

July 11, 2012

10:00am-10:30am

Washington, DC Convention Center

**DOE's Fifth Annual Biomass Conference 2012:
*Confronting Challenges, Creating Opportunities***

Overview of EPA's RFS Program and its Future

Introduction

Good morning. Thank you for the kind introduction. It's great to be here with all of you.

You and the organizations you represent play a critical role in securing a clean energy future for our country. I know first-hand how hard you are working, and the progress that you are making.

I am here to tell you to keep at it, and not to slow down!

I am sure everyone in this room understands what is at stake if we do not reduce our dependence on imported oil and develop more sustainable fuel choices.

The stakes are enormous:

--- For our security... for our environment... and for our economy.

And the fact of the matter is, our country cannot address these national issues without addressing the transportation sector.

This sector accounts for about two-thirds of our oil consumption and more than a quarter of the U.S. greenhouse gas emissions.

The growth of our truck and passenger car fleets has serious implications for energy security, air quality, and greenhouse gas emissions.

The good news is we know what we must do to put ourselves on a more sustainable transportation path.

We know that we need to dramatically reduce the carbon footprint and improve the efficiency of our vehicles.

We know that we need to make our transportation systems more efficient, and to provide more choices to people about how to move themselves and their goods around the planet.

And finally, we know that we need to produce and use cleaner fuels.

If we take meaningful steps in these three areas, and do it wisely, we know that we will not only reduce emissions and save oil, we will also produce both economic and consumer benefits.

What We Are Doing

So how are we doing?

On the carbon footprint and efficiency front we have made historic progress over the last few years, putting in place for the first time ever national standards for greenhouse gas emissions and fuel economy for both passenger vehicles and commercial trucks and buses.

Together with DOT, we are about to finalize a second set of long-term standards for passenger cars—going out to

the year 2025.

The combined standards for passenger vehicles will reduce our oil consumption by over 2 million barrels per day by 2025. These actions are the single largest step the United States has ever taken to reduce greenhouse gas emissions and oil consumption.

For perspective, in 2025 we will save more oil than we imported from the Persian Gulf nations last year! These actions also result in the reduction of 6 billion metric tons of greenhouse gas emissions. And that's just the light-duty sector.

Our historic program for trucks and buses covering model years 2014 through 2018 will

- Reduce oil consumption by an additional 530 million barrels, and

- Greenhouse gas pollution by about 270 million metric tons over the life of these vehicles.

Like the light-duty standards, this program was developed with support from the stakeholder community, including:

- Manufacturers,
- Fleet owners,
- The State of California,
- Environmental groups and other NGOs.

Great progress is also being made by our popular partnership programs. Through EPA's SmartWay Transport program, we are working to make goods movement and our transportation system more sustainable.

The work done by our thousands of SmartWay partners is

pretty impressive ... with millions of tons of GHG reduced and billions of dollars saved since the program's inception less than ten years ago.

I was in China last month and am pleased to say that this voluntary program is serving as the world's model for how to approach and achieve significant improvement in goods movement sustainability.

And as evidenced by the number of people and diversity of interests participating in this year's event, renewable fuels continue to be one of the most active and growing areas of our strategy.

There can be no doubt that the use of renewable fuels is absolutely critical to achieving our environmental, economic, and energy policy goals.

Now more than ever is the time for us to work together to understand the opportunity and importance that biomass and renewable energy can play in both the near and longer term.

RFS

Today, I'd like to focus my remarks on a key policy to achieve these goals – EPA's Renewable Fuel Standard Program – or RFS.

By now, I'd expect most people here are familiar with the basics of the RFS program.

The program was enacted as part of the Energy Independence and Security Act of 2007 or EISA. This law

greatly expanded the national mandate for renewable fuel production to 36 billion gallons in 2022.

Congress specified that all renewable fuels used in the U.S. under the RFS program must be at least 20 percent better in terms of greenhouse gas emissions than the petroleum fuels they replace, on a lifecycle basis.

Advanced fuels must be 50 percent better and cellulosic must be 60 percent better.

Congress also defined what needed to be considered in evaluating the lifecycle emissions of these fuels.

To develop our lifecycle methodology, our approach has been to use the best information, models, tools and science available.

We consulted not only government experts in our agency and other parts of our government. We also sought the advice of many other experts both nationally and internationally.

Following this extensive analytical work, we approved a variety of renewable fuel pathways.

For example, we determined that

- Ethanol and butanol produced from corn qualify under the 20 percent standard,
- Soy-and canola based biodiesel qualify as an advanced biofuel, and
- A multitude of cellulosic feedstocks meet the 60 percent cellulosic requirement.

To put these values in context, we estimated the RFS2 program would

- Cut GHG emissions by 138 million metric tons, and
- Displace about 13.6 billion gallons of gasoline and diesel when fully implemented in 2022.

This represents about 7 percent of expected gasoline and diesel consumption that year.

Since the rule was completed in 2010, we have seen a very high level of interest from the industry in producing renewable fuels from various new feedstocks and using new process techniques that can improve the GHG performance of such fuels.

My office has literally been inundated with requests to approve new cellulosic and advanced feedstocks, as well as advanced technologies that can be applied to existing feedstocks.

The creativity and ingenuity of the renewable fuels industry demonstrates itself on a regular basis in this area.

Just when I think I have seen all of the possible ways a renewable fuel can be produced, someone on my staff shares details of a new approach with me!

Currently, we have about 30 pending requests to include innovative new renewable fuels in our program.

Just to name a few -- we are currently reviewing next generation biofuels feedstocks such as:

- Camelina,
- Napier grass, and
- Energy cane.

We have also been approached by companies that are interested in innovating process technologies such as using:

- Combined heat and power,

- Biogas from landfills and animal operations, and
- Carbon capture and sequestrationto help develop fuels that will meet the advanced and cellulosic performance standards.

We see the potential for using these advanced technologies is promising.

For example, in a public notice published last month, we described a plant configuration that uses both combined heat and power and biogas with sorghum as a feedstock that would allow producers to create an advanced biofuel.

In the same notice, we also asked for comment on how parties wishing to use carbon capture and storage could do so in a way consistent with the RFS2 program requirements.

Within the universe of existing feedstocks, innovation and improvements continue.

For example, companies have approached us with requests to use highly efficient processes to produce biobutanol that would meet the advanced standards.

These technologies can be deployed in a number of different ways to increase the diversity of fuels that meet the advanced or cellulosic categories in RFS2.

With sustained interest by the industry, it is clear these and other advances will continue as the renewable fuels program matures.

Cellulosic Biofuels

I'd like to spend a few minutes focusing on cellulose, because this is such an important time for the cellulosic fuel producers.

As you all know, Congress determined that the majority of the new volume of renewable fuels required by EISA is advanced cellulosic fuels.

16 billion gallons of cellulosic fuel is expected by 2002, which is by far the biggest growth category of any of the four renewable fuels categories included in the law.

Because the cellulosic industry is counted on to make such great progress in the coming years, I think it is important to speak about their work and EPA's expectations.

EPA has been given the task by Congress to set annual cellulosic volumes, with the authority to adjust the

volumes if we determine the projected volumes will be lower than the one defined in the statute.

Since 2010, we have used this authority to do exactly that, making significant reductions in the annual cellulosic volume requirements.

For 2011, the required volume is about 98% less than the value laid out in the statute.

Contrary to what you may have read recently, we don't make these adjustments without giving serious thought to the appropriate values.

The final numbers are a product of research by my staff, significant feedback from industry participants, and input

from EIA, all of which is then put out for public notice and comment and then reviewed again and updated by the end of each year when we issue the final rule.

We are in the process of determining the required cellulosic volume for 2013, and hope to have a proposal out for comment shortly. While I can't talk in detail about the proposal, I can share with you my understanding of where the industry is in bringing these new fuels to market.

Earlier this year I met separately with about a dozen firms that are investing significantly in this area.

I reached out to senior leaders of the industry because I wanted to learn first-hand how they saw the future of this

sector, and to gather facts about the progress being made toward commercialization.

What I learned is this: the promise of cellulosic biofuel is finally starting to be realized.

The industry is beginning to move from pilot demonstration scale towards large -scale commercial production.

What's more, ongoing research and development work has resulted in increasing product yields, while at the same time lowering enzyme and catalyst costs on the production side.

New supply chains have been developed, and several companies have reached contract agreements to provide the necessary feedstock for large scale production facilities.

Companies are continuing to invest significant sums of money to further refine cellulosic production technology.

As for the financials, from 2007 through the second quarter of 2011, over \$2.4 billion was invested in advanced biofuel production companies by venture capitalists alone.

Looking ahead, 2013 is expected to be a year of continuing transition for the industry, as many companies are shifting their focus from technology development to commercialization.

This transition begins this year, with the first commercial production facilities from INEOS Bio and KiOR scheduled to come online, and will continue throughout 2013.

Two of the largest producers of ethanol in the United States, Abengoa and Poet, are planning to begin producing cellulosic ethanol at commercial scale by the end of 2013.

Several others companies, including BP and DuPont, will be constructing their first commercial scale facilities in 2013, with the intention of beginning production in 2014.

If these facilities are able to operate as anticipated, the uncertainty associated with commercial-scale cellulosic

biofuel production will be significantly decreased, and the expansion of the industry could be rapid.

Let me remind you, all this progress is being made despite difficult times in the market and ongoing economic uncertainties.

And this progress has happened in a relatively short time frame when compared to how long it typically takes to bring new technology- driven products from initial development to commercialization.

Clearly, the promise of new fuels that can achieve significant reductions in greenhouse gases lies with cellulosic fuels.

It is therefore critical that EPA, along with our colleagues at DOE and USDA --and more importantly the industry--

continue to work together to do what we can to facilitate the growth of this market as Congress envisioned.

Conclusion

In closing, there is no question in my mind that we need to keep up the hard work to expand our supply of sustainable, domestically produced renewable fuels.

Sustainable renewable fuels must be an essential part of the nation's strategy to reduce emissions and oil consumption.

We will need sustainable renewable fuels---in volumes that matter--- along with clean electricity, to achieve what science is telling us we need to protect our climate.

We will continue to do our part to help. We have a small

but very dedicated and effective team that is working hard to be responsive to industry petitions on new feedstocks.

With your help and support, all of this work – on cleaner fuels, cleaner vehicles, and a more efficient transportation system– will help transform our transportation sector.

And as Teddy Roosevelt liked to say, “There is no greater prize in life than working hard at work worth doing”

This is work worth doing.

Thank you for listening.