Replacing the Whole Barrel of Oil

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We, in the bio-based chemicals industry, have had our Kitty Hawk moment.

What that means is: We have proven the thesis that bio-based chemicals can be produced, brought to commercial scale, and quickly sold to a receptive, growing and eager marketplace. We have also demonstrated that sustainable chemicals can be made here in America at a cost that is lower than anywhere else in the world, which results in a product-pricing model that, even without subsidies, is competitive with petroleum-based chemical manufacturing processes.

These factors in the aggregate suggest the time has long since come and gone to ask why bio-based chemicals should be included in a national energy policy or why anyone would want to invest in the industry. The question now must be: “Why not?”

Given the national and global opportunities presented by bio-based innovation, now is the time to recognize the value of policies and programs in support of accelerating commercialization, and advancing the nation’s market leadership in the bio-based chemicals industry.

Election Year, Rejection Year, Politics

For at least some people with legislative power and influence, election year politics may be justifying *rejection* year politics. But when it comes to now-proven technologies and commercial-scale operations coming online for bio-based chemical production, it’s time the associated evidence of the national and global benefits trumps party lines. A clearer or more compelling case cannot be made that now is the time when the right thing to do should transcend the self-interested preferences of regional constituencies. Now is time for a lasting and all-inclusive policy vs. another round of *poll-icy*-driven actions or worse … inactions.

The Immense Risk of Waiting & Debating the Obvious & Proven

A failure to establish a durable U.S. energy policy that includes incentives for the

production and commercialization of bio-based chemicals carries significant national and global implications. The international leadership opportunity within our grasp, supported by the fact that we can be, right now, the lowest cost producer of bio-based chemicals among all nations will be lost to countries with more resolve and a better understanding of the stakes.

Lost time invites the heightened risk of continued manipulation of petroleum supply and demand. Inaction risks lapsing into yet another century of fossil fuel-based dependency, resulting in a nation held hostage to its habitual default position in favor of the familiar: fossil fuel. Moreover, a failure to support proven innovations that hold the key to our emancipation from fossil fuel-based products risks nothing less than planetary non-sustainability.

The 90 Percent-Plus Solution

Approximately 90 percent of all chemicals produced today from petroleum can be produced biologically in an organism. But that fact alone does not, nor should it, lead to an automatic conclusion in favor of full-speed ahead. Prudent people examine the practical matters and raise thoughtful questions associated with innovation.

Some answers:

1. Ongoing innovation. Breakthroughs in synthetic biology, genetic engineering, biomass yield, plant genomics and microbiology are leading the rapid development of high-performing products that can be true drop-in substitutes for petroleum-based chemicals.
2. Scalability. The integration, optimization and rapid acceleration from lab to commercial scale is proving the power of these advanced technologies. Many of these bio-based chemical technologies and processes are cost-advantaged over petroleum-based products, even without government subsidies.
3. The global economic impact. Independent and industry-led analysis and projections point to a marketplace that is on a growth trajectory to achieve more than $500 billion by 2025. The World Economic Forum predicts that the bio-based economy has the potential to generate $230 billion to the global economy by 2020. In the United States, bio-refineries that process sustainable biomass can/will generate $88.5 billion in economic activity according to USDA projections. Myriant’s focus alone represents a market opportunity in excess of $40 billion.
4. Jobs creation. The bio-based products industry employed more than 50,000 people as of 2010, according to an Iowa State CIRAS study. This same study points to the fact that the bio-based industry can generate a minimum of 100,000 jobs annually.
5. The existential threat to planet earth via “business as usual.” Today’s world population is approximately 6.5 billion, growing to an estimated 9.2 billion individuals by 2050 — all using and depleting natural resources. This isn’t sustainable or affordable, especially considering the price spikes in oil,

particularly over the last three years. It is time to integrate feedstocks processes that are stable, predictable and renewable worldwide.

It’s Time for a Final Up & Down vs. Back & Forth

The bio-based chemicals industry has justified its case before the legislative bodies. The logic and benefit of a national energy policy inclusive of bio-based chemicals could not be clearer. To build a robust bio-based economy, U.S. policies should provide technology-neutral support to all bio-based products. Bio-based chemicals and products companies need and deserve stable, long-term, forward-thinking policies to bridge the risk gap for investors.

Specific policies should include: a renewed farm bill inclusive of bio-based chemicals; expanding public/private partnerships; and tax codes that extend, support and reward investment and innovation in industrial biotechnology.

A Renewed Farm Bill Inclusive of Bio-Based Chemicals

A farm bill that includes both inclusion of and parity for bio-based chemicals with biofuels, as well as mandatory funding of key farm bill energy title programs, including a biomass crop assistance program (BCAP) and bio-refinery assistance programs. Recent actions in the Senate to move a bi-partisan bill that defines and includes renewable, bio-based chemicals and provides $800 million mandatory funding over five years for energy titles is to be applauded.

It’s incomprehensible that that the House Farm Bill supports only discretionary spending on energy programs, while cutting $500 million from the funding level in the 2008 Farm Bill. Further, the bill is silent on the inclusion of bio-based chemicals. Is this a signal that the Republican-controlled House does not endeavor to see our nation reduce its dependence on fossil-fuels, create jobs or drive economic development?

While the House can argue that advanced biofuels has had its day in the sun, why wouldn’t they strive to reduce consumption of petroleum-derived products by promoting the commercialization and use of chemicals and products made from renewable resources? It’s time for the House to focus on replacing the “whole barrel of oil.”

Expanding Public/Private Partnerships

Governments and private industry are partnering to invest in technological processes and strategies that will further advance the low-cost production and wide-spread propagation of economical biomass feedstocks. Federal loan guarantees and grants in support of new refinery construction, as well as plant retrofits, are necessary signals to private investors that the government will continue to support commercialization of biomass-based products.

Tax Codes that Extend, Support & Reward Investment & Innovation in Industrial Biotechnology

Less than 4 percent of U.S. chemical sales are bio-based today, but a recent USDA analysis shows that the potential market share could be in excess of 20 percent by 2025 with adequate policy support. One example is proposed legislation, *S.1764, "Make It in America Tax Credit Act of 2011"* that serves to extend and modify advanced energy investment project credits, and also enables qualifying bio-based products and other alternatives to petrochemicals to qualify for investment tax credits.

Now, all eyes are focused on our nation's elected leadership and their ability to put progress ahead of politics, and get the job done. In short, to use a common, if not soon to be outdated expression, it's time, in more ways than one, for Congress to step on the gas.

What's your take? Please feel free to comment below! Copyright 2012; Biofuels Digest [1]

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