

Toyota Announces Opening of First Pipeline-Fed Hydrogen Station in the United States

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[Click here for remarks from the Shell Hydrogen Station Grand Opening](#)

Torrance, Calif., May 10, 2011 — Toyota Motor Sales, U.S.A., Inc. (TMS) today celebrated the opening of the first hydrogen fueling station in the U.S. fed directly from an active industrial hydrogen pipeline. The station is a collaborative effort between Toyota, Air Products, Shell, South Coast Air Quality Management District (SCAQMD) and the Department of Energy (DOE). The facility will provide hydrogen for the Toyota fuel cell hybrid demonstration program vehicles as well as other manufacturers' fuel cell vehicle fleets in the Los Angeles area.

“Building an extensive hydrogen re-fueling infrastructure is a critical step in the successful market launch of fuel cell vehicles,” said Chris Hostetter, group vice president, product and strategic planning, TMS. “We plan to bring a fuel cell vehicle to market in 2015, or sooner, and the infrastructure must be in place to support our customers' needs.”

The station is located adjacent to the TMS sales and marketing headquarters campus. As landowner, Toyota leases the land to Shell for a nominal fee. As station owner/operator, Shell works directly with Air Products who provides onsite equipment and station maintenance. The pipeline gas also is provided by Air Products from its plants in Wilmington and Carson, Calif. SCAQMD and DOE provided project funding assistance.

“This is the first time Shell has worked closely with a vehicle manufacturer to develop a demonstration station,” said Julian Evison, general manager of operations for Shell alternative energies. “The industry has made good technical progress, but cooperation is a necessity for hydrogen to achieve its commercial potential as a road transport fuel.”

Air Products also worked with Toyota and other fuel cell vehicle manufacturers to develop the Hydrogen Vehicle Authorization System (HVAS), another first for the industry and unique to the Torrance station. The HVAS wireless vehicle recognition system allows station-to-vehicle recognition to facilitate quick and convenient fueling for customers.

The station also will feature a learning center onsite to provide hydrogen and station information to local students and the general public. Shell and Toyota will work together to populate the learning center.

With this new station, the City of Torrance will become part of the California Hydrogen Highway initiative, which aims to create clean air solutions and develop new technology jobs across the state.

For more information on the Hydrogen Highway initiative, please visit <http://www.hydrogenhighway.ca.gov/>.

“This fueling station will be a tremendous model to show how effortless a pipeline supply of hydrogen can be to an automobile fueling station and other hydrogen fuel cell applications,” said David J. Taylor, vice president, energy business at Air Products. “This site will be a model to learn and expand pipeline fed stations as opportunities arise.”

The close proximity of the hydrogen pipeline to TMS campus led Toyota to think beyond vehicles to consider additional ways to use hydrogen. In 2010, Toyota partnered with Ballard Power Systems to install a one-megawatt hydrogen fuel cell generator to offset peak electricity demand on campus. The fuel cell generator will

be fed directly from the hydrogen pipeline through an existing tap on the TMS property. Pipeline hydrogen used on campus will be offset with the purchase of landfill generated renewable bio-gas.

The system is scheduled for installation in 2012 and is estimated to reduce CO2 emissions by 10,000 tons with emission-free fuel cell technology. Plans include using heat created by the fuel cell system to provide hot water and space heating in the Toyota employee fitness center and in the Lexus headquarter building within the TMS headquarters campus. Use of this heat will offset natural gas consumption on campus, thereby avoiding an estimated additional 28 tons of CO2 emissions annually.

Toyota's fuel cell hybrid vehicle fleet has logged several million miles since hitting the road in 2002, with significant technological improvements along the way. The first generation fuel cell hybrid vehicles (FCHV) estimated range was 130 miles. In 2009, the latest generation vehicle, Fuel Cell Hybrid Vehicle – Advanced (FCHV-adv), achieved an estimated range of 431 miles on a single fill of hydrogen. In addition to fuel cell stack efficiency and range improvements, durability and cold temperature operation have greatly improved along with significant reductions in manufacturing and materials costs. Toyota's current FCHV-adv nationwide demonstration program is placing more than 100 vehicles with demonstration partners by 2013, providing one of the largest fleets of active fuel cell vehicles in the country. The primary goal of the demonstration program is to spur infrastructure development prior to fuel cell vehicle market introduction in 2015. Successful infrastructure development will require collaborative efforts between manufacturers, government regulators, and business, similar to the partnerships formed to open the Torrance Shell hydrogen demo station.

“Vehicle demonstration programs and demonstration stations like the Torrance station are a critical next step in preparing the market for advanced technology vehicles and future fuels,” said Hostetter. “These innovative programs allow us educate, inform and prepare our customers for the future.”

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