VIEWPOINT

Biofuels Are Folly—Go Nuclear!

by Carl Holder

America tried biofuel before. It didn't work, and so, the consequences of this folly are fully understood.

In 1976, we became hostage to an Oil Embargo that caused a national program of conservation and a cry for energy independence. Ethanol was subsidized and corn was diverted into fuel. The price of corn went up along with everything else, including productive land and agriculture inputs. In response to the public outcry, policy shifted, and subsidies for ethanol and oil shale development, etc, were dropped. Ethanol manufacturers went broke; land prices dropped; commodity prices went down below the cost of production; and, family farmers, small businessmen, and small towns went broke—en masse. I know because I was a victim. My family and I survived; but, my good friend died of a heart attack while losing the family farm to foreclosure.

Again, we are starting to see the policy shift as masses of people are starving and rioting. Despots now have another ghastly tool for ethnic cleansing: starvation. My own Senator, Maria Cantwell (D-Wash.), recently qualified her love of renewable biofuel with the "non-food source" moniker. This is a side-stepping trap.

Corn-based ethanol has plenty of critics. But cellulosic-based ethanol has far fewer. Such fuel sources, comprised of wood chips and switchgrass, are abundant and could supply billions of gallons of ethanol. But the conversion process is expensive and undeveloped. To move it along, the U.S. Department of Energy is investing about $385 million in six projects over the next four years. When fully operational, the "biorefineries" are expected to produce more than 130 million gallons of cellulosic ethanol per year.

Cellulosic-based ethanol produced in "bio-refineries" doesn't pass the snicker test. There is the conversion expense; it is undeveloped; it exists only because of its government subsidy of $385 million over four years. But most important, wood chips and other forms of cellulose are not dense energy. Crop husbandry with harvest, transportation (haul × 2), and weather-protected storage are all energy- intensive and expensive. At best, waste streams are smelly and huge water consumers; and at worst, expensive catalysts require hazardous waste disposal.

Result: The low energy value of cellulose will likely never fit into large-scale, capital-intensive industrial applications for ethanol biofuel.

In the Northwest, free-wood, the refuse from paper/lumber mills, fruit production, and municipal waste is already being used as fuel in industrial boilers. It is free because it is a by-product of a valuable first use. This is called hog fuel. Importantly, where entrepreneurs have found value, cellulose is already being used as fuel, without subsidy.

Biofuels have a responsible place. Small, on-farm systems are used efficiently to convert a percentage of an oilseed crop to reduce on-farm energy needs. Small-scale wood gasifiers can efficiently produce a gas stream to generate rural electricity. Houses will always be heated with firewood. But industrial-scale bio-refineries will never work.

Nuclear = Real Energy Independence

The main point:

There is something incredibly simple about the concept of "energy density." Buffalo chip → hard wood → corn → coal → oil/gas → nuclear hearth → electric furnace. Gas torch → plasma arc.

Ethanol or biofuel from any food or cellulose source cannot compete with mined/pumped hydrocarbons, but abundant nuclear power can.

Energy independence cannot come from grain or grass. However with abundant nuclear power, railroads can run on electricity; the grid can handle plug-in hybrids; hydrogen fuel can be generated; and food and hydrocarbons can be conserved for highest and best use. Abundant, sustainable nuclear power requires recycling of spent nuclear fuel and advanced fast reactors.

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Ethanol Production → Starvation

*If the United States alone converted its ethanol grain back to food, it would provide food for 130 million persons! If the nations here (marked *) converted their ethanol grain output back to food, this would feed another 33 million people.*

Country	Millions of Gallons of Ethanol
USA	6,498.6
Brazil	5,019.2
European Union*	570.3
China*	486.0
Canada*	211.3
Thailand	79.2
Colombia	74.9
India	52.8
Central America	39.6
Australia	26.4
Turkey*	15.8
Pakistan	9.2
Peru	7.9
Argentina*	5.2
Paraguay*	4.7
Total	**13,101.7**

Source: 2007 statistics, Renewable Fuels Association (www.ethanolrfa.org/industry/statistics/)