How Green Is My Plug-In?

THE CARBON IMPACT OF THE MILLIONS OF ELECTRIC VEHICLES SOON TO HIT THE ROAD WILL DEPEND ON THE GRIDS THAT SUPPLY THEM

"OUR GOAL IS TO REMOVE THE CAR FROM THE ENVIRONMENTAL DEBATE," SAYS LARRY BURNS, vice president for R&D and strategic planning at General Motors. His vision is that one day cars will emit no harmful pollutants from their tailpipes—or perhaps they'll have no tailpipes at all. And if the beleaguered automaker survives that long, GM may be able to achieve that goal.

BUT NO COMPANY can ever remove cars from the environmental equation. Public impressions are fleeting and malleable, but the laws of physics and chemistry are immutable. Cars require energy to move, and that energy—even if it's stored in a battery pack rather than in fuel sloshing around in a tank—has to come from somewhere.

AND THEREIN LIES the problem. Odds are those batteries won't be recharged with solar or wind energy. In most places, grid power is for many decades going to come from the burning of fossil fuels, which generate their own emissions. So the question becomes: If you power a vehicle with electricity from the grid rather than with fuel from the tank, is that better or worse for the environment, particularly with respect to greenhouse gases like carbon dioxide?

IT'S A QUESTION that dogs not just automakers but also policymakers all over the developed world. Companies and governments are already spending billions of dollars engineering the vehicles and infrastructures to kick off the transition from gasoline and diesel to electricity. Plug-in hybrids even became a mantra during the 2008 U.S. presidential election—with both candidates citing them as an environmental panacea.

BY JOHN VOELCKER