

**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 CO<sub>2</sub> 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

