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Ethanol Mandates Compliance Strategy and Course of Action for EPA

Sebastien Pouliot
Iowa State University, pouliot@iastate.edu

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IN NOVEMBER 2013, the Environmental Protection Agency (EPA) released a proposed rule for the 2014 biofuel mandates. The proposal was met with strong opposition from ethanol supporters but with much relief by the oil industry. This article explains how this rule came about and possible courses of action for EPA.

Congress first established the Renewable Fuel Standards (RFS) in the Energy Policy Act of 2005. The first RFS were relatively modest and the market quickly surpassed the mandated volumes. The RFS were revised two years later with the enactment of the Energy Independence and Security Act of 2007. The second iteration of biofuel mandates, RFS2, required an annual biofuel use of 36 billion gallons by 2022, with a cap on corn-starch ethanol of 15 billion gallons. Mandates for different categories of biofuel were set to increase annually.

EPA has approved three ethanol-gasoline fuels for general motorist use: E10, which contains 10 percent ethanol, E15, which contains 15 percent ethanol, and E85, which contains up to 83 percent ethanol. E10 is available in virtually all fuel stations while E15 and E85 are available in a small number of fuel stations. In late 2012 and early 2013, it became apparent that scheduled increases in ethanol consumption mandates would require increasing use of ethanol-gasoline blends that contain more than 10 percent ethanol. With an expected E10 consumption for 2014 of about 130 billion gallons, 13 billion gallons of ethanol can be blended into gasoline, far short of the scheduled 14.4 billion gallons mandated for 2014. Many refer to the 13 billion gallon consumption of ethanol as the E10 “blend wall” because of the perceived difficulty in expanding consumption beyond this volume.

Obligated parties, such as oil refineries, must show compliance with the ethanol mandate by submitting Renewable Identification Numbers (RINs). EPA established a RIN market to reduce compliance costs. The price of RINs reflects the difference between the cost of producing ethanol and the value to ethanol buyers of one more gallon of ethanol. Therefore, the price of RINs reflects how difficult it is to meet the ethanol mandate. EPA rules allow banking of RINs so that accumulated RINs can be used for compliance. The ethanol mandate for 2013 of 13.8 billion gallons will be met by approximately 13 billion gallons of actual ethanol consumption and by using 800 million banked RINs. The stock of RINs is no longer sufficient to meet scheduled mandate increases with ethanol consumption limited to 13 billion gallons. Accordingly, RIN prices increased dramatically in January 2013, indicating that it would be very costly for obligated parties to meet the 2014 ethanol mandate.

U.S. ethanol policy made RINs an input in the production of gasoline. With a non-binding ethanol mandate, the price of RINs is zero, which does not increase costs to oil refineries. However, with an ethanol mandate in excess of the blend wall, the price of RINs is greater than zero, thus increasing oil refineries costs. Typically, when the price of an input increases, firms adjust and modify their practices to minimize the impact on profits of higher procurement costs. For the oil industry, knowing that they would eventually face an increase in the price of RINs, the most likely pathway to minimize costs of compliance was to develop an alternative distribution channel for ethanol volumes above the blend wall—currently, E85 appears to be the most likely channel for ethanol volumes beyond the blend wall. An increase in the supply of E85 would increase the demand for ethanol thus reducing the price of RINs. E85 is currently distributed in about 2,600 of the 115,000 fuel stations in the United States.

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The strategy outlined above was not the one that the oil industry chose. Instead, the oil industry made the argument that ethanol mandates would impose a substantial burden and pushed EPA to lower ethanol mandates to keep the price of RINs low. With limited distribution of E85, any economic analysis of the ethanol market would show an increase in RIN prices for an increase in ethanol mandate above 13 billion gallons. Many pundits and the lobby of the oil industry predicted dire consequence to the U.S. economy unless ethanol mandates were scaled back below the blend wall. The lack of adaptation to ethanol mandates causes high RIN prices and thus solidifies the argument that ethanol imposes a large financial burden to the oil industry. However, the size of the increase in RIN prices has been conditioned by limited increase in the supply of E85.

The EPA lowered its 2014 mandate to 13 billion gallons based on consideration of the oil industry’s claims. EPA noted in justifying its rule that it cannot increase ethanol mandates as long the capacity to distribute ethanol through E85 is not expanded.

However, the issue here is analogous to the chicken and the egg. Obligated parties can contribute to lower the price of RINs by increasing their capacity to distribute ethanol. Thus the price of RINs provide the appropriate incentives for increasing capacity to distribute ethanol. However, if RIN prices are low, there is no incentive to invest.

The best course of action for EPA is to make is a strong long-term commitment either to increase or freeze the ethanol mandate. If it is the goal of the EPA to expand ethanol volumes in the future, removing uncertainty is key to spurring investment in the distribution of ethanol, and thus in reducing compliance costs to obligated parties. A similar argument holds if EPA decides to freeze ethanol mandates. A pause in 2014 and then resetting course in 2015 would only cause firms to waste money, create uncertainty, and undermine the credibility of EPA.

It is a natural position for the oil industry to oppose biofuel mandates that increase their costs; and the proposed rule for 2014 shows that the oil industry has played its hand well in an effort to stop expansion of ethanol mandates. EPA has now received comments on the proposed rule and is set to release a final rule by this summer, which should set the course of U.S. ethanol policy for years to come.

Catherine Kling, Director of the Center for Agricultural and Rural Development, Iowa State University, and other leaders in economics and environmental issues are interviewed in this CenUSA video, “Enhancing The Mississippi River Watershed with Perennial Bioenergy Crops.” The video focuses on the role perennial grass energy crops can play in improving water quality. Compared to row crops, perennial grasses have been shown to reduce runoff, erosion and nutrients by as much as 90 percent.