



April 28, 2006, 10:16PM

FIRST, DIVERSIFY

Face it, we're addicted

Key to long-term success is to shift to plentiful alternative fuels now

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President Bush's call for America to end its "oil addiction" sparked a debate about whether the goal is attainable — or even desirable.

Some say that policies to promote energy independence would hinder prosperity. They claim that attempts to meet this goal after the 1970s' oil shocks were expensive failures. These assertions are wrong.

Between 1979 and 1985, when oil demand reduction was a high priority, the typical U.S. car's fuel efficiency nearly doubled. Electricity generated from oil dropped from 17 percent of the nation's power output to 2 percent. The share of homes using heating oil went from 31 percent to 10 percent. Total oil consumption in the United States decreased by 15 percent. Oil imports fell by 42 percent.

The impact on the nation's economy was positive. Energy expenditures' share of the gross domestic product fell by 50 percent while real per-capita share of the GDP grew by 10 percent.

Today a majority of the world's capacity to export oil is in the hands of autocracies and dictatorships that can use that wealth to destabilize the international system. Thus, the future of our economic and national security is more than ever coupled to our energy policy. The democracies' ability to prevail in the long war in which we are engaged will be compromised so long as such states control this part of the world's economy.

To ensure stability we must commit ourselves to diversifying our fuel supply and shifting the transportation sector's from the conventional petroleum, which comprises 97 percent of our transportation energy, to a robust system based on next-generation fuels and vehicles.

The United States is no longer rich in readily recoverable oil, but it has a wealth of other energy sources from which transportation fuel can be safely, affordably and cleanly generated.

Among them: vast rich farmland, hundreds of years' worth of coal reserves, and billions of tons a year of agricultural, industrial and municipal waste.

Each of these can generate alcohol fuels — such as bio-diesel, ethanol and methanol — at a price cheaper than current gasoline.

Large-scale deployment of flexible fuel vehicles running on alcohol, gasoline or any mixture of the two will allow Americans to choose secure domestic fuel over problematic foreign oil. Since the additional per-vehicle cost associated with flexible fuel vehicles is currently under \$200, fuel flexibility should become a standard feature in every car — like seatbelts or airbags.

Plug-in hybrid vehicles, unlike standard hybrids, can draw charge not only from the engine and captured braking energy, but also from America's electrical grid. They can make efficient use of such clean electricity sources as solar, wind, geothermal, hydroelectric and nuclear power.

Plug-in hybrid electric vehicles can reach economy levels of 100 miles or more per gallon. If a plug-in is also a flex-fuel car using 85 percent alcohol and 15 percent gasoline, fuel economy could reach the equivalency of 500 miles per gallon for a gasoline-powered vehicle. If a diesel engine burns clean fuel derived from waste it would be using no conventional petroleum at all.

By 2025, if all cars on the road are either diesels burning fuel from renewables or flexible fuel hybrids, and half of the hybrids are plug-ins, U.S. oil imports would drop by more than 12 million barrels per day — or more than what we import today.

These technologies exist. There is no need to wait for technological breakthroughs, invest billions in research and development or embark on massive infrastructure changes.

What is needed is congressional action to build on the president's call by enacting the necessary incentives for producers to make, and consumers to buy, cars that offer fuel choices while encouraging the development of a mass market for alternative fuels, along with the modest necessary changes in the distribution system. Such policies would make the U.S. economy more resilient and put it on a trajectory toward oil security.

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