BIOdiesel TechNOTES

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The RENEWABLE FUELS STANDARD

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Driven by growing worldwide demand for transportation fuels and efforts to reduce pollution and foreign oil imports, federal policy has played a key role in the emergence of the U.S. biodiesel industry. Congress has used a wide variety of approaches since 1998, including crop producer payments, blending and production tax credits, an import tariff, loans and loan guarantees, research grants, and biofuel usage requirements. Direct legislation, like the Environmental Protection Agency's 2006 diesel regulations requiring Ultra Low Sulfur Diesel, has also affected the market since biodiesel, even in small amounts, can restore the lubricity in petroleum diesel previously provided by the sulfur-containing compounds.

The most significant federal incentive currently in place is the Renewable Fuel Standard (RFS) program created under the Energy Policy Act of 2005. The RFS program established the first mandatory blend levels for renewable fuel in the United States. The RFS was amended in 2007, known as RFS2, to include renewable fuel replacements for diesel. It requires companies that refine, import or blend fossil fuels to meet certain individual quotas based on the volume of fuel they introduce into the market.

The RFS2 encompasses all renewable fuels and requires 4 billion gallons of renewable fuel be blended into transportation fuel in 2006, increasing to 36 billion gallons by 2022 (Figure 1). The bulk of mandated renewable fuel was directed towards corn-based ethanol, but fuels that reduce more greenhouse gas emissions (GHG), like biodiesel, require 9 billion gallons to be blended into transportation fuel in 2008, increasing to 21 billion gallons by 2022.

The Environmental Protection Agency (EPA) is charged with administrating the RFS2. To implement the program, EPA established four biofuels categories, each with a specific volume mandate and the amount of GHG each fuel emits over its lifecycle in comparison to the petroleum fuels they displace. Table 1 shows the biofuels categories and corresponding GHG emission reductions based on EPA's modeling of specific fuels. The Renewable Biofuel category is primary corn-based ethanol. Biodiesel meets the "Biomass-based diesel" and the "Advanced biofuel" categories but is feedstock dependent.

Table 1 – Lifecycle GHG Thresholds

Fuel Type	GHG Reduction	RIN Value
Renewable Biofuel	20%	1
Biomass-Based Diesel	50%	1.5
Advanced Biofuel	50%	1.5
Cellulosic Biofuel	60%	1.7

Since circumstances change, RFS2 allowed the EPA considerable flexibility in setting actual mandated volumes but EPA's goal is to update the quotas each year by November 30. EPA has repeatedly missed the deadline and the volumes are well below the levels laid out by Congress. Figure 1 shows the total renewable volume obligations (RVOs), the Advanced Biofuels, as suggested by Congress, and the actual volume of Advanced Biofuels ultimately required by the EPA.

Figure 1

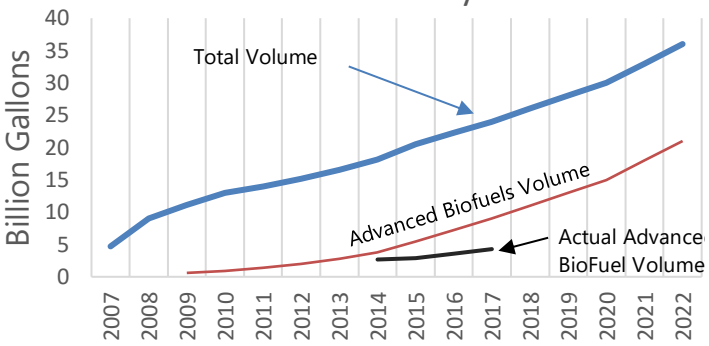

Figure 2

To comply with EPA regulations fuel refiners and importers (obligated parties) are assigned a RVO, which represents the amount of biofuel that they are required to introduce into the petroleum fuel supply each year. These obligated parties can either blend their fuel with the required amount of biofuel or buy credits from others who blend more than their required amount. Obligated parties have 2-years to fulfil their annual RVO.

To track compliance the EPA created a system of tradable credits know as Renewable Identification Numbers or "RINs". Each gallon of biofuel has a unique RIN attached to it. The total number of RINs that can be generated is determined from both the volume of fuel and its GHG equivalence value. For biodiesel, the equivalence value is 1.5 and represents the number of gallons that can be claimed for compliance purposes for every gallon of biodiesel.

Biodiesel producers who transact RINs under the Renewable Fuel Standard must first register with the EPA in accordance with the regulations at 40 CFR 79. That process requires you register with the EPA Central Data Exchange (CDX), submit EPA Form 3520-12, provide a description of the feedstock and the process, and a Certificate of Analysis showing it meets ASTM Standards.

Once registered with EPA, producers need to enter transaction information in the EPA Moderated Transaction System (EMTS) within five (5) business days. The EMTS is an electronic reporting system that was developed to screen and track all RINs generated and is where buying and selling of RINs occurs. RIN values are market determined by speculation of supply and demand and are often administered by Brokers.

The EPA has experienced several challenges administering the RFS program. There has been multiple cases of RIN fraud. As the fraud accelerated, the EPA enacted the Quality Assurance Program (QAP) in which third party auditor evaluates biofuel producers to certify the production in compliance with the regulation.

Despite the problems, the RFS program has played an important role in the continued development of the biodiesel industry. The theoretical value of a biodiesel RIN is the difference between the cost of the diesel and the cost of biodiesel. With the relatively low cost of diesel fuel, commercial biodiesel producers depend on this added source of revenue. Just as important, the RFS has opened the petroleum monopoly so that biodiesel can have access to consumers.

Critics of the RFS say that it serves as a tax on petroleum fuels and a subsidy but generally fail to mention that the petroleum industry also receives significant government support. The RFS has been effective in Congress intent to reduce greenhouse gas emissions and dependence on foreign oil. Clearly, the value of these and other externalities of biodiesel is relatively high when compared to government support of other programs aiming to do the same thing.