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## **EPRI-NRDC Report Finds Environmental Benefits of Deploying PHEVs** *Analysis Cites Curb in Greenhouse Gas Emissions; Potential for Improved Air Quality*

**PALO ALTO, Calif. – July 19, 2007** – The Electric Power Research Institute (EPRI) and the Natural Resources Defense Council (NRDC) today released a comprehensive assessment that finds that widespread use of plug-in hybrid electric vehicles (PHEVs) in the United States could reduce greenhouse gas (GHG) emissions and potential for improved ambient air quality.

The research measures the impact of increasing numbers of PHEVs between 2010 and 2050, including the nationwide environmental impact of potentially large fleets that would use electricity from the grid as their primary fuel source.

Among study's key findings were:

- Widespread adoption of PHEVs can reduce GHG emissions from vehicles by more than 450 million metric tons annually in 2050 -- equivalent to removing 82.5 million passenger cars from the road
- There is an abundant supply of electricity for transportation; a 60 percent U.S. market share for PHEVs would use 7 percent to 8 percent of grid-supplied electricity in 2050
- PHEVs can improve nationwide air quality and reduce petroleum consumption by 3 million to 4 million barrels per day in 2050

The analysis is the first to combine detailed models of the U.S. electric system and transportation sector with sophisticated atmospheric air quality models — accounting for the future evolution of both sectors in technological advances, electricity load growth and capacity expansion.

“This research accelerates our understanding of the interplay of emissions from various sources,” said Steve Specker, EPRI President and Chief Executive Officer. “We now see that widespread use of PHEVs could expand the fuel options in our transportation sector and at the same time yield net benefits to our environment.”

The EPRI-NRDC study represents the most comprehensive analysis of the potential reductions of global warming and other emissions from wide-scale introduction of PHEVs over time. The study addresses the impact that lower-emitting electricity generation can have for increasing these benefits.

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“NRDC believes that a combination of more efficient vehicles, improved battery technology, and a lower-emitting electric power plant fleet can produce substantial reduction in global warming pollution from both the electric power and the transportation sectors, said David Hawkins, Director of NRDC’s Climate Center. “Our results show that PHEVs recharged from low- and non-emitting electricity sources can decrease the carbon footprint in the nation’s transportation sector.”

Several benefits result from the use of grid electricity as a transportation fuel. PHEVs can reduce direct emissions at the vehicle tailpipe and indirect emissions at the fuel source when they recharge by electricity produced by a portfolio of efficient combustion, non-emitting or renewable generation. It is this linkage to a cleaner grid that could enable PHEVs to produce less GHG emissions than conventional or hybrid vehicles.

Using electricity produced from diverse domestic resources, PHEVs can reduce U.S. dependence on imported oil. The scale of the greenhouse gas benefit from PHEVs will depend on the efficiency of the vehicles, their range on a battery charge and the greenhouse gas emissions from the electric generation fleet.

"The EPRI-NRDC study demonstrates that plug-in hybrid electric vehicles can contribute significantly to the national effort to reduce greenhouse gas emissions," said John E. Bryson, chairman and CEO of Edison International. "With public support, it is likely that someday millions of Americans will fill up their vehicles at the plug instead of the pump, saving money and protecting the environment."

Plug-in hybrid electric vehicles combine operational aspects of both battery electric vehicles (BEVs) and power assist hybrid electric vehicles (HEVs). A PHEV, like a BEV, can be recharged from the electric grid, stores energy in an onboard battery and uses the energy while depleting the battery during daily driving.

Unlike a BEV, a PHEV can use its internal combustion engine for propulsion in highway driving or when the battery is depleted. Because of this versatility, a PHEV can serve as a direct replacement for a conventional internal combustion engine vehicle or HEV.

A joint EPRI-NRDC press conference will be held today at 10:30 a.m. in the Holeman Lounge at the National Press Club. Reporters may also dial into the conference by calling 1.800.926.9174. The entire PHEV environmental assessment will be posted online at [www.epri-reports.org](http://www.epri-reports.org) at 12 noon EDT, July 19, 2007.

### **About EPRI**

The Electric Power Research Institute (EPRI), with major locations in Palo Alto, Calif., Charlotte, N.C., and Knoxville, Tenn., was established in 1973 as an independent, nonprofit center for public interest science and environmental research. EPRI brings together member organizations, the Institute's scientists and engineers, and other leading experts to work collaboratively on solutions to the challenges of electric power. These solutions span nearly every area of power generation, delivery, and use, including health, safety, and environment. EPRI's members

represent over 90% of the electricity generated in the United States. International participation represents nearly 15% of EPRI's total R&D program.

**About NRDC**

The Natural Resources Defense Council is a national, nonprofit organization of scientists, lawyers and environmental specialists dedicated to protecting public health and the environment. Founded in 1970, NRDC has 1.2 million members and online activists, served from offices in New York, Washington, Chicago, Los Angeles, San Francisco and Beijing. More information on NRDC is available at its Web site: [www.nrdc.org](http://www.nrdc.org).