

House Energy and Commerce Committee – RFS Whitepaper 5 Responses from Butamax™ Advanced Biofuels, LLC

Questions for Stakeholder Comment

1. Does EPA's annual RVO-setting process work well or are there concerns? If there are problems, are they correctable by EPA? Are any statutory changes needed?

Generally speaking, the EPA's annual RVO setting has worked. As a general rule, and as is appropriate, most of what EPA does in the annual RVO-setting process is defined by statute and EPA has, to date, operated under reasonable interpretations of their statutory obligations and authority. However, EPA's failure to meet the statutory timeline for issuing a final rule for 2013 RVO's does create significant uncertainties for obligated parties as well as biofuel producers and other stakeholders. Companies such as Butamax require regulatory certainty in order to move forward in a timely manner with commercialization plans.

2. Are the cellulosic biofuel provisions in the RFS working well or do they need to be changed? Has EPA modified its cellulosic biofuel standard-setting process for 2013 and future years appropriately, following the DC Circuit's decision to vacate EPA's 2012 standard? If not, what further changes are needed?

Butamax believes – in general – that the RFS is working as envisioned by the Congress and the President when it became law. However, to specifically address this question, Butamax believes that other parties who operate exclusively in this area can provide more appropriate answers.

Should EPA be required to reduce the advanced biofuel and total renewable fuel volumes when it lowers the cellulosic biofuel volume? What would be the consequences of such a change?

To date, EPA's exercise of the discretion provided to it in statute has been appropriate, the proof of which is that the required volumes of non-cellulosic advanced biofuels have been readily achieved in the marketplace. Moving forward, as the discrepancy between statutory and achieved cellulosic volumes grows, it will be increasingly difficult for non-cellulosic advanced biofuels to cover the gap. In their proposed rule for 2013, EPA recognizes this as a growing issue and the Agency has properly sought input on this topic.

Butamax sees an opportunity for development of non-cellulosic advanced biofuels such as biobutanol and biomass-based diesel. However, realizing this opportunity requires investment and the current, single-year rule-making process creates considerable uncertainty for this category. That uncertainty likely limits actual investment as it drives potential investors to focus on the size (5 billion gallons per year in 2022) of the category as currently defined by statute rather than the uncertain opportunity to cover the expected near-term cellulosic shortfall. Accordingly, a change in the annual rule-making process which provides longer-term guidance to all stakeholders would create a smoother path forward for the fuels market.

Though production pathways for Conventional, Cellulosic and non-Cellulosic Advanced biofuels may be very different, the actual fuel molecules they produce are often identical and the requirements for long-lead investments in retail and distribution infrastructure as well as requirements of the vehicle fleet in order to implement the goals of the RFS remain the same – thus, reductions in the advanced and total renewable requirements will have the unintended consequence of penalizing parties who have made timely investments as envisioned by bi-partisan legislators and the Bush White House in these key areas and rewarding those who have not.

It should also be noted that, while it has been appropriate for EPA to reduce cellulosic volumes, there are now significant commercial scale projects underway, which demonstrate that the RFS has been effective in stimulating investment in cellulosic biofuel technology, and that cellulosic biofuel volume will become available with significantly increasing quantities in the next few years.

3. How can EPA improve its enforcement of the RIN credit trading program? Does EPA have the resources that would be required to oversee RIN production and enforce against production of invalid RINs? What role should obligated parties have in verifying the integrity of RINs and what additional information do they need to exercise due diligence? Will EPA's proposed voluntary third-party quality assurance program address the concerns of all RIN market participants? If not, what else is needed?

Butamax believes that other parties are better placed to address these questions. Butamax does, however, recognize that unfortunately bad players are part of every industry and that the EPA, appropriate judicial agencies and the Congress should take steps to ensure that entities that violate the law are appropriately punished and that the laws that exist are complied with.

4. What is responsible for the rise in ethanol RIN prices in 2013? Can future increases in RFS compliance costs be avoided, and if so, how? If the government takes action to limit increases in RFS compliance costs, how might such action affect this market-based program?

Prior to 2013, ethanol RIN prices were low because the RVO's were at levels which could be satisfied by blending E10 in an annually rising share of the US gasoline market. Refiners with downstream integration to the terminal rack were usually able to purchase ethanol at prices well below that of wholesale gasoline and use it to profitably blend E10. As E10 is approved for use in all US vehicles, most U.S. markets have come to exclusively feature E10 in all grades from all brands and there effectively is little need to discount E10 in order to drive consumers to purchase it. It is a matter of fact that through 2012, the US market generally over-complied with RFS requirements because blending economics favored ethanol use well beyond obligations. The law as designed allowed for forward looking companies to create scenarios where they could comply with the law and its goals and use the free-market to create revenue generation. It is worth noting that many players in industry were generally supportive of the RFS as a matter of principle and law when it resulted in increased profits. This set of circumstances allowed "RIN-long" refiners (generally, refiners with large marketing businesses) to be able to sell unneeded RINs to "RIN-short" refiners (generally, refiners with little or no marketing businesses) for a relatively low transaction cost. While the ownership of the surplus RINs generated over the past few years is not public, it is well-known that past over-compliance has enabled the banking of a large volume of 2012 RINs which are available to smooth the pathway forward.

As the RVO's have risen each year towards E10 levels, however, the opportunity for RIN-long refiners to generate surplus RINs through E10 blending diminishes and the need for those RINs by RIN-short refiners increases. The expected outcome of this increasing demand is the observed increase in RIN prices, an outcome which has been expected since enactment of EISA – in fact, such increase is one of the key mechanisms that make the RFS work. Economic theory predicts that the price of a RIN should rise to the cost of generating the marginal RIN; in today's markets this could come either from blending biodiesel at levels above the biomass-based diesel RVO or it could come from marketing of higher ethanol blends (e.g. E85) at prices sufficiently discounted to drive required levels of consumer demand. Over the longer term, this naturally creates the market environment necessary for biobutanol or other drop-in biofuels to come into the market.

As Butamax has continually noted, market stability ensured by a stable regulatory environment is required if bringing increased biofuels into the market place is to succeed. Factually, current RIN prices exceed

those which would be predicted by theory, this is not surprising in the short-term as delivery of the required biofuel blends requires independent companies to come to agreement on contracts, make significant capital investments and educate consumers. Getting obligated parties and their business partners to take these steps requires that the situation be recognized and that the stakeholders be convinced that this situation will endure. From there it will require some time to execute the necessary actions. RIN prices will come back down towards theoretical values as supply and demand gradually find their way back into balance. Initial steps in this direction can be observed as some merchant refiners are increasing their marketing businesses, some ethanol producers are taking actions to blend E85 themselves and some retailers are experimenting with E85 pricing to see what is required to generate additional volume – these early actions, multiplied, will begin to rebuild the supply of RINs and work to lower RIN prices. Success of small firms taking these actions can be expected to lead larger firms, including refiners, to follow suit.

Butamax believes that the most cost effective compliance strategy for the U.S. market is to increase market penetration of E85 in regions where it can be supplied most cost effectively, and for the growing volumes of E85 to be accompanied by increased adoption of drop-in biofuels, such as biobutanol, as they become available at scale. Targeted blending and sales of comparatively low volumes of E85 can generate large numbers of RINs very cost effectively in the short term, and in current market conditions this initiative would be handsomely rewarded. Further, drop in biofuels will allow further renewable fuels scale up without substantial infrastructure investment, and with improvements in refining economics. Taken together, these measures enable compliance across the industry to be achieved cost effectively.

Actions taken by the government to artificially limit RIN prices would cause the market to slow or stop activity which has already started to find pathways to increase the supply of RINs. The net result would be to slow down realization of the benefits which Congress sought to achieve through enactment of RFS.

5. Are increases in RIN prices likely to affect the production or marketing of renewable fuels? If so, how might this affect implementation of the RFS and RIN prices moving forward?

Increasing RIN prices support production and marketing of renewable fuels and are essential to RFS2 compliance. Increased RIN prices serve to effectively lower the purchase price of a biofuel (effective price is purchase price less the value of the associated RINs). RIN prices will increase until biofuels become cheap enough to enable retail prices of higher ethanol blends to be low enough to attract required levels of consumer demand. Butamax believes that this consumer demand, while slow in coming, is in fact succeeding and should be allowed to continue to grow.

Increased RIN prices also serve to make biobutanol and other drop-in biofuels, which can be blended at higher volumes without need for changes in the vehicle fleet or investment in new infrastructure, more attractive while fulfilling the goals of the RFS. It is important to note that further investment in these new biofuel technologies very much depends on an expectation that RFS will continue to be enforced in a manner which requires blending levels which cannot be met with E10. Current private investments into biofuels which will accomplish these goals were premised on the RFS and companies that were and are complying with the law should not now be punished and have their investments made worthless due to unnecessary changes to the RFS.

6. Should the provisions applicable to obligated parties be modified to provide relief for entities unable to generate sufficient RINs?

No. The market – as is appropriate -- is already moving to address this issue on its own; this year's increase in RIN prices was the catalyst which is only now driving obligated parties who are RIN-short to take action to address this cost to their business. These actions include developing marketing channels which will

enable them to generate more of their RINs internally and restructuring their bulk sales contracts to include delivery of RINs as part of the purchase price. Introducing the prospect of relief at this stage will only motivate delay in compliance activities, including investments in biofuels and, therefore, compromise delivery of Congressional intent.

Would such an approach apply different compliance requirements for refiners that blend ethanol and refiners that do not blend ethanol? What would be the justification for and potential consequences of such a change, including the potential for market distortions?

As RVO's increase annually, all obligated parties will face increasing challenge in satisfying their RFS requirements. This was always entirely predictable from the time the annual schedule of RFS volumes was first published in 2007 and it was always clear that compliance would require extensive, multi-year investment across the full length of the fuels value chain. Different obligated parties have pursued different strategies in planning for compliance. Many biofuels firms have invested many billions of private funds to deliver the volumes of biofuels required by the statute. Relaxation of the statutory requirements will adversely and unfairly penalize those firms who have complied with the law and the intent of the Congress and invested in expectation that the law would be enforced, reward those who have not prepared, and undermine delivery of the environmental and energy security benefits which RFS brings to the United States.

7. Is the RFS incentivizing refiners to make less gasoline available to the American market, either through increased exports or reduced refinery production? If so, can anything be done to address this?

U.S. gasoline inventory data from EIA this year have generally been at the high end of the 5-year range. Retail gasoline prices this year have generally been in the range seen in recent years and domestic gasoline consumption is very slowly recovering from recession lows. All of these data suggest that the U.S. market continues to be well supplied with gasoline.

Simultaneously, recent U.S. refinery operating rates have also come back strongly from recession lows. U.S. net exports of petroleum products have grown over the past few years and that should be seen as testimony to the high efficiency of U.S. refineries and their ability to take advantage of the advantaged crude and natural gas prices available due to growing North American production. The growth of U.S. exports of refined products reflects the ability of U.S. refiners to profitably use capacity which would otherwise be idled; this also supports an increasing number of high-paying jobs in the refining industry.

This completes the white paper series, but given the breadth of issues raised by the RFS, the committee recognizes that not all concerns have been addressed. For this reason, the committee will also accept stakeholder comments on any aspect of the RFS. Please respond by July 26, 2013, to RFS@mail.house.gov. Should you have any questions, you may contact Majority staff Ben Lieberman at (202) 225-2927, or Minority staff Alexandra Teitz at (202) 225-4409.