

MONDAY EXTRA**Utilities, Plug-In Cars: Near Collision?****OVERVIEW**

Car makers are preparing to introduce plug-in electric cars in 2010, but their success will depend on players beyond their control: the electric utilities.

REVIEW

Read the article “Utilities, Plug-In Cars: Near Collision?” and answer these questions:

1 How are plug-in hybrid cars different from today’s gas-electric hybrids?

2 What role will utilities play in determining the success of plug-in hybrids?

3 How do utilities view plug-in hybrids now?

4 Which state is best prepared for plug-in hybrids?

DISCUSSION/RESEARCH IDEAS

■ The article cites two promising studies on the potential of plug-in vehicles to reduce fuel consumption. The Pacific Northwest National Laboratory found that existing U.S. power plants could meet the electricity needs of 73% of the nation’s light vehicles if the vehicles were replaced by plug-ins that recharged at night. Such a huge shift could cut oil consumption by 6.2 million barrels a day, eliminating 52% of current imports. Another study, by the Electric Power Research Institute and the Natural Resources Defense Council, concluded that electricity consumption would rise only about 8% if 60% of light vehicles in the U.S. were replaced by plug-in vehicles by 2050. That would also cut U.S. carbon-dioxide emissions by 450 million metric tons annually, equivalent to scrapping 82 million cars.

Based on these studies and your understanding of the technology, how would the balance of power between industries and nations change if plug-in hybrids were widely adopted? Which industries and nations would emerge stronger? Which ones would be weaker?

■ A significant drop in fuel consumption by the world’s largest oil consumer could lead to a marked drop in oil prices. Do you think that would happen? What factors might keep oil prices high? If prices do drop sharply, how would that affect future adoption of fuel-saving technologies and behaviors?

■ Choose one of the electric utilities mentioned in the article and research its policies on plug-in hybrid cars. How do the utilities balance the efficiency needs of consumers with their own concerns about capacity?

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ANSWERS

1 Plug-in hybrids have batteries that can be recharged using a standard home electrical socket.

2 The cars will need ready access to inexpensive, plentiful electricity, which could make utilities more important than oil companies in drivers' minds. If utilities discourage the cars' proliferation by charging more for their electricity, the push toward plug-in cars could falter.

3 So far, most utilities view the cars with a mixture of excitement and trepidation. If drivers charge their batteries at night, when demand is low and the utilities have generating capacity to spare, utilities will increase their electricity sales and make more efficient use of their existing power plants. But if most drivers recharge their cars during the day, when demand is twice as high, utilities could have to make or buy extra electricity when it is most costly. They could even be forced to build new power plants.

4 California is shaping up as the market that is best prepared for plug-in vehicles. It is both the biggest U.S. auto market and the biggest gasoline market. It has also adopted aggressive targets for carbon-dioxide reduction, and it is spending more money than any other state on advanced utility meters.