Advanced battery packs used in plug-in hybrid electric vehicles will support the planned electric transportation systems in the Pacific Northwest I-5 corridor, which was discussed at the 2009 Beyond Oil Conference cosponsored by INL.

Electric vehicles, infrastructure power 2009 Beyond Oil conference

by Keith Arterburn, *INL Communications & Governmental Affairs*

Shiny new electric vehicles, emitting only low-whirring sounds, glistened as they darted among the few sun breaks in Seattle outside a Cascadia Center conference titled Beyond Oil: The Sustainable Communities Initiative.

The all-electric Ford Focus made its debut at the late-October event, co-sponsored by Idaho National Laboratory. Ford's Focus added to a charged atmosphere around the Department of Energy's $100 million grant for a 36-month transportation study in five states. The Pacific Northwest is jointly pursuing a vision of electrified transportation in the I-5 corridor from Vancouver, British Columbia, to Eugene, Ore., as part of the study.

Charge Northwest displayed its ChargePoint charging technology, which is offered for plug-in electric vehicles in the Pacific Northwest.

More than 300 attendees convened on the Microsoft Redmond campus near Seattle to hear from more than 50 experts about innovative transportation strategies, e-car technologies, infrastructure challenges and the vulnerability of the nation's reliance on oil. One presenter argued for vehicles capable of operating on a full spectrum of alternative fuels that includes electricity.

INL is a strong partner in helping the region pursue the electrified transportation vision by managing e-vehicle demonstrations, collecting data to adjust strategies for transportation systems, and devising new clean energy systems appropriate for the Pacific Northwest.

Most recently, INL joined eTec's electric vehicle infrastructure demonstration project with the Nissan automotive company and regional partners. The project will analyze performance and infrastructure data for 1,000 Nissan "LEAF" zero-emission vehicles.

The forum built on previous planning sessions and joined with the Clean Cities Conference. Its goal was to learn from regional governments and organizations about activities to realize the vision of electrified transportation systems, new clean energy systems and new infrastructures for improving communities. As part of DOE's larger study, Puget Sound's Clean Cities received a $15 million grant for its petroleum reduction project to create a regional sustainable market for renewable alternative fuel and advanced vehicle technologies.

INL gets senatorial endorsement

Sen. Orrin Hatch of Utah addressed the forum via recorded video message and opened his remarks by saying how pleased he was to see INL as a major sponsor.

"I am sure that you all are aware of the old phrase, 'Hi, I'm with the government, and I am here to help,'" he said. "Well, if you hear someone from the Idaho National Lab say that, you can believe it because they mean it. And, they can really help."

INL joined Ford Motor Company, Microsoft, the University of Washington, Puget Sound Clean Air Agency and the Cascadia Center in sponsoring the forum.

INL speakers opened and closed the conference. INL Deputy Lab Director David Hill joined representatives from Microsoft, Ford and the National Transportation Policy Project to welcome participants.

"The Pacific Northwest is a tremendous place to focus on electric vehicle integration where there are grand transportation challenges and a strong advocacy for change," Hill said.

J.W. "Bill" Rogers Jr., INL's associate laboratory director for Energy and Environment, closed the conference with a presentation that connected the need to develop clean energy systems with

Sen. Orrin Hatch recognized INL's efforts during a message televised at the Cascadia conference.

transportation advances such as both electric and plug-in electric vehicles. He also detailed INL's groundbreaking research in hybridizing clean energy systems, as well as the potential contributions by both light-water and high-temperature gas nuclear reactors.

"Over the past few years, INL has built partnerships in the Pacific Northwest to support its DOE customer and continues today to serve as a key regional asset in providing clean energy solutions," said Mike Hagood, INL's program development manager. "Our growing relationships in the area will provide INL an opportunity to identify and address key research challenges associated with advanced transportation integration and their connection with clean energy sources."

The combined forum offered more than 20 sessions about the challenges in electric vehicle technologies, infrastructure and marketplace competition.

Anne Korin of Set America Free advocated ending oil's monopoly in the transportation sector by replacing the nation's transportation fleet with flex fuel vehicles so the marketplace can determine which feedstock, fuel generation processes and fuels are most competitive. Korin cited the volatile impact exerted on global economies by OPEC's 1973 oil embargo and high oil prices during 2008. She added that there is an excellent business case for vehicles operating on electricity and flex fuels made from a combination of gasoline and a variety of alcohols (ethanol, methanol and butanol made from renewable energy sources).

Tim Murphy, INL's Energy Storage and Transportation Systems manager, described INL's ongoing plug-in hybrid electric vehicle and electric vehicle infrastructure demonstrations across America. He explained how INL's Advanced Vehicle Testing Activity and Vehicle Data Management System are used to collect and analyze vehicle, battery and infrastructure data critical to the successful implementation of the eTec-Nissan-INL electric demonstration in the region.

"We are growing our relationships in the West and Pacific Northwest," he said, "where we have found exceptionally receptive and proactive partners for researching e-vehicle technologies."

In addition to the new electric Ford Focus, Cascadia hosted displays of Tesla's electric roadster, Ford's Hybrid Plug In SUV and Ranger EV truck, Toyota's Prius, Rapid Electric Vehicles (REV), and Véhicule Électrique. Other alternative vehicles included Western Washington University's biomethane compressed natural gas-powered vehicle and several propane-propelled vehicles.

Infrastructure demonstrations included charging station technologies from Plug In America, Charge Northwest, as well as vehicles and support technologies from Pacific EV, Evergreen Fleets, MC Electric Vehicles and more.

Proposed Smart Mobility Hub at Freighthouse Square in Tacoma, WA - integrating information technology and sustainable transportation and smart growth principles.

INL presented a large graphic display on transportation and clean energy systems, which detailed the Pacific Northwest vehicle testing programs, DOE/INL's Advanced Vehicle Testing Activity and INL's Hybrid Energy System concept with a proposed testing laboratory to research various combinations of energy systems.

To view this story and other news about electric cars including reviews, photos and specs, visit AllCarsElectric.com, The CarConnection.com and Green Car Reports.

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