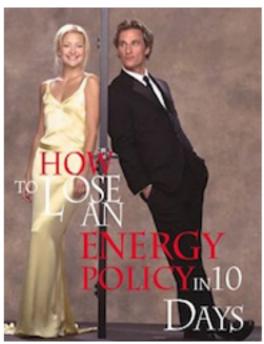
BRENT ERICKSON, Executive Vice President, Biotechnology Industry Organization

By BRENT ERICKSON, Executive Vice President, Biotechnology Industry Organization



The Biotechnology Industry Organization's (BIO) industrial biotech czar says that governments should resist attempts to derail the commercialization of advanced biofuels and not be beguiled by the Solyndra syndrome.

In 2011, consumers spent a <u>record \$481 billion on gasoline</u> [1], despite the fact that overall gasoline use was down. Consumers spent about \$0.78 more for each gallon, while using several billion fewer gallons of gas. Now analysts are <u>predicting \$5-a-gallon gas in 2012</u> [2]. It's not hard to identify the loser in our current energy policy debate — the American people and American businesses.

Biofuels Offset Rising Gas Prices — Here & Now

With higher gas prices, consumers will continue to cut back on driving while paying more and more. Our freedom to drive where we please is something we take for granted, but we risk having this freedom curtailed. As aviation fuel costs rise and airfares go up, our freedom to travel may be curtailed as well, creating a drag on our economic recovery. But we already know that biofuels can make a difference — ethanol is currently 75 cents a gallon cheaper than gasoline, which lowers prices at the pump. In 2011, biofuels produced in the United States reduced oil imports by more than 200 million barrels, keeping \$22 billion here in America.

When Oil Prices Rise, Military Is the Biggest Loser

Consider who else will be a loser as liquid transportation fuel prices rise. The U.S.

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military is the single largest consumer of fuel in America, and it is also feeling pain at the pump. The Pentagon spent \$17.3 billion on petroleum in 2011 [3], a 26 percent increase from the previous year for the same amount of fuel, exceeding its fuel budget by several billion dollars. The military paid an average price of about \$148 a barrel in 2011, \$30 per barrel more than in 2010 — but more importantly, \$38 per barrel more than it had planned for in its budget.

And let's not forget the national defense implications of supply disruptions. A report in November 2011 by the Center for Naval Analysis' Military Advisory Board [4] calls for "immediate, swift and aggressive action" over the next decade to reduce U.S. oil consumption 30 percent in the next 10 years. Our addiction to imported oil creates a burden for our military because it "undermines combat effectiveness, and exacts a huge price tag — in dollars and lives," the report said.

So what are the military's choices? Cut back fuel use, with fewer hours of training for troops, fewer missions and reduced effectiveness. Or simply pass onto U.S. taxpayers the higher price tag for continuing one of the primary U.S. military missions — keeping oil shipping lanes open. U.S. consumers are losing twice, paying not only higher prices for their own fuel, but also higher taxes — or having other government programs cut because the government needs to pay higher fuel prices.

Why Not Put All Our Eggs in the Natural Gas Basket?

The hot talking point in Washington, D.C. these days is that the <u>natural gas bubble</u> is going to solve all of our fuel problems [5] (if we only switch our cars, trucks, buses and infrastructure to natural gas). No doubt we have had some big natural gas finds recently, and the price of natural gas has dropped. But natural gas for transportation faces many of the same challenges biofuels face — chief among them is a lack of fueling infrastructure. And you can't fly a plane, drive a truck or a tank, or power a ship with natural gas. Natural gas is a clean and potentially abundant alternative to oil, but we still need to proceed full speed ahead with advanced biofuels commercialization.

Full disclosure, I grew up in an oil town in Wyoming. I used to work for the American Petroleum Institute, and BIO has oil companies as members. I understand the importance of oil to the world, and I don't think the oil industry is evil, but the industry's cheerleaders mocked President Obama for suggesting recently that biofuel technology can lower prices at the pump. Yet, they didn't bat an eyelash at a fantasy that new U.S. drilling can bring Americans \$2-a-gallon gas.

When other countries like China and India are willing to pay higher prices, increased U.S. oil production would only be exported — Americans would have to pay the same higher prices or be outbid.

Rising Demand from the Developing World

As the global population expands, the demand for transportation fuels from emerging economies is almost limitless. Meanwhile, the cost of production for new oil resources is climbing as more and more unconventional sources are tapped, and

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oil-producing nations pay increased costs for social policies. The only way to reduce the high cost of oil is to bring alternatives into the commercial market — and as fast as possible. Fortunately, unlike oil, the cost of these new technologies is decreasing as more research and development is done.

It remains true that forward-looking, long-term, stable energy policy is needed to bring these new technologies into the marketplace. The military has had the foresight to begin addressing the challenge. Each branch has set goals to increase energy efficiency along with the use of alternative energy.

They have moved forward with testing and certifying their planes, ships and combat vehicles on emerging drop-in biofuels. They've proven that renewable jet fuels and diesels from algal and cellulosic biomass can directly replace or supplement petroleum fuel supplies, with no impact on operational readiness or performance. The Pentagon is ready to use these emerging drop-in fuels when they become commercially cost-competitive.

The Solyndra Syndrome

But there's a notion emerging and being voiced in Washington today that government policy should not or cannot drive commercial development of new technologies for energy production. The thinking is that Congress and the administration have overreached in implementing regulations, devising tax policies and incentivizing private investments for "favored" renewable energy projects — and racking up a terrible track record at "picking winners and losers."

This is what I call the "Solyndra syndrome" and it is an unfortunate turn of events. It seems to be a combination of election-year politics, and fossil-fuel advocates cynically and opportunistically exploiting those politics.

Government policy, at least in the case of the Renewable Fuel Standard (RFS), got a slow start, but has successfully hastened the commercial development of advanced biofuels, pushing a variety of technologies from drawing board to demonstration scale in a matter of years rather than decades. Even with the recession hampering access to capital for the past several years, companies have emerged from labs, and scaled up pilot and demonstration projects. They are now building large-scale advanced biorefineries in different locations across the United States.

The Navy's memorandum with the USDA and DOE can similarly drive more rapid development of cost-competitive drop-in biofuels that meet both military and commercial airline needs.

Stay the Course on the RFS

Recently, legislation has been introduced that would undercut the RFS. I trust that Congress understands that policy instability will undercut the ongoing development of advanced and cellulosic biofuels. While advanced biofuels have not achieved true "commercial" status yet under the RFS, the fact is that the current rules have been in place for less than two years, and are just beginning to work to provide the long-

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term stability and predictability necessary for all parties, and we are beginning to see companies put steel in the ground. <u>Congress needs to stay the course on the RFS</u> [6].

Who wins if we abandon these goals now? <u>Probably not whom you think.</u> [7] The American Fuel & Petrochemical Manufacturers have been the loudest opponents of the RFS. That is a bit ironic now that some of their members own ethanol production capacity.

In this election year, as the pundits pontificate and the politicians posture, the EPA, USDA, DOE and Congressional committees are continuing to do the hard work of ensuring that advanced bio-refineries will be part of a sound energy mix. Let's hope that, when the political dust settles, we can all go back to robust bipartisan support for a variety of liquid transportation fuels that will help insulate the nation against oil price shocks and supply disruptions. If that happens, we can all be winners.

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For more information, please visit www.bio.org [9]. What's your take? Please feel free to comment below!

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