



**NEWS RELEASE**

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## **Xcel Energy announces six-month test drive of plug-in hybrid electric vehicles**

DENVER – Six plug-in hybrid electric vehicles (PHEVs) will be on the road by the end of 2007 as part of a demonstration test of vehicle-to-grid (V2G) technology by Xcel Energy. The goal is to determine how consumers can use the vehicles to significantly lower greenhouse gases, shore up electricity grid reliability and prove PHEVs are a viable alternative to today's carbon-emitting cars.

The project, which will convert six Ford Escape Hybrids to PHEVs equipped with V2G technology so each can charge and discharge power to and from the grid, is one of the nation's first real-world demonstrations of the emerging technology.

With operations in eight states, Xcel Energy will study how the vehicles perform in varied geographic regions and climates over a six-month period. Three company employees will serve as test drivers, using three of the PHEVs in typical home settings. The remaining three PHEVs will be used in the company's fleet.

“With every U.S. home connected to the electricity grid, vehicle-to-grid technology could be key to meeting our growing energy needs,” said Michael Lamb, executive director of Xcel Energy Utility Innovations. “This project will allow us to explore how PHEVs can become an integrated part of a ‘smart house’ and our vision of the smart grid energy system of the future – one that allows customers and utilities to work together to balance the power grid, lower greenhouse gas emissions and improve our nation's energy security.”

Xcel Energy's demonstration will build on its previous PHEV impact study (<http://www.nrel.gov/docs/fy07osti/41410.pdf>) by examining how drivers – and their vehicles – will react and perform in real-world settings. The project will explore the potential benefits of widespread PHEV use including: reducing petroleum-related emissions and greenhouse gases, enhancing energy security by reducing dependence on foreign oil, improving the reliability and cost-effectiveness of the electricity grid, exploring ways to make PHEVs more accessible and lowering vehicle fuel costs.

The project is a joint collaboration between Xcel Energy; Hybrids Plus Inc. in Boulder, Colo.; V2Green Inc. in Seattle, Wash.; and the U.S. Department of Energy's National Renewable Energy Laboratory in Golden, Colo.

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To make the cars V2G capable, each will be equipped with a V2Green Connectivity Module that controls vehicle charging, collects data and communicates via a cellular modem; and an Inverter (a 6-kilowatt inverter and charger in a single unit) from Hybrids Plus. In addition, Hybrids Plus will replace the cars' nickel-metal hydride batteries with a lithium-ion phosphate battery pack. V2Green will also supply server software enabling remote control of smart charging and V2G functions.

By outfitting the vehicles with these components, Xcel Energy can remotely control the battery cycles in each vehicle by requesting that each postpones charging or begins discharging energy back to the electricity grid.

“We’re committed to advancing new transportation technologies to bring the environmental and economic benefits of PHEVs to our customers,” said Ray Gogel, Xcel Energy chief administrative officer. “We take our environmental commitments seriously, and V2G technology holds great promise in reducing greenhouse gases and helping our grid work smarter. We’re excited to advance this innovative technology, which we believe holds significant promise for the future.”

Xcel Energy is dedicated to improving the environment and providing the leadership to make a difference in the communities it serves. The company is listed on the Dow Jones Sustainability Index for the second consecutive year. Xcel Energy is the nation’s No. 1 wind power provider. The company operates Windsource, the nation’s largest voluntary wind energy program in terms of customers. Xcel Energy is a leader in emissions reduction programs and in developing new technologies and tools to help bring clean, renewable energy onto its system at an affordable cost for its customers.

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Xcel Energy (NYSE: XEL) is a major U.S. electricity and natural gas company with regulated operations in eight Western and Midwestern states. Xcel Energy provides a comprehensive portfolio of energy-related products and services to 3.3 million electricity customers and 1.8 million natural gas customers through its regulated operating companies. Company headquarters are located in Minneapolis. More information is available at [www.xcelenergy.com](http://www.xcelenergy.com).

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