BioEnergy Producers Association
Clean Technology for Renewable Energy

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Pacific West Biomass Conference
Sacramento, California
January 12, 2010

The potential for the production of advanced biofuels from biomass using thermal conversion is immense—and its most practical and economic biomass feedstocks can be found in the nation's organic wastes.

America generates between 1.5 and 2.0 billion tons of carbon-based wastes annually—some 500 million tons of which are *readily available* for conversion to energy in our local communities.

The Argonne National Laboratory projects the total potential production of ethanol from all available organic waste resources nationally at 100 billion gallons—more than enough to eliminate our need to import petroleum.

On a life-cycle basis, as there is no energy expended and there are no emissions associated with the growing of feedstocks, the production of ethanol from organic wastes is the only pathway currently available that absolutely can meet or exceed the goals for greenhouse gas reduction established in California's new Low Carbon Fuel Standard.

When organic wastes are involved, sustainability is enhanced.

There is no need for food-derived feedstocks, no need to devote millions of acres to the growing of cellulosic plant materials, no nitrogen fertilizers, no high water use, no long distance transport of feedstocks--and zero impact on Indirect Land Use Change.

The Argonne National Laboratory reports that cellulosic ethanol can reduce CO2 emissions from automobiles by 86% or more as compared to an energy-equivalent amount of gasoline, but on a life-cycle basis, by using waste resources as feedstocks, the potential reduction could be 100%.

Whereas most cellulosic feedstocks have to be collected and transported for processing, the infrastructure for waste collection and its pre-processing is already in place—and ethanol has now been integrated into 80% of the nation's gasoline distribution network.

Sustainability also has an economic component. Biomass frees biofuels production from the devastating impacts of commodities speculation. Long-term contracts involving tipping fees for the disposal of urban wastes provide for stable, and even negative, feedstock costs.

Last April, the BioEnergy Producers Association commissioned the University of California-Riverside to conduct a landmark study of emissions data from thermal conversion facilities. It found that more than 300 are now operating throughout the world.

These do not involve waste combustion. They use gasification, plasma arc or pyrolysis to thermally decompose organics into synthesis gas, which is an intermediate for the production of chemicals, a wide range of biofuels, electricity or synthetic natural gas.

More than 100 are converting municipal solid waste to energy, principally electricity. All are required to meet the emissions standards of their local jurisdictions and some of those standards are even higher than those in California.

Gasification creates minimal air emissions, because the syngas does not enter the atmosphere before being introduced to a biocatalyst. And some of these technologies co-produce electricity—and do it without combustion, using waste heat from the cooling of the syngas.

The clean disposal of wastes that otherwise would be placed in landfills and the production of electricity without combustion represent major environmental breakthroughs.

But you'd be hard pressed to find one of them in California.

In 2008, a recession year in which municipal solid waste generation declined by 10%, California still landfilled 35.5 million tons of post-recycled municipal solid waste.

Just from this single source of biomass, thermal conversion technologies could co-produce 1.6 billion gallons of ethanol and some 1250 MW of power, turning the state into a net exporter of ethanol.

However, we will never achieve of our goals for renewable energy and a better environment for this nation—and throughout the world—without a cooperative effort between business, labor, government and the environmental community.

Labor is on board, because they know that biomass-driven renewable energy means new construction, economic stimulus, in-state production of advanced biofuels and electricity--and jobs.

But what about business?

A recent study by the International Energy Agency found that production in the world's oil fields is declining by 7% per year. It predicted that the world will need eight new Saudi Arabias by 2030 to make up for this decline and meet projected demand. The way to achieve this goal is not to devastate the environment in order to recover oil from the tar sands in Canada. To me that is Direct and Indirect Land Use Change of far greater impact than anything that can be projected from corn or cellulosic biomass, and yet it is just one of the factors relating to petroleum production that is being totally ignored by the EPA in its rule-making.

The IEA study said, “Current global trends in energy supply and consumption are patently unsustainable …The future of human prosperity depends on how successfully we tackle the two central energy challenges facing us today: securing the supply of reliable and affordable energy; and effecting a rapid transformation to a low-carbon, efficient and environmentally benign system of energy supply.”

Big oil runs countless ads talking about how green they are, but for years, behind the scenes, they have been contributing millions of dollars to think tanks and University professors, who write white papers that challenge global warming and attempt to undermine the viability of ethanol, and in so doing, deflect attention from the more significant impacts of fossil fuels. The biggest offender has been ExxonMobil, but the most recent study, published just this past week by Rice University, was sponsored by Chevron.

Until Congress put a stop to it, these same companies had franchise agreements that made it virtually impossible for their dealers to sell E85—and as a result, we are way behind in getting E85 pumps into the marketplace.

The House Select Committee on Energy Independence and Global Warming reports that, in 2007, ExxonMobil spent $31.8 billion dollars buying back its stock on the open market, while spending $10 million on renewable energy.

Whether it’s the American Petroleum Institute, the Grocery Marketer's Association of America or others like them, all of industry needs to acknowledge that climate change is a threat, if not a crisis, that the day of peak oil is fast approaching, and that renewable energy is no longer an alternative. It is our key to energy independence, this nation’s security and the fundamental soundness of its economy.

It’s time for everyone to stop playing games, get with the program and find a way to profit by transforming America into a low-carbon, high efficiency economy.

And what about government?

Congress and the White House devoted $80 billion to energy efficiency and renewable energy programs in their 2009 recovery package, and these funds are now working their way through the economy.

Last December, the Department of Energy announced $600 million in grants intended to support total investments in biorefinery projects of almost $1.3 billion. In all, seven federal grants and loan guarantees totaling $323 million (supporting total project costs of $651 million) involved California-based companies, but only 14% of that federal support and 9% of the total project costs will be spent in California.

In addition, Fulcrum BioEnergy, a California company funded at least in part by California venture capital, decided to locate its first thermal biomass conversion facility, a $120 million project, across the border near Reno, where it was quickly permitted.

In all, California’s biobased technology developers have located projects valued at $735 million, along with their related employment and economic stimulus, in other states.

The DOE awarded grants to a wide range of emerging technologies, including $193

million for six thermal conversion projects--supporting a total investment of $410 million. None will be built in California.

The reason?

Because California has a repressive statutory and regulatory environment that is driving biobased technology providers and investment capital out of the state.

As further evidence, Governor Schwarzenegger recently announced a list of 244 renewable electricity projects being proposed to help California meet its RPS goal of 33% by 2020. Only three were for biomass combustion.

One of them, Bull Moose Energy, has a contract with San Diego Gas & Electric to produce 20 megawatts of power from green waste. NREL recommended their gasification technology. Bull Moose has every contract and permit in place—but one. They have been waiting for three years for the San Diego Air Pollution Control District to give them an air permit.

Our Association, with bi-partisan authorship by Assembly members Anthony Adams and Fiona Ma, is sponsoring legislation to create a better business climate for conversion technologies in California.

Among its provisions, AB 222 will remove from statute a scientifically inaccurate definition of gasification that requires zero air emissions from the entire renewable energy production process, a level of performance required of no other manufacturing facility in the state.

No refinery or power plant would ever have been built in California if it had to meet this standard.

AB 222 establishes a new regulatory category for a “biorefinery,” which allows the waste that is processed to count as diversion, not disposal. It enables CTs to be permitted as manufacturing facilities, rather than major solid waste landfills. In language that closely parallels the Waxman-Markey bill in Congress, it confirms that the biogenic portion of any waste stream qualifies as a feedstock for the production of renewable electricity under the RPS.

In June, after having been approved by a unanimous bipartisan vote of 11-0 in the Assembly Utilities and Commerce Committee, it passed the California State Assembly by a vote of 54-13. The Assembly vote in favor of the bill was unanimous among Republicans and represented a majority of the Democrats. In July, it was approved by the Senate Utilities, Energy and Communications Committee.

However, the Senate Environmental Quality Committee also asked to hear the bill. Even though AB 222 has been endorsed by more than 80 organizations, the five Democrats on this Committee decided not to act on it and put it over as a two-year bill. We need just two Democratic votes to get out of that Committee—and we aren’t sure we’re going to get them.

Our co-authors are confident that the bill will pass if it ever reaches the Senate floor, and the Governor has already endorsed it, which made it possible for the California Energy

Commission to testify on our behalf.

Democrats on the Assembly Natural Resources Committee and the Senate Environmental Quality Committee, have yielded to the environmental community and blocked this legislation for five years, during which time the state of California has placed more than 200 million tons of post-recycled waste in landfills.

And that brings us to the last leg in the table of sustainability—the environmental community.

In December, in an opinion piece written in connection with the events in Copenhagen, the Governor said:

"One hundred and fifty years ago, the Industrial Revolution changed the world and ushered in a new era of prosperity. Today, the Green Revolution can do the same.

"And to make that happen, we need everyone to come together and sacrifice for the common good, including the environmental community.

"Environmentalists must stop letting the perfect become the enemy of the possible. They cannot oppose coal-fired power plants and at the same time block transmission lines for solar fields and wind farms. They cannot oppose safe and controlled offshore drilling, while also opposing nuclear energy."

I'd like to add to what he said:

The same environmental groups that want our Association's help in implementing the Low Carbon Fuel Standard cannot persist in opposing the legislation that could make it possible.

I say to the NRDC that you can't urge citizen campaigns opposing a new landfill, while opposing the legislation that would make possible alternative technologies for the clean disposal of municipal waste.

I say to the Sierra Club, that when your national office is advocating "a major shift to advanced biofuels, which rely on non-food feedstocks and offer dramatically improved energy and greenhouse gas profiles," you can't threaten to oppose the re-election of any Democrat who votes in favor of AB 222.

Focusing on the absolute as opposed to the practical simply reinforces the status quo.

For five years, our opposition has been orchestrated by Californians Against Waste, an organization that receives funding from the traditional recycling industry. These are the companies that are sending California's recyclable materials to China, India and Nigeria, where there are limited, if any, environmental controls.

Their goal, by delaying the introduction of these new technologies, is to force California's jurisdictions to rely on existing recycling practices to meet their mandates for landfill diversion. The environmental abuses from the foreign outsourcing of recycling are well documented and we believe they have a duty to address these abuses before challenging the viability of environmentally advantageous conversion technologies.

The bottom line is that this is not an environmental battle. It is an economic competition for equal access to California's waste streams. It is a battle to achieve equal economic and regulatory treatment for a wide range of technologies that can make productive use of biomass.

California's population is expected to grow by some 10 million people over the next 25 years. Unless more flexible legislative and regulatory policies are put in place, enabling the use of its biomass resources for energy production and improving the business climate for biobased technologies, the state will landfill more than one billion tons of municipal solid waste during that time--and a major opportunity to move us toward energy independence, AB 32 GHG reduction goals and a Low Carbon Fuel Standard will be lost.

Thank you.