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# Darnell Group

# NEWS

## President-Elect Obama Plans for HEV Market in 2015, Darnell Identifies HEV Opportunities in 2009

Corona, California, December 8, 2008 – The just-released First Edition of “Vehicle Electrification: Market Forces and Demand Characteristics” from Darnell Group identifies the dramatic changes that will drive the market for hybrid electric vehicles (HEVs) forward into the New Year. This report looks at both emerging HEV and plug-in hybrid electric vehicle (PHEV) electric propulsion technologies, along with trends in the battery chemistries used with them. It reviews activities at over 300 companies, organizations and standards bodies. It also includes a detailed cost analysis of HEV power electronics and examines some of the issues related to infrastructure development for PHEVs, in particular.

More than 75 hybrid models of passenger vehicles will hit the market by 2011. President-elect Barack Obama has promised to put one million plug-in hybrids on the road by 2015, and he has made clear that Detroit will not get the federal help it wants without clear commitments to change the way they do business. That’s good news for the long-term, but what about 2009? In the near-term, growth opportunities in the HEV market will occur outside the passenger vehicle area. In addition, HEV sales are expected to grow much faster in Europe than in North America. That marks a change from past patterns for passenger vehicles.

“Although passenger cars get a lot of the press related to these vehicles, some of the better opportunities in the short-run will be found in commercial, off-road and small, task-oriented vehicles,” stated Linnea Brush, Senior Analyst with Darnell Group and author of this report. “In these cases, fleet managers and operators will be evaluating the costs and benefits of HEVs and PHEVs, so a cost analysis is also included in this study,” Brush continued.

“System integration capabilities are a differentiator in these markets. Heavy hybrid vehicles will require inexpensive, lightweight, and simplified power electronics that can be easily integrated into heavy hybrid approaches and systems,” Brush added. “In particular, small-volume power electronics with higher durability and reliability are needed to control voltage, frequency, switching timing, and state-of-charge conditions and manage system power outputs from the prime mover, electric motors, and auxiliary power units,” she concluded.

Successful development of advanced battery technologies are often discussed and will be an important factor in the next-generation of HEVs and emerging PHEVs. Also, with both HEVs and PHEVs, rapid software integration is just as important as rapid hardware development. Optimizing system management software can be a major contributor to lower overall system costs. Selecting the correct control strategy and system management software enables the system to deliver the desired level of system performance with the least-cost hardware solution.

The 111-page First Edition of Darnell’s “Vehicle Electrification: Market Forces and Demand Characteristics” report is available for immediate delivery. For more information on Darnell’s analysis of market trends and opportunities for makers of HEV power electronics, batteries and related semiconductor devices, please contact Traci by phone at (951) 279-6684 x251; by e-mail at [tshepard@darnell.com](mailto:tshepard@darnell.com); or visit <http://www.darnell.com/Hybrid>.

Darnell Group is the leading source for worldwide strategic information covering the full spectrum of power electronics, energy storage and generation. The company specializes in the economic/business analysis of emerging power markets and technologies.

