GM partners with Envision Solar for Chevy Volt recharging

October 25 2010, By Susan Carpenter

"Every electric vehicle is the equivalent of one or two single-family residences in terms of impact on the electric grid," said Desmond Wheatley, president of Envision Solar in San Diego.

To help offset that impact, Envision has partnered with General Motors to provide solar-powered charging "trees" to GM dealers selling its soon-to-be released Chevy Volt. The Volt is a plug-in electric vehicle that runs on a 16-kilowatt lithium ion battery and a range-extending gas engine.

"We're leading in introducing to the marketplace a vehicle that is powered by electricity. We see electrification of automobiles as being the long-term play," said Sharon Basel, manager of GM's environment, energy and advanced technology communications. "For that to really happen, infrastructure needs to be developed. We're looking all the time to expand our involvement with powering facilities by renewable sources like solar, so this was just a natural step for us as we talk about leading and building a business infrastructure."

Envision solar trees track with the sun to maximize energy production. Set up in one- and six-parking-space configurations, each space can generate enough electricity to fully charge one Volt in a day.

In addition to generating electricity, the solar trees provide shade, because, Wheatley says, 80 percent of the electricity an electric vehicle takes on board after first plugging in goes to cooling the battery to a temperature that will accept a charge.

Although some of the trees are transportable, most will be tied in to the grid. The charging stations within the trees are provided through existing providers, such as Ecotality and Coulomb Technologies, and will consist of Level 1 (120-volt) and Level 2 (240-volt) chargers. Each charge will cost about one-third as much as refueling a gas vehicle, Wheatley said.

Envision solar trees already exist on university campuses. In partnership with GM, they will be installed at the manufacturer's world headquarters in Detroit in addition to dealerships in key launch markets for the Volt: California, Texas, Michigan, New York, Connecticut and Washington, D.C. Installations will begin at the end of this year.

"The whole goal is to reduce dependence on petroleum and reduce overall emissions," GM's Basel said. "To get electricity from renewable sources like the sun is an ideal condition."

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