

# The Sensible Environmentalist

## Ethanol An Important Gas Alternative

**DEAR DR. MOORE:**

**Why are people making so much fuss over ethanol? Hasn't it been used in gasoline for decades?**

You're right. Ethanol has been used to fuel cars since 1908, when Henry Ford designed the Model-T to run on ethanol or gasoline. Its initial popularity lasted until the end of World War II, when cheap oil and natural gas all but killed the market. But it spiked again in the late 1970s (because of oil shortages and as a non-polluting substitute for lead in gasoline) and has continued ever since.



**Dr. Moore**

The difference now is that ethanol has the potential to take on a much larger role in our society. North America needs a domestic, clean and abundant alternative to fossil fuels—both to end our dependence on Middle Eastern oil, which is causing all kinds of problems, and to reduce emissions of carbon dioxide and other greenhouse gases.

The biggest challenge is cost. Most ethanol is made from fermented starch from corn or sugar from sugarcane. But the process is so expensive that the U.S. industry (which accounts for 97% of North American production) has to rely on government subsidies, which are set to expire in 2008.

In his State of the Union address, President Bush made the development of clean, alternate fuels a priority. However, instead of continuing to subsidize an uncompetitive industry, the government

is investing millions of dollars developing ways to produce a new type of ethanol—known as “cellulosic” ethanol—which is made from the cellulose in agricultural and forestry waste.

In addition to being substantially cheaper to make, cellulosic ethanol may reduce carbon dioxide emissions by more than 90% over gasoline, compared to just 18-29% for conventional ethanol. It also lowers emissions of carbon monoxide, particulates and other pollutants, and certain production methods generate electricity, which is used to produce more ethanol and further reduce costs.

While the technological hurdles are being overcome, auto manufacturers are also doing their part to promote the increased use of cleaner fuels by producing flex-fuel engines, which can use blends of up to 85% ethanol (to gasoline) compared to typical blends of just 10%.

So far, the market has been slow to respond. Ethanol use has risen substantially since 2000, but even though more than four million vehicles on the road today have flex-fuel engines, most still run on gasoline. But the need is great and the solution makes sense, so there's every reason to believe that clean, domestically produced ethanol will allow a significant reduction in gasoline consumption at some point in the not-too-distant future.

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