

## **When Will Hybrids Be Affordable**

In the mid-1990s, the few people who drove hybrid vehicles were labeled as a tree-huggers and other terms that meant over-the-top by the majority of our citizens. Today, driving a hybrid means you are in vogue and earth-conscious. What a difference 10 years can make.

While it has been around for over 100 years, the hybrid is only now beginning to take its rightful place in the mainstream automotive community. The use of dual power sources in a car that can reduce America's dependency on oil and lower harmful emissions has been canonized in recent years as economic woes and an increased sense of environmental responsibility have hit the country simultaneously. The recent cultural embrace of the hybrid is reflected in car manufacturer's trends: in 2000, Honda gave the first hybrid to the American public in the form of the Insight, a small, 2-door coupe. Today, Toyota, Saturn, GM, and even luxury brands like Lexus, offer multiple hybrid models and according to CBSnews.com, almost 200,000 hybrids were sold in the United States during the first 6 months of 2007.

The only thing standing in the way of a full-on hybrid domination of the roads is their price for the average consumer. Edmunds.com estimates that according to today's market, hybrid cars cost between \$1,700 and \$11,200 more than otherwise equivalent traditional gasoline powered cars. At a time when mainstream consumers are fighting hard against the threat or reality of recession depending on what talking head you listen to, and surely increased inflation and unemployment, the upfront cost of a hybrid makes it an unpractical choice for many. More so, recent studies concluded you don't even recoup the cost in fuel savings over the life of ownership of the vehicle.

It is the cost of manufacturing and specialized parts like batteries that drive up hybrid prices. In his article, "Prius Outdoes the Hummer in Environmental Damage," Chris Demorro breaks down the production of the nickel-based batteries used in the Toyota Prius, one of the most popular hybrids on the market today, and concludes that the reason the car is so expensive is due to the multi-continent journey the part takes to be completed. The raw elements for the battery are mined in Canada, then shipped to Europe for refining, then shipped to China for additional work, then are completed in Japan before being shipped back to the United States for sale. The cost of sending the battery around the world for production contributes to the reason the Prius is second only to Toyota's luxury sedan, the Avalon, as the most expensive car in the manufacturer's fleet.

In a perfect world, even just a more logical one...Toyota (or others) would consolidate mining, refining, and assembling of the expensive hybrid parts to one location. Using the example of the Prius, if Toyota could build out a plant in Canada near where the nickel is first mined, then they would not only be able to save on shipping costs but on energy used to build the hybrid as well, making it a truly green car option. While they are doing this, they can also work on producing a greener means to extract the nickel, which Demorro also notes has caused severe harm to the

environment around the mine. Our hope is that Toyota, and other hybrid manufacturers, will shift their focus over the next few years to refining the process used to manufacture hybrids so they are more affordable and accessible to mainstream consumers.

However, the eco-conscious car consumer has a more tangible bright spot on the horizon that they can set their watches for: the 2010 debut of the much-anticipated Chevy Volt, a hybrid car that runs purely on electric power for the first forty miles of each trip. On its Web site, Chevy tantalizes commuters suffering from exorbitant gas prices with a masthead that reads, "Imagine: A daily commute without using a single drop of gas." The promo further goes on to claim that, "For someone who drives less than 40 miles a day, Chevy Volt will use zero gasoline and produce zero emissions." At a time when the average American pays around \$3.50/per gallon of gas, the possibility of the Volt living up to expectations is like a glimpse into the Promised Land.

What makes this dream possible is the Lithium-Ion battery that the Volt will sport and the role it plays in the power system. GM-Volt.com explains that unlike current hybrids, such as the Prius that use electric and petroleum power in a 1:1 ratio, the Volt will primarily utilize electric power and only rely on the gas-powered generator when the battery needs recharging. Also unlike its Toyota cousin, the Chevy Volt will be manufactured 100% at the Chevrolet plant in Detroit, Michigan, making it also greener for Americans in pre-production than current hybrids.

Yet this green perfection does not come without a price to the average consumer, as initial estimates for the cost of the vehicle place it between \$30,000 and \$48,000. In an article for the Detroit Free Press entitled "Volt Watch: Lutz confirms pricing, gives production numbers," GM Vice-Chairman Bob Lutz quoted the estimated price at around \$40,000, however left room for change over the next two years. Though this is undeniably a large sum for any average driver, it may prove to be a steal should gas prices continue to rise.

While one cannot hope that the price of gas in 2010 makes this amount a bargain, one can hope that it marks the turning point not only for the way we think about hybrid vehicles, but the way we think of alternative energy sources. Current hybrids like the Prius must be given credit for their proactive attempt to solve our energy and environmental problems; however, it is clear that they really represent a kind of technological adolescence in what we hope will be the long life of the hybrid. The Chevy Volt marks the entrance of the hybrid into a more mature and sophisticated phase, and gives the average driver hope that in ten years or less we can see advancement of hybrid technology to the point where we can drive for hundreds of miles without using any gas. There is also the hope that hybrid electric technology will be able to carry over into other areas of commercial and domestic life, helping produce truly clean sources of transportation and energy in the very real, and very near, future through the utilization of green and sustainable business plans.

The truth is with hybrids it is only a matter of time before going green is not only the environmentally-friendly solution, but also the economically-friendly solution. Just remember what a difference ten years has made in the world of hybrids so far.