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What's Right with Biofuels

Recent hand-wringing about the costs associated with ethanol and other biofuels overlooks the urgency of finding alternatives to petroleum

by [John Plaza](#)

Only a year ago, biofuels were considered the silver-bullet solution to all of America's energy woes. Today, that same bullet is being blamed for a rise in global food prices, leading to greater poverty and social unrest.

The fact is neither assertion is true.

While energy, agriculture, food security, and the environment are all extremely complex topics, the media coverage of these issues is often simplistic. Let me share several facts from a recent *Washington Post* article by Anthony Faiola that succeeded in capturing a number of the forces behind those rising food prices:

- Fuel prices: Oil, which powers the machinery to grow and transport crops, has skyrocketed. It now costs nearly twice as much as a year ago to ship commodities to Europe from the Gulf Coast of the U.S.
- Trade restrictions: Major exporting countries are applying export taxes and/or bans on exports to control local prices, in effect reducing global supply.
- Increased food demand in developing countries: Diets are changing in countries like China and India, moving from starchy foods to meat and poultry. Since nearly all livestock are grain-fed, this diet change is driving up demand for grain.
- Climate change: Severe weather events (drought, heat, rain) in farming regions around the world have reduced harvests of cereal crops.

At the same time, speculators have flocked onto commodity exchanges, pushing futures prices for grains above those that actual supply and demand would probably dictate.

GIANT STRIDES

While it's true that biofuels have also played some role in increasing food prices, I have yet to see a definitive study that examines that impact relative to the factors discussed above. Although I have an obvious bias as the CEO of Imperium Renewables, today's simplistic criticisms of biofuels threaten to undo the success this industry has made in developing an alternative fuel with multiple benefits.

For starters, biofuels have been shown to help control the cost of petroleum. A recent report by Merrill Lynch ([MER](#)) found that "oil and gasoline prices would be about 15% higher if biofuel producers weren't increasing their output." That means a barrel of oil today would cost more than \$130, instead of about \$115, and gasoline would be going for \$4.50 at the pump instead of nearly \$4. Indeed, the price of petroleum has risen nearly twice as fast as that of corn and soy in the past five years.

In addition, greenhouse gas analyses of burning soy- and canola-based biodiesel are quite favorable. A definitive study conducted by the U.S. Energy Dept. shows that biodiesel cuts carbon emissions by 78% compared with petroleum diesel. And for every unit of energy that goes into making biodiesel, we get 3.5 units of energy in return.

Biodiesel also improves air quality: It cuts particle emissions by about 50% as compared with petroleum diesel. This is a huge benefit for human health and the environment. Asthma, strongly linked to diesel particulate emissions, is a serious

public-health problem. Biodiesel has the potential to improve global health, saving lives and billions of dollars in health-care costs by improving air quality.

THIRSTIER AND THIRSTIER

But perhaps the greatest weakness in the recent critiques of biofuel sustainability is a failure to address the many shortcomings of sticking with petroleum. Quenching the world population's growing thirst for fuel requires oil companies to use more invasive production methods, more energy to extract it, and more land—including pristine ecosystems.

The tar sands in Canada, for example, are supplying a growing share of the world's petroleum. The process is energy intensive and dirty, leaching dangerous toxins into the soil and ground water. And the greenhouse-gas emissions from extracting fuel from tar sands are estimated to be as much as 70% greater than traditional drilling.

Meanwhile, a key omission in the anti-biofuel chorus is the very real promise of next-generation feedstocks to produce this alternative energy source. In the coming years, the feedstocks used to produce biofuels will be very different from the feedstocks of today. Imperium is committed to developing algae, which yields around 100 times more oil per acre than traditional feedstocks and can be produced on contaminated "brownfields" that wouldn't otherwise be used for farming. We are also pursuing alternative crops like jatropha, which can be planted on marginal land unsuitable for growing food, and halophytes, which grow in brackish water.

But critics seem to want to roll back this progress toward developing renewable fuels that won't compete with food production. Advancing these technologies to take advantage of more sustainable feedstocks, as well as biomass and waste materials, are the future. We need to focus on ensuring that this second generation of biofuels is even better than the first.

John Plaza is president and interim CEO of Imperium Renewables, a Seattle company that produces biodiesel refining and manufacturing technology. Prior to founding the company, he was a commercial airline pilot for over 20 years.

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