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How to Make Four Alternatives to Fuel at Home: Goodbye Oil!

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Ethanol

EFuel100 MicroFueler

The EFuel100 MicroFueler home-brews ethanol by fermenting a mix of table sugar and nutrient-treated yeast in the system's 250-gal. tank. The resulting fuel, which is 99.9 percent ethanol, can either be stored in the unit or pumped into a gas tank through the 50-ft. hose. It takes 10 to 14 pounds of sugar to produce 1 gal. of ethanol, so the cost of fuel is only as cheap as the feedstock. Available in late 2008.

Production: Up to 35 gal. per week

Price: \$9995

Compatibility: Flex-fuel vehicles; conventional cars if mixed with 90 percent gasoline

Biodiesel

FuelMeister II

Powered by a 120-volt outlet, the FuelMeister II mixes used vegetable oil with lye and methanol to produce biodiesel. The process takes about 7 hours from start to finish—but only 1 hour involves hands-on work, such as connecting hoses, pumping methanol and testing the final product. The fuel meets ASTM biodiesel standards and, unlike straight vegetable oil, can be burned in regular diesel engines.

Production: 40 gal. in 5 hours

Price: \$2995

Compatibility: Any diesel-powered vehicle

Electricity

Envision Solar Lifeport

The modular Envision Solar Lifeport can support up to 32 polycrystalline 200-watt photovoltaic panels, which can produce up to 6.4 kilowatts of electricity. The panels

are wired to an inverter, and then through your home's electric meter. With this configuration the panels will power your home, but DIYers can mod the Lifeport into a solar-powered carport by running electricity back to an outlet in the 23 x 23-ft. structure.

Production: Up to 6.4 kw

Price: \$45,199 for a 4.8-kw-rated kit

Compatibility: Plug-in hybrids and pure EVs



Hydrogen

Honda Home Hydrogen Fueling Station

A mix of natural gas, air and water is catalyzed in the Honda Home Hydrogen Fueling Station reformer, creating a gas that is 40 to 50 percent hydrogen. A membrane filters out pure hydrogen gas, which is then compressed for fuel. There's no storage tank, so your car slow-fills from the pump at night; it takes about 6 hours to reach max capacity—171 liters at 5000 psi. The catch: Hydrogen from gas isn't emissions-free, and Honda says consumers still have a several-year wait.

Production: 50 standard liters per minute

Price: Not yet available

Compatibility: Hydrogen cars