



NREL Showcases Hydrogen Internal Combustion Engine Bus, Helps DOE Set Standards for Outreach

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Accomplishment: NREL started using its Ford hydrogen-powered internal combustion engine (H₂ICE) bus in May 2010 as the primary shuttle vehicle for VIP visitors, members of the media, and new employees. As the first national laboratory to receive such a bus, NREL helped the U.S. Department of Energy (DOE) set the standards for developing publications, designing vehicle wraps, and showcasing the vehicle at outreach events. NREL featured the H₂ICE bus at a recent event in downtown Denver that draws about 500,000 people a year.



Dennis Schroeder, NREL, PIX 17645

Context: DOE funded the lease for NREL's H₂ICE bus, along with 12 other buses at federal facilities across the country, to demonstrate market-ready advanced technology vehicles and showcase hydrogen's role in our nation's portfolio of sustainable transportation options.

The bus fills up at NREL's on-site hydrogen fueling station, which dispenses hydrogen produced via water electrolysis as part of a wind-to-hydrogen demonstration project. Soon after receiving the bus, NREL outfitted the station with cascading storage tanks, which decrease the time required for fueling. This is particularly beneficial for vehicles with large onboard storage systems, such as the H₂ICE bus, which can take up to 30 kg of hydrogen in a single fueling.

NREL developed an educational brochure about the H₂ICE bus and designed vehicle wraps that now serve as examples for other organizations adding such vehicles to their fleets.

NREL showcased the H₂ICE bus at The Taste of Colorado in Denver, September 3–6, 2010. In addition to the H₂ICE bus, the NREL booth featured an E85 fleet vehicle, hydrogen gas and natural gas dispensing nozzles, a 5-kW fuel cell, and a fuel-cell-powered fan.



Robert Remick, NREL, PIX 17908

The bus attracted a tremendous amount of attention—all told, more than 5,500 people visited the booth, and 93 media outlets featured the bus in print, online, or during television spots over the Labor Day weekend.

NREL staffers volunteering at the booth distributed NREL's new brochure about the H₂ICE bus as well as a wide assortment of publications about alternative fuels and advanced vehicles.

Applicable DOE Target: The "Ford Motor Company Leased Bus Program Publicity Guidelines" provided by DOE require participation in four community outreach events during the one-year term of the lease. The guidelines further stipulate that the events must be documented through high quality photos, media coverage is encouraged, and the number of visitors must be tracked.

Significance of Accomplishment: The H₂ICE bus attracted a significant amount of media attention and public interest at The Taste of Colorado, helping to educate people from a wide variety of backgrounds about advanced technology vehicles and hydrogen's use as a clean, sustainable transportation fuel. NREL's educational brochure, vehicle wrap designs, and outreach efforts serve as a model for other organizations with DOE-funded H₂ICE buses.



Melanie Caton, NREL, PIX 17910