

**120V
+E85**

Plug-In Hybrids Plus Ethanol: *We Can Tackle Global Warming*

Let plug-in hybrids power your commute.

We can have the cars of the future—today—with no new technology or infrastructure.

In California, transportation emits over 40% of greenhouse gases. Nationally, it's about 33%. Globally, it's 20%—and rising fast.

- Compared to current hybrid cars, PHEVs use **40-80% less gasoline** and produce far lower greenhouse gas levels, even on the national power grid.
- In a few years, PHEVs could achieve **twice the ambitious benefits** of California's emissions law that requires 30% lower greenhouse gas levels from new cars.
- With "flex-fuel" PHEVs, the range-extension fuel for long-distance travel becomes E85 (85% ethanol). Once that ethanol is cellulosic, we get closer to oil-free, "**zero-carbon**" cars.

"Vehicle emissions are the greatest challenge that we must overcome to stabilize climate. The plug-in hybrid approach, as being pursued by CalCars, seems to be our best bet for controlling vehicle CO₂ emissions in the near-term."

— *James Hansen, Director of the NASA Goddard Institute for Space Studies*

"Moving to these highly efficient plug-in gas-electric hybrids could cut U.S. gasoline use by 85%. Even more important, it could cut automobile carbon emissions by some 85%, making the United States a model for other countries."

— *Lester Brown, President, Earth Policy Institute, author, "Plan B 2.0"*

"We should have a national program to promote plug-in hybrid cars running on electricity and biofuels. I'm happy that initiatives are coming from entrepreneurial groups like CalCars.org and from state and local campaigns."

— *Robert F. Kennedy, Jr., Senior Attorney, Natural Resources Defense Council*

"When entrepreneurs and venture capitalists focus on environmental challenges, we can create whole industries and change behaviors. Innovative campaigns like CalCars' for plug-in hybrids hold up a guiding light to steer our efforts."

— *Sunil Paul, co-founder, BrightMail, Power Lunch for Bay Area Energy Entrepreneurs*

"As California leads on climate change policy, the transportation sector holds the key. PHEVs are ready to be rolled out, starting with corporate and local government fleets."

— *Gail Slocum, Former Mayor, Menlo Park, Climate Change Regulatory Attorney*

"[Plug-in hybrids equal] more energy security and less global warming."

— *Nicholas Kristof, New York Times, February 5, 2006, "100 M.P.G. Cars: It's a Start"*

"[Plug-in hybrids'] potential in terms of national policy, and in terms of global warming, ought to be focused on by anyone paying over \$2 a gallon. And yes, there is an infrastructure investment. Each family would need an extension cord."

— *James Woolsey, Former Director, Central Intelligence Agency*

Organizational affiliations listed for identification only

Electric vehicles generate a third as much greenhouse gas as gasoline cars, even on the national grid (half coal). As the grid gets more renewable, like California today, these numbers will further improve.

— *Argonne National Laboratory/
Electric Power Research Institute/
California Air Resources Board studies*



CalCars
THE CALIFORNIA
CARS INITIATIVE

February 28, 2006

100+ MPG Hybrids