and plays a lead role in environmental protection; however it is the 12th largest emitter of carbon dioxide worldwide. In 2006, AB 32 (Nunez/Pavley) was signed into law, setting a California target to reduce greenhouse gas emissions to 1990 levels by 2020. In 2008, SB 375 (Steinberg) directed the California Air Resources Board to set regional targets for reducing greenhouse gas emissions from passenger vehicles.

In March 2012, Governor Brown issued an Executive Order directing state government to help accelerate the market for ZEVs in California. The order set a goal of establishing an infrastructure to support one million ZEVs in California by 2020 and to have 1.5 million ZEVs on California roadways by 2025. Since then, seven other states, comprising more than 30 percent of the total national vehicle fleet, signed an agreement to work together to put 2.2 million ZEVs on the roads of their respective states by 2025.

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The Air Resources Board also set aggressive goals for lowering the emissions of vehicles by controlling smog, soot, and global warming gases and through requirements for greater numbers of ZEVs into a single package of standards—Advanced Clean Cars—for vehicle model years 2017 through 2025.

In September 2013, the Legislature passed and the Governor signed AB 8 (Perea), re-authorizing the Energy Commission's successful Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). To date, the ARFVTP has provided more than $400 million to more than 260 alternative fuel, infrastructure, and vehicle technology projects. Reauthorization of the ARFVTP continues annual program investments of $100 million, and dedicates $20 million of this amount to the installation of hydrogen fueling infrastructure supporting the deployment of fuel cell vehicles.

As with other electric vehicles, fuel cell vehicles emit no harmful tailpipe emissions, which is important in reducing exposure to harmful air pollutants, especially in or near disproportionately impacted communities.

Fuel cell vehicles use hydrogen to create electricity to power a car, producing only water vapor or heat in the process. Depending upon how the hydrogen is produced, few to zero harmful emissions are released at hydrogen production facilities. By state law, all of the hydrogen sold through publicly funded hydrogen fueling stations must include one-third renewable hydrogen, which means the potential reduction in greenhouse gases is about 68 percent, the same as battery electric drive cars. The greenhouse gas emissions reductions can be even higher when hydrogen is produced from renewable sources such as biomethane from biomass and landfills or from renewable energy sources such as wind or solar power using water electrolysis.

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The California Energy Commission is the state's primary energy policy and planning agency. Created by the Legislature in 1974 and located in Sacramento, six basic responsibilities guide the Energy Commission as it sets state energy policy: forecasting future energy needs; licensing thermal power plants 50 megawatts or larger; promoting energy efficiency and conservation by setting the state's appliance and building efficiency standards; supporting public interest energy research that advances energy science and technology through research, development, and demonstration programs; developing renewable energy resources and alternative renewable energy technologies for buildings, industry and transportation; planning for and directing state response to energy emergencies.

ARB's mission is to promote and protect public health, welfare, and ecological resources through effective reduction of air pollutants while recognizing and considering effects on the economy. The ARB oversees all air pollution control efforts in California to attain and maintain health based air quality standards.