

ALTERNATIVE FUELS & VEHICLES NATIONAL CONFERENCE & EXPO 2008 IN LAS VEGAS

GOING GREEN

THE LATEST IN ALTERNATIVE FUEL VEHICLES

By HR Driver



Photo © Sjudin Photography LLC

Being a performance car enthusiast, I had reservations about attending the Alternative Fuels & Vehicles National Conference & Expo 2008 in Las Vegas, put on by the Alternative Fuel Vehicle Institute (AFVI). I wondered whether I could actually spend three whole days listening to environmentalists preach to me about miles per gallon, global warming and going green.

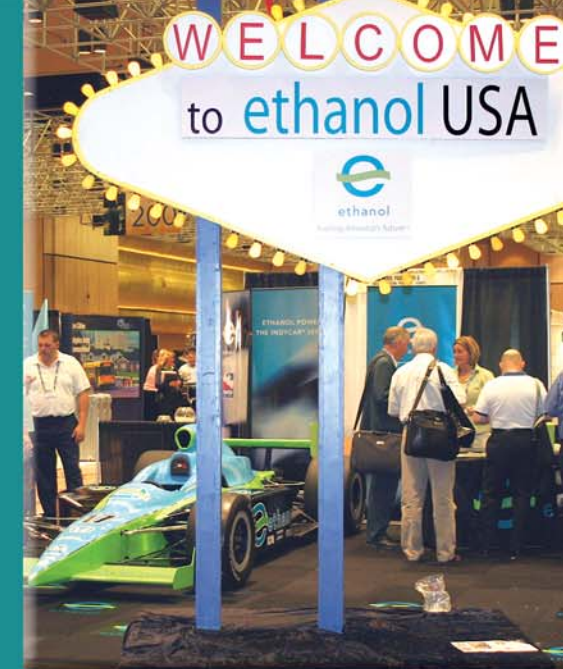
In my world, "going green" means that the starter just dropped the green flag and the race is on! In the environmentalist's world, "going green" means that you drive a Prius, recycle your tofu containers and live in a solar powered house. What could a car guy like me possibly have in common with these environmental greenies?

To my surprise, I found that I actually had a great deal in common with them. Upon entering the AF&V Conference hall, I spied Ryan Hunter-Rey's Indy car on display at the Ethanol booth. Yes, long before Ethanol E85 became the fuel of choice of the greenies, it was the fuel of choice of the Indy 500 race teams. Because it burns cleaner than gasoline and delivers excellent power, Ethanol has been used in race cars for over five decades. Scratch one myth: "Alternative fuel vehicles are slow and boring."

Down the aisle, there were also several dual-fuel high performance street machines. These are vehicles which can run on either gasoline or alternative fuel. Amazingly, the green car guys like fast machines, too. Kill another myth: "Greenies are environmental geeks who ride recumbent bicycles, wear goofy helmets and despise high performance cars."

The first street legal vehicle which came into view was a dual-fuel Ford F-150. It could run on either CNG (compressed natural gas) or gasoline. This awesome truck produces over 450 horsepower, yet it can run cleaner than 90% of the cars on the road when inhaling CNG. Yes, we are talking about the same CNG that heats your home. When compressed, CNG can be used in your street ride if said ride is converted to a dual-fuel system. At an average of \$1.67 per gallon, CNG is far cheaper than gasoline. However, an EPA-approved aftermarket CNG/gasoline system does cost about \$3,000. Thus, you had better install this dual-fuel system on a vehicle

Fuel and vehicle alternatives were presented at every turn, from the Rahal Letterman team's ethanol IndyCar (top) to Chevrolet's electric Volt. Emcee Annaloyd Thomason, Executive Director, AFVI, electrifies the crowd with her welcoming speech. Photos: HR Driver.



Where the roads are dry and the cars are slick.



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E85/gasoline alt-fuel vehicles

GM is leading the E85/gasoline hybrid parade with twenty new flex-fuel (dual-fuel) models, from Chevrolets to Hummers. However, Chrysler LLC is not far behind. As you may already know, E85 stands for 85% ethanol, which in the US is derived from crops such as corn, soybeans and switchgrass. Basically, E85 is a renewable resource which lessens our dependence on foreign oil. E85 also burns much cleaner than gasoline.

Recently there has been some flap over the increasing price of E85, spurred by the shortage of corn and corn's increasing price on the commodities markets. However, E85 may still be the best bet for many alternative fuel vehicle shoppers. Let's look at the facts.

First, E85/gasoline vehicles can use either pump gasoline or E85, so they're ready for when E85 becomes more widely available. Second, GM has invested heavily in an innovative E85 refinery, which can produce biofuel out of virtually anything. Expect E85 to be produced from switchgrass, and even garbage or old tires, using this method. Next, expect to see many national superstores work with GM to make E85 pumps available to you locally. Shell, Sinclair and several other smaller oil companies will also help consumers in accomplishing this. Finally, E85/gasoline dual-fuel vehicles cost little more than gasoline powered vehicles, so why not buy an E85/gasoline vehicle?

Biodiesel vehicles

Forget what you think you know about diesel cars and pickups. Today's diesels are clean, quiet, fuel-efficient and powerful. Audi has proven the performance capabilities of the new generation of diesel and biodiesel engines by winning the 24 Hours of Le Mans and the 12 Hours of Sebring races with their Audi TDI race cars.

Mercedes-Benz, Volkswagen, Audi, BMW and Jeep all will offer fuel-efficient, clean turbo diesel vehicles in American in 2009. With over 50% of the vehicles in Europe using diesel power, it is about time that the USA got its fair share. Yes, diesel fuel is more expensive than gasoline at the moment; however, that could change in the future as biodiesel production increases in America.

Diesels have several other advantages over gasoline/electric hybrids, as well. First, they have no expensive battery packs to replace. Second, a diesel engine typically runs about twice as long as a

real-world driving in the Valley of the Sun. Why? With 100-plus-degree outside temperatures and frequent stop-and-go commuting, the hybrid's gas engine will be running much of the time here. However, even a 35 MPG average would be an improvement over most of our current vehicles.

Another factor to consider is the life of the expensive battery pack. While most auto manufacturers state that their battery packs will last for five to ten years, depending on the miles you drive annually, there is some concern that your MPG will drop as the batteries get older. Yes, like the battery in your cell phone, the batteries in hybrids will lose power over time and ultimately wear out. As they age, your MPG could drop. Unfortunately, gas/electric hybrids have not been on the road long enough for us to really know. That is the downside.

The upside for gas/electric hybrids is that many new hybrid models provide quick acceleration while still offering excellent MPG. A prime example of this would be the new Chevy Tahoe. It has a gasoline engine with 332 HP and 362 lb.ft. of torque, yet it gets an estimated 21 MPG city/22 MPG highway. Excellent for a full sized SUV.

Rest assured that the Asian and American manufacturers have thoroughly tested their new hybrids in all types of climates and over millions of miles. However, the daily diet of extreme temperatures we have in Arizona will put hybrid batteries to the test.

Electric vehicles

Unless you live in a retirement community, a pure electric vehicle is not for you. Vehicles like Chrysler's GEM are best suited for limited use as golf course and park maintenance vehicles. With their top speeds limited to 25-30 MPH, they are not intended for highway use. Perhaps in the future, as battery technology evolves, we may see an electric car with adequate performance and range for Phoenix commuters. But not today.

CNG vehicles

The Honda Motor Company received AFV's top award for Achievement in the Field of Alternative Fuel Vehicle Innovation. Their CNG-powered Civic GX was the primary reason. Honda's in-garage compression/filling system, affectionately known as "Phill," allows you to use the \$1.67-per-gallon natural gas, delivered to your home, to run the little critter. With fuel mileage in the 40 MPG range, this makes the CNG Civic GX an attractive proposition for folks who need a dedicated commuter car. However, it is not a dual-fuel gasoline/CNG car.

Actor and activist Ed Begley, Jr., has well-established green credentials. He even pushes the envelope by getting to many of his Hollywood appointments by bicycle. Begley was a keynote speaker at the AF&V Conference. Photo: HR Driver.

From foods red and green, to vehicles large and small, but all alternatively fueled, the AF&V Conference definitely offered something for everybody. Photos © Sjodin Photography LLC.

which you intend to keep for a long time.

Next in line was a dual-fuel Mustang GT which could run on either propane or petrol. While no more powerful than a gas-fed Mustang, this machine can be operated on propane, which costs about half the price of premium gasoline. One major advantage of a dual-fuel propane/gasoline vehicle is that propane is readily available throughout the country. Furthermore, a propane/gasoline dual-fuel system does not need the home-based compressing/fueling station which a CNG car requires.

What did we learn at the AF&V Conference? We learned that Kermit the frog was WRONG. "It IS EASY being green." We all have choices in our daily lives which can make the world cleaner and we can start with baby steps. Planting native desert plants conserves water. Using more efficient light bulbs saves power and fuel. Planning our shopping trips efficiently also saves fuel. Finally, we have choices when it comes to buying a clean, green commuter machine. Furthermore, a green car need not be slow or boring.

Selecting the right green vehicle for you

The one thing upon which all of the car manufacturers and greenies agree is that there is no single alternative fuel vehicle which is right for everyone. Since green car technology is in its infancy, you need to examine all of the alternatives and select the car which is best for you. Among the new cars on the market, you have many choices. Gasoline/electric hybrids. Electric cars. Gasoline/E85 dual-fuel cars. CNG cars. Clean diesel cars.

Gasoline/electric hybrids

While the Toyota Prius and Honda Civic are long the darlings of the set, Ford, Mercury, Chevrolet, Saturn, Cadillac and Lexus are all offering gas/electric hybrids in 2009.

Gasoline/electric hybrids use an electric motor to conserve gasoline when operating in poky commuter traffic, then switch to their gasoline engine when operating at higher speeds.

While cars like the Honda Civic hybrid get an EPA estimated 40 MPG city/45 MPG highway, most owners will not see this in





Proof positive that green is not boring, as our gearhead author quickly learned. Alternative fuel vehicles are not just for running a 5-mile errand, as evidenced by everything from large commercial rigs to high-performance Mustangs and IndyCars. A green event also offers its own thrills, from poolside resort dining to an exotic fire dance. Photos © Sjodin Photography LLC.

gasoline engine before it needs a major engine overhaul. This is due to the fact that diesel engines must have stronger internal components to withstand their high compression. Finally, diesels operate at lower RPMs than gasoline engines; thus their city MPG is almost as good as their highway MPG. It is not unusual to find a VW Jetta TDi owner who gets 35 MPG city/40 MPG highway, even while running the air conditioner on high.

Which is best for the long haul?

If you plan to keep your car for over 100,000 miles, there is little question that a clean biodiesel engine is your best investment. Of all the owners of hybrids and alternative fuel vehicles who were surveyed by JD Power and Associates in 2006, the Mercedes-Benz E320 CDI (turbo diesel) was the car which came closest to meeting the owners' expectation of fuel mileage. However, the Mercedes E320 is a bit pricey, so you might consider a VW, Audi or BMW turbo diesel as an alternative.

For a single-purpose, dedicated commuter car, go with the Civic CNG if you have natural gas running to your house. The Civic's garage buddy "Phill" will cut your fuel costs IN HALF. Remember, you are buying fuel from a public utility, not big oil. Enough said?

For those of you who need a large SUV, the Chevy Tahoe Hybrid, Cadillac Escalade Hybrid or Jeep Grand Cherokee with the Mercedes 3.0 V-6 turbo diesel option may be your best bets. We recently ran the Jeep diesel to California at highway speeds of 75-85 MPG and registered 22 MPG. Perhaps not great by Toyota Prius standards, but excellent real world mileage for a 4WD SUV which can tow over 7,000 pounds. (This mileage result did not include towing.)

For those of you who own a full-size pickup and are getting eaten alive by fuel bills, our advice to you is: "Hang in there until 2010." If you can tough it out, both Ford and Dodge expect to offer fuel-efficient, small-block diesels as an option. These will provide much better fuel economy and will last far longer than their gasoline engine counterparts. Buy one of these trucks, service it regularly and drive it until it dies. Amen. ■



The fastest way
for a type "A"

to mosey on down

the alphabet.

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