

RENEWABLE FUEL STANDARD ASSESSMENT WHITE PAPER

Agricultural Sector Impacts

The Committee on Energy and Commerce is issuing a series of white papers as the first step in reviewing the renewable fuel standard (RFS). The RFS was created by the Energy Policy Act of 2005 and greatly expanded under the Energy Independence and Security Act of 2007. It sets targets and timetables for four categories of biofuels to be added into the nation's transportation fuel supply. Each category must meet specific requirements as to its feedstock and its lifecycle greenhouse gas emissions. The four categories are: conventional biofuel (corn-derived ethanol), biodiesel, cellulosic biofuel, and undifferentiated advanced biofuel. The targets for the four categories total 16.55 billion gallons for 2013, of which not more than 13.8 billion gallons is conventional biofuel. Conventional biofuel is scheduled to reach its cap of 15 billion gallons by 2015, while the other categories continue to rise until the total RFS reaches 36 billion gallons by 2022.

It has been more than five years since the RFS was last revised, and we now have a wealth of actual implementation experience with it. In some respects, the RFS has unfolded as expected, but in others it has not. Several implementation challenges have emerged that received little if any consideration prior to passage of the Energy Independence and Security Act of 2007. Furthermore, the overall energy landscape has changed since 2007. It is time to undertake an assessment of the RFS.

For this reason, the Committee is initiating a series of white papers setting out a number of emerging issues with the RFS. Each will provide an overview of an issue and solicit input from interested stakeholders in the form of answers to questions posed. This, the second white paper, addresses the impact of the RFS on the agricultural sector. Three subsequent RFS white papers will address greenhouse gas emissions and other environmental concerns, energy policy considerations, and RIN fraud and other implementation and enforcement issues. In addition, stakeholders will be provided an opportunity to comment on any issues not specifically addressed in the white papers at the conclusion of the process.

Agricultural Sector Impacts - Overview

In addition to its energy policy and environmental goals, the RFS was seen by proponents as a means to help strengthen the nation's rural economy and agricultural sector.¹ Nearly all the fuels currently produced under the RFS are derived from farm products, primarily corn for ethanol production and soybeans for biodiesel production.

There is no question that the RFS has provided benefits for America's corn farmers by strengthening demand for corn. Currently, about 40 percent of the domestic corn crop is used for

¹ Congressional Research Service, *Agriculture-Based Biofuels: Overview and Emerging Issues*, October 14, 2010.

fuel production even as the acres planted have increased.² Corn prices, which averaged \$2.15 per bushel from 1997 to 2006, have since risen along with the targets in the RFS.³ Thus far in 2013 they have averaged about \$7 per bushel, and the U.S. Department of Agriculture (USDA) projects prices in the \$4-\$5 per bushel range through 2020.⁴ A similar pattern is true for soybeans, which are the primary feedstock used to meet the biodiesel portion of the RFS.

There is considerable debate over how much of the corn and soybean price increases are attributable to the RFS rather than other factors that have also had an impact on prices over the same time span. In addition, only a portion of the 40 percent of corn used to produce ethanol is lost for other purposes, as the byproducts of the ethanol distillation process are used as animal feed.

To the extent that the RFS has driven up feedstock prices and reduced supplies of agricultural products available for export, one would expect to see land use changes in other countries, with greater incentives to clear new land for agricultural production. The scale of this effect, however, is subject to debate.

The impact of the RFS on the farm economy extends beyond its benefits to feedstock growers. For example, most of the facilities that produce ethanol, biodiesel, and other renewable fuels are located in rural agricultural areas in proximity to their feedstocks, further boosting local economic activity.

Nonetheless, the RFS has engendered opposition within the agricultural sector, especially among those who use corn as feed. Cattle, pork, and poultry producers have argued that the benefits of higher corn prices should be weighed against the costs to those producers. Their concerns received considerable attention during the 2012 drought, which reduced corn yields and temporarily sent prices above \$8 per bushel.

In July and August of 2012, the governors of ten States (Arkansas, Delaware, Georgia, Maryland, New Mexico, North Carolina, Texas, Utah, Virginia, and Wyoming) petitioned the Environmental Protection Agency (EPA) to waive the RFS (the governor of Florida also wrote in support of the waiver).⁵ Most of these petitions emphasized the harm to the animal agriculture sector that they attributed to the combination of drought-reduced corn yields and continued demands for corn ethanol.⁶ In a letter in support of these petitions, 156 House Members argued that relief from the RFS “is extremely urgent because another short corn crop would be devastating to the animal agriculture industry, food manufacturers, foodservice providers, as well as to consumers.”⁷

² Congressional Research Service, *Renewable Fuel Standard (RFS): Overview and Issues*, March 13, 2013, pp. 19-23.

³ *Id.* at 21-22.

⁴ United States Department of Agriculture, *USDA Agricultural Projections to 2022*, February 2013.

⁵ Environmental Protection Agency, *Notice of Decision Regarding Requests for a Waiver of the Renewable Fuel Standard*, 77 Fed. Reg. 70752, p. 70754, November 27, 2012.

⁶ See Petition from Arkansas Governor Mike Beebe to Environmental Protection Agency Administrator Lisa Jackson, August 13, 2012, at <http://www.epa.gov/oms/fuels/renewablefuels/documents/arkansas-rfs-waiver-request.pdf>.

⁷ Letter from 156 House Members to Environmental Protection Agency Administrator Lisa Jackson, August 1, 2012, at http://goodlatte.house.gov/system/uploads/156/original/RFS_Waiver_Letter_08.02.12.pdf

Under the Clean Air Act, EPA may grant a waiver of the RFS requirements by reducing the quantity of renewable fuel required for a given year, if the Administrator determines after notice and public comment that continued implementation of the RFS “would severely harm the economy or environment of a state, a region, or the United States....”⁸ A waiver expires after one year, but may be renewed. On November 27, 2012, EPA denied the governors’ petitions, finding that the criteria for granting a waiver had not been met.⁹ Based on the agency’s analysis, EPA Administrator Jackson concluded that “it is very likely that the RFS volume requirements will have no impact on ethanol production volumes in the relevant time frame, and therefore no impact on corn, food, or fuel prices.”¹⁰

The diversion of food crops for biofuel production was a concern in the deliberations over the Energy Independence and Security Act of 2007. For this and other reasons, the revised RFS added the new category of cellulosic biofuels, which are produced from non-food feedstocks such as wood waste and switchgrass, but were not commercially available at that time. The revisions set aggressive targets so that eventually the RFS would require higher quantities of cellulosic biofuels than corn ethanol – at least 16 billion gallons of cellulosic biofuels compared to no more than 15 billion gallons of corn ethanol by 2022.¹¹

Actual cellulosic biofuel production has lagged well behind these targets but is beginning to ramp up. While only minimal quantities have been produced to date, significant investments have been made in cellulosic biofuels production facilities, with several large-scale commercial plants beginning production in 2013.¹² The Energy Information Administration (EIA) projects that that more than 5 million gallons of cellulosic biofuel will be produced in 2013, and capacity will grow to 250 million gallons by 2015.¹³ Nevertheless, corn and soy-based biofuels still provide the vast majority of the renewable fuels produced and will continue to comprise much of the supply for quite some time.¹⁴

Some argue that the RFS is affecting food prices for consumers. In 2010, EPA projected that the RFS would raise annual food costs by \$10 per capita by 2022.¹⁵ However, estimates vary as to the actual impact, if any, on retail food prices.¹⁶ For instance, the Congressional

⁸ Clean Air Act, section 211(o)(7).

⁹ Environmental Protection Agency, *Notice of Decision Regarding Requests for a Waiver of the Renewable Fuel Standard*, 77 Fed. Reg. 70752, November 27, 2012.

¹⁰ *Id.* at 70770.

¹¹ Congressional Research Service, *Agriculture-Based Biofuels: Overview and Emerging Issues*, October 14, 2012, pp. 4, 10.

¹² Congressional Research Service, *Meeting the Renewable Fuel Standard (RFS) Mandate for Cellulosic Biofuels: Questions and Answers*, 3, 10, 12 (March 11, 2013).

¹³ Energy Information Administration, *Cellulosic biofuels begin to flow but in lower volumes than foreseen by statutory targets* (Feb. 26, 2013).

¹⁴ Congressional Research Service, *Renewable Fuel Standard (RFS): Overview and Issues*, March 13, 2013, pp. 3.

¹⁵ Environmental Protection Agency Fact Sheet, *EPA Finalizes Regulations for the National Renewable Fuel Standard Program for 2010 and Beyond*, February 2010, at <http://www.epa.gov/otaq/renewablefuels/420f10007.pdf>.

¹⁶ National Research Council, *Renewable Fuel Standard: Potential Economic and Environmental Effects of U.S. Biofuel Policy*, 2011, pp. 130 -135.

Budget Office (CBO) found that increased ethanol production has a smaller impact on food prices than increased energy costs.¹⁷

Questions for Stakeholder Comment

1. What has been the impact of the RFS on corn prices in recent years? What has been the impact on soybean prices? Have other agricultural commodity prices also been affected?
2. How much has the RFS increased agricultural output? How many jobs has it created? Have any jobs been lost? What is the net impact on the agriculture sector?
3. Was EPA correct to deny the 2012 waiver request? Are there any lessons that can be drawn from the waiver denial?
4. Does the Clean Air Act provide EPA sufficient flexibility to adequately address any effects that the RFS may have on corn price spikes?
5. What has been the impact, if any, of the RFS on food prices?
6. What role could cellulosic biofuels play in mitigating the potential effects of the RFS on corn prices?
7. What impact are cellulosic biofuels expected to have on rural economies as the production of such fuels ramps up?
8. Will the cellulosic biofuels provisions succeed in diversifying the RFS?
9. What is the scale of the impact of the RFS on international agricultural production and global land use changes?

Please respond by April 29, 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.

¹⁷ Congressional Budget Office, The Impact of Ethanol use on Food Prices and Greenhouse-Gas Emission, April 2009, pp. 10.