

Hybrids vs Biodiesel

A gasoline hybrid uses an electric motor to keep the internal combustion engine running at optimal performance. All of the energy used to move the vehicle comes from the gasoline in the fuel tank. Today's hybrids do not have the ability to plug in and use electric energy directly. Hybrids also can recapture about 2% of the braking energy through regenerative braking and some models completely turn off their IC engine when waiting at a traffic light. All of these things combine to make the vehicles drive system 35-40% more efficient than an equivalent conventional gasoline vehicle.

Hybrids use their computer controllers to optimize the vehicles for the EPA fuel economy test. The Prius is rated at 60 mpg by the EPA but their user average is actually 46mpg. (see www.fueleconomy.gov for more user averages) My parents have a Prius and have never gotten over 50 mpg in their car.

A Diesel engine is 30% more efficient than a gasoline engine. Diesel engines run on a more efficient compression ignition and have a much larger peak efficiency zone than gasoline engines. A similar sized vehicle to the Prius like the VW Golf TDI has an EPA rating of 42/49 mpg. The user average on the Golf is 43 mpg.

So a gas hybrid Prius gets 46 mpg and Diesel Golf gets 43 mpg. These are similar fuel economies each vehicle achieving its high efficiency through different methods. The difference is that the Prius runs on conventional gasoline while the diesel vehicle can be run on Biodiesel.

Biodiesel is a domestically produced renewable energy source that does not contribute to fossil fuel depletion or to our involvement in the Middle East. Even more important Biodiesel closes the carbon loop. Biodiesel is made from plants. When those plants grow they absorb CO₂ out of the atmosphere, convert it into carbon matter which we then convert into a hydrocarbon fuel. When we burn the fuel it re-releases that CO₂ back into the atmosphere.

When we burn gasoline we are burning fossil fuels. Fossil fuels are the accumulation of 100's of millions of years of stored plant carbon matter. By burning fossil fuels we have released 100's of millions of years of stored carbon matter into the atmosphere within the last 150 years. This is a huge imbalance and it is what is driving the global warming problem we face. By using biodiesel you reduce your impact on global warming by 85% for similar fuel economy vehicle. A gasoline hybrid Prius produces 340% more carbon dioxide emissions over the same drive cycle as a Golf running on biodiesel.

Please review the attached Green Car Score excel sheet. The comparison on Banner tab shows information that we have on some of our posters here in the show room. Otherwise compare the B99Golf tab to the Hybrid Prius or Hybrid Highlander. I truly hope you are not intending on getting a hybrid SUV. These oversized vehicles are NOT green cars. The Volvo XC is a greener vehicle than the Hybrid Highlander. Also attached is a brief description of what the Green Car Score rating system is all about. The B99 Golf Average GCS = 65/100. The Prius' Average GCS = 30/100. For the average American drive cycle the Golf running on biodiesel is more than twice as green as the Prius hybrid.

Greg Rock
Sustainability Engineer