

Senator Jeff Bingaman

Biodiesel and the New Renewable Fuel Standard

Statement for the New Mexico Biodiesel Policy Summit

March 27, 2008

Thank you all for inviting me to come talk to you today about biofuels in our home state of New Mexico.

Replacing the fossil fuels that we depend on to fuel our cars and trucks with homegrown biofuel is good energy policy, good environmental policy, and good national security policy. As crude oil, gasoline, and diesel prices remain at historic highs, and the U.S. economy appears to be in a recession, it is increasingly clear that diversifying our fuel sources is also good economic policy. That is why I am pleased to be a part of your important conference, which, as I understand it, seeks to promote both the growth of energy crops in New Mexico, and also statewide consumption of diesel fuel from renewable sources.

Federal policy offers strong support for the biofuels industry, both through energy policy and agricultural policy. I'd like to start our discussion today by giving an overview of the new Renewable Fuel Standard included in the Energy Security and Independence Act, signed into law in December 2007. This landmark legislation calls for 36 billion gallons of renewable fuel, which we expect will comprise more than 20 percent of our motor vehicle pool in 2022.

I'll then talk specifically about the biodiesel within the RFS. The structure of the RFS has unique treatment for biodiesel, calling for a minimum of 1 billion gallons in 2012, and then directing the Environmental Protection Agency to set new annual targets for the years after 2012. It seems to me that this unique treatment creates both opportunities and challenges for the biodiesel industry.

Finally, I'd like to share some of my thoughts on key issues for the biodiesel industry going forward. Three inter-related issues that I plan to particularly highlight include tax policy, environmental policy, and the Farm Bill.

Let's start now with the Renewable Fuel Standard. The enacted RFS is expected to serve as an engine of growth for advanced, second-generation biofuel technologies. It is my hope that it will catalyze growth in these second-generation fuels, much in the same way that the Renewable Fuel Standard enacted in the Energy Policy Act of 2005 fueled the rapid expansion of the corn ethanol industry. By 2022, 60 percent of the RFS will be filled by these advanced biofuels.

It will not be possible to achieve the ambitious goals of this RFS without the full participation of all states and regions within our geographically diverse country. Biofuels must grow beyond the traditional corn and soy heartland in the Mid West.

The enacted RFS differs quite a bit from both the comparatively simple and straight-forward Senate-passed RFS, which was written in and passed out of the Energy and Natural Resources Committee, and the EAct 2005 RFS. The new RFS is comprised of four different RFS schedules nested within the overall target, for: 1) corn ethanol, 2) biodiesel, 3) fuel from woody biomass, and 4) an undesignated category that is technology- and feedstock-neutral, and can be filled by any fuel that meets the definition for “advanced biofuel.”

As you can see, corn ethanol is capped in 2015 at a volume of 15 billion gallons per year. There is no positive requirement for ethanol from corn – rather, there is a total requirement for all renewable fuel, a maximum of which can come from corn ethanol. The carve out mandates for advanced biofuels, and subsets of advanced biofuels, begin in 2009. Therefore, we expect the vast majority of the 2008 requirement to be met with corn ethanol.

The first mandate-within-the-mandate begins in 2009, with the requirement for 500 million gallons of “biomass-based diesel.” The schedule increases annually to 1 billion gallons in 2012, and, as I’ve already mentioned, will be set by the EPA for the years that follow. The green section of the graph can therefore grow as rapidly and as expansively as the industry will permit.

Biofuel from woody biomass, or cellulose, is required to grow rapidly. The schedule for cellulosic biofuel starts in 2010 at 100 million gallons per year, and grows to 16 billion gallons in 2022. This very aggressive schedule can be filled with ethanol, butanol, and other fuels that we don’t know about yet, as long as they are derived from woody biomass. Unfortunately, the enacted RFS does require some fine-tuning in this area. In its efforts to ensure that this biofuel production does not lead to deforestation, Congress imprudently put hazardous fuels removal from Western forests lands, commercial wood waste, and private forests off limits for feedstock for fuels required under the RFS. I will work to revise this definition, as early cellulosic ethanol producers are currently at risk of not having their fuel not count toward the RFS.

Finally, there is a technology and feedstock-neutral requirement for “advanced biofuel” that can be met with a wide variety of fuels. Co-processed, “renewable diesel,” for instance, would fill this portion of the mandate. Gasoline-replacement fuel made from algae would be another example for this category.

I should note that there are some ambiguities regarding the carve out mandates that will have to be worked out, either through the EPA rule-making that will enforce the RFS, or, if that is not possible, through legislative technical corrections. Most relevant for this audience, it is not clear whether biomass-to-liquids (BTL) fuel that turns woody biomass into diesel would count toward the “biomass-based diesel” requirement, the cellulosic biofuel requirement, or both. It is also not clear how biodiesel from algae would be treated.

Regardless of these ambiguities, it is very clear that the RFS will require vastly increased biodiesel consumption in the United States. As you can see on this graph, recent domestic production is far short of the 500 million gallon requirement that will take effect in 2009. To reach this ambitious goal, greatly increased domestic production will be necessary.

I understand that U.S. biodiesel production capacity has exceeded actual production by wide margins in recent years. This is good news, in that the U.S. does have the capacity to quickly increase domestic biodiesel production.

On the other hand, it is troubling that so much capacity sits idle, as economics have not supported full utilization of existing capacity. It is my understanding that high feedstock costs are the biggest challenge to the economics of biodiesel production at the moment. While the RFS should offer sufficient market certainty to sustain biodiesel industry growth in coming years, I note that one of the key challenges with biofuels, and alternative fuels in general, is that the industries must be economically viable. While I do expect

the \$1 tax credit for biodiesel production to remain in place – a topic I will get back to in a few minutes – biodiesel, like ethanol and all other prospective biofuels, must move in the direction of becoming cost-competitive with fossil fuels.

As I stated earlier, the unique waiver situation for biodiesel within the RFS creates both opportunities and challenges for the industry. The Administrator of the EPA is directed to reset the mandate for “biomass-based diesel” every year between 2012 and 2022. There is no ceiling on this mandate. The biodiesel industry therefore has a tremendous growth opportunity. If the industry can produce the fuel at a reasonable price, federal policy will ensure that there is a market for it.

However, because the longer-term target is not fixed, there is not as much market certainty for biodiesel as there is for some of the other fuels. For comparison, cellulosic biofuels have an aggressive 16 billion gallon target, offering market certainty for all prospective cellulosic biofuel producers. The waiver authority for biodiesel is also different than the waivers for the other carve out mandates. If supply should fall short of the mandate, the mandate is adjusted every 60 days. This is a short window of time, and might be problematic for those making long term

investment decisions in this industry.

Because of the challenging economic environment for the biodiesel industry, it seems to me that technological innovation and diversification of feedstock are the keys to the growth of a successful biodiesel industry.

It seems likely that the major domestic feedstock for biodiesel – soy – is going to remain expensive, perhaps prohibitively so, in the near- to medium-term. And, as we can see here on this chart, it takes a lot of soy to make biodiesel. Furthermore, global demand for healthy cooking oils will ensure that prices for alternative biodiesel feedstock, such as canola and palm oil, also remain high.

This highlights the need to move beyond food oils for larger-scale biodiesel production. I believe this need to diversify feedstocks could benefit the New Mexican biodiesel industry, and also those in neighboring states, that are not well-suited to growing soybeans. There are some oil-rich crops, like jatropha, that are appropriate for arid regions, grow on marginal land, and do not compete with the food supply, that could become important energy crops going forward.

A larger-scale biodiesel industry will also require further technology development. It is not clear at this point which technologies will allow us to displace the maximum quantities of diesel fuel with biofuel. Diesel fuel derived from algae is an exciting possibility that holds lots of promise for New Mexico. I understand that New Mexico has one of the nation's most favorable climates for algae production, and algae is estimated to have 30 times the amount of oil per acre of any other agricultural crops.

Diesel produced through the gasification of biomass, or BTL, is another exciting possibility. It is my hope that in enacting the RFS, we in Congress set enough of a level playing field that there will be healthy competition among these various biofuels, pushing technology forward and driving costs down.

I'd like to turn now to three issues: tax policy, environmental policy, and the Farm Bill. As I indicated previously, I believe these three topics are very much inter-related.

I'll start with tax policy. On the Finance Committee, we have been working to get biofuels tax provisions enacted since last June, when we fell one vote short of attaching the energy tax package to the Senate energy bill. Many of the biofuels provisions that were included in that energy package are now included on the Farm Bill, including the \$1 per gallon tax credit for biodiesel production, which is extended through 2010.

Like the existing \$1 per gallon biodiesel tax credit, the credit currently under consideration on the Farm Bill does not require the biodiesel to be produced from domestic feedstock, or be

consumed domestically in order to qualify for the credit.

In the energy bill tax package, we eliminated the \$1 tax credit for biodiesel that is exported for foreign consumption. However, this policy met resistance within the biodiesel industry, which has found it necessary to export much of its product, as demand for biodiesel is greater in Europe than it has been in the U.S. Of course, as we have discussed, this situation will change as the RFS requirement for biodiesel comes into effect next year.

Because the energy bill biodiesel tax extension met resistance, the Farm Bill extension of the tax credit does allow the credit to be applied to exported biodiesel. There is expected to be a new reporting requirement for those who claim the tax credit, and plan to export the fuel. This should allow us to better understand how much of the fuel that we are subsidizing is both originating and being used abroad.

This brings me to the second inter-related issue: environmental issues related to biofuels. The new RFS requires large volumes of biodiesel that meet very strict environmental standards. Biodiesel, like all advanced biofuels, must reduce greenhouse gas emissions by 50 percent compared to the fuel it replaces – in this case, diesel. This calculation will include indirect greenhouse gas emissions from land use changes. This so-called greenhouse gas “screen” will prevent biodiesel made from crops that are grown on converted forest lands from qualifying for the RFS.

In addition to being good news for the global environment, this requirement is very good news for our domestic biodiesel industry. We believe that the domestic industry will have little difficulty meeting this standard. The 50 percent reduction requirement was based on this analysis by the Argonne National Laboratory. While we expect these calculations to change as research on these emissions develops, this chart shows that direct emissions from biodiesel production are well above 50 percent better than diesel fuel.

“Dirty” biodiesel, such as biodiesel made from imported palm oil from land that has been cleared through environmentally-devastating forest fires, will not meet to 50 percent emission reduction requirement, and therefore will not be used in the United States.

This very sound environmental requirement does necessitate they we include an environmental standard on the biodiesel tax credit. Because “dirty” biodiesel will not be used in the U.S., we need to be sure that we are not subsidizing foreign “dirty” biodiesel use. Enforcing this environmental restriction on domestic consumption but not on the tax policy could have the effect of having U.S. tax payers subsidize foreign consumption of dirty biodiesel. I think that we can all agree that that would not be a good deal for either the U.S. tax payer or the global

environment.

This brings me to the Farm Bill, the legislation on which this biodiesel tax policy is likely to become law.

I'd like to be able to give you a timeline on when the Farm Bill might be passed out of the Congress. Unfortunately, the best I can do is tell you that the current extension expires on April 18, and the President has indicated that he is not interested in signing any further extensions. This indicates to me that we are likely to see some movement on the Farm Bill Conference soon after we return from the current recess. As I understand it, the chambers are meeting at the staff level to discuss policy issues, while broader discussions of how to pay for the bill are progressing slowly.

The good news for biofuels, and biodiesel in particular, is that there is wide agreement between the chambers that the Farm Bill should support energy crop research. Oil seed crop research, and support for the initiation of production of new oil seed crops are expected to be included in the final package.

I believe that the prospects for U.S. biofuels production are extremely bright at the moment. Federal policy will require the rapid expansion of existing technologies, and demand technology improvements and feedstock diversification to expand the domestic industry in ways that we likely cannot even imagine at this point.

I would like for all of you here today to take away from our discussion here that there is room in the Renewable Fuel Standard for all kinds of biofuels. Even if it requires some tweaking of the current structure, I am committed to ensuring that all economically viable biofuels have a home in the RFS. I understand that the biodiesel industry is experiencing some difficulties this year. I fully expect next year's carve out mandate for biodiesel to alleviate much of this problem, as it also propels the industry forward with technological innovation and increased feedstock diversity. I encourage you all to keep an eye out for developments on the Farm Bill, which will hopefully come to resolution in the next few weeks.

Thank you for inviting me to come speak with you today, and I am happy to answer any questions.