

**BERKELEY BIOECONOMY CONFERENCE**  
**March 2013**

**Presentation Topic:** The State of the Bioeconomy - “The Future of Biofuels.”

**Conference Date/Location:** March 27-28, 2013, University of California, Berkeley, CA.

**Session Topic Description:** “The Future of Biofuels” was a discussion about the state of biofuels today; some of the leading positive and negative drivers that are impacting the biofuels market; and how the future might look for biofuels in the coming years.

**Moderator & Panelists:** Wallace E. Tyner, James and Lois Ackerman Professor, Purdue University (Purdue Agriculture Department), <http://www.agecon.purdue.edu>, Email: wtyner@purdue.edu.

**Design, Methodology, Approach:** Presentation with Q&A discussion following.

**Main Panel Discussion Points:** Mr. Tyner started the presentation with a sense of strong uncertainty about the state of biofuels in the future and prefaced his talk by saying the future of biofuels is “more uncertain today than at any other time since over the last 10 years he’s been working in the biofuel industry.” He noted a recent article published in the New York Times newspaper on Sunday, March 17, 2013, called “Days of Promise Fade for Ethanol,” which talked about corn ethanol RIN prices fluctuating dramatically, and that the industry perceives it will run out of RINS in 2014, and may not be able to meet the renewable fuel standards, making it very expensive to meet that standard. He suggested the EPA will rigidly enforce the fuel standards for corn ethanol and that if the EPA doesn’t show flexibility, Congress will take it away from them.

The discussion moved to the blend wall, and how exports provided a big relief valve for the blend wall in 2011. Although in 2012, the picture began to change dramatically, and in 2013 we lost the relief valve and the blend wall is now at 13.3 billion gallons, but sugarcane ethanol is part of that. RIN prices were previously much higher for biodiesel and advanced biofuels. He said today, the price of corn ethanol is rising due to the high value of corn ethanol RINs, making corn ethanol profitable again.

The discussion then moved to addressing some of the negatives in the industry. Big oil and other opposition groups are more aggressive than ever in attacking biofuels and the RFS (Renewable Fuel Standard), and how “fierce” the political battle has become, with the consulting firms hiring their guns to support their positions. Another negative factor impacting the industry could be federal and state budgets limiting the use of subsidies and biofuels research expenditures. Plus, the use of food crops for fuel is attracting more attention and getting pushback. The EU is backing away from conventional biofuels and has provisionally capped the food crop component at 5 percent—half the renewable fuel target. And with more U.S. oil production and cheap natural gas, there is less interest in renewables.

He said the EPA will be forced to waive some part of the cellulosic part of the RFS every year. The RFS “out clause” automatically comes into play, and blenders will be able to buy out of their

blending obligation by purchasing a credit from the EPA for \$0.42 plus buying an advanced biofuel RIN. This could seriously limit the production of biofuels if this does not change. From the private sector, he conjectured that the sector seems less interested in biofuels today and projects that look very secure are being cancelled. But some bills have been introduced to change this.

The discussion then turned to the positives in the industry. He affirmed that ethanol is now an important part of the U.S. and Brazilian fuel system. And although this past summer, there were calls to suspend or reduce the RFS because of the drought, but that ethanol is so well integrated into the fuel system that an RFS change would have done little to change the blending. Ethanol is now less expensive than gasoline. If ethanol is here, unless relative prices change, corn ethanol is here to stay—up to—but not exceeding the blend wall.

More positive drivers noted are that some advanced biofuels technologies are getting closer to being economically viable and there are very promising technologies on the horizon, but there are political and institutional barriers in the U.S. The ethanol blend wall mainly affects the U.S., not other regions, and with climate change and GHG emissions getting more attention, biofuels may have a more secure future. With a carbon tax possible now, generating more revenue would give biofuels some support. Overall, he said, aviation biofuels is the most promising area, with both the military and civil aviation very interested in biofuels. So the future looks good for an aviation biofuels industry to develop. And with provisions from the Defense Production Act, the military could get 1-3 advanced biofuels plants built. Also, a reverse auction could get more plants built.

More positives include possible changes in the RFS that might help develop biofuels, the expansion of ethanol production is expanding in parts of Asia, and the improvement of corn oil extraction technology is increasing the profitability of corn ethanol.

### **Outcomes & Analysis:**

Tyner was hesitant to take a position on which way the industry might move, however, the political climate today in Washington DC is heavily impacting the further development, R&D, and investment in biofuels. With the RFS being somewhat controversial, he underlined that there will be a big push to change it or end it, given the many factors mentioned. The current political climate is also negatively impacting the development and promotion of cellulosic biofuel, though it has evolved tremendously in recent years.

**Keywords:** Biofuel, biodiesel, ethanol, corn ethanol, sugarcane ethanol, RINs, blend wall, EPA, RFS, aviation biofuels, cellulosic biofuel.

**Paper type:** Review of conference speaker.

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