

We also examined the potential for excess biodiesel to help meet the need for 490 million gallons of advanced biofuel. The applicable volume of biomass based diesel established in the statute for 2012 is 1.0 billion gallons (which corresponds to 1.5 billion ethanol-equivalent gallons). As discussed more fully in Section II.D below, we believe that the biodiesel industry has the potential for producing volumes above 1.0 billion gallons if demand for such volume exists.

There are also other potential sources of advanced biofuels. Based on RIN generation reports collected via the EPA-Moderated Transaction System (EMTS), 32 million ethanol-equivalent gallons of advanced biofuel with a D code of 5 were produced in the first half of 2011.<sup>15</sup> Extrapolated to the end of the year, it would be reasonable to expect a total of over 60 million ethanol-equivalent gallons of such advanced biofuel to be produced in 2011. Production Outlook Reports also provided some insight into producers' expectations for 2012. For 2012, producers of advanced biofuel projected that they would produce about 80 million ethanol-equivalent gallons, composed of some combination of ethanol, renewable diesel, and heating oil.

Another potential source of advanced biofuels is electricity generated from renewable biomass that is used as a transportation fuel. EIA data indicates that in 2009, the most recent year for which data is available, 36.05 million megawatt-hours of electricity was generated from wood and wood derived fuels, and an additional 18.4 million megawatt-hours was generated from other biomass in the United States.<sup>16</sup> This is significantly more than the 6.8 million megawatt-hours of electricity used in the transportation sector in 2009,<sup>17</sup> equivalent to about 300 mill ethanol-equivalent gallons. While not all the feedstocks used to generate the electricity included in these totals would meet the RFS2's renewable biomass definition, this remains a very large potential source of advanced biofuel RINs.

Currently, there are no valid pathways in Table 1 to § 80.1426 for the generation of RINs representing

electricity used as transportation fuel. However, several companies have approached EPA with requests for such a pathway, and investigations are underway. It is possible that one or more new pathways for electricity may be available for use in 2012.

In addition to verifying that the feedstocks used to generate renewable electricity meet the renewable biomass definition, producers would also be required to document that the electricity they produce is used as a transportation fuel in order to be eligible to generate RINs. Until recently there were very few vehicles capable of using electricity as a transportation fuel, limited mainly to electric trains and trolley cars. Expected increases in the number of vehicles with this capability, such as electric vehicles and plug in hybrids, has the potential to dramatically increase the degree to which electricity is able to be used as a transportation fuel. Verifying that the renewable electricity produced is used as a transportation fuel would still remain a challenge, however the potential for capitalizing on the RIN value, without the necessity of making major changes in the areas of fuel production, distribution, or end use, may be a large enough incentive to overcome this challenge. While the uncertainties associated with the generation of advanced biofuel RINs representing renewable electricity used as transportation fuel prevent EPA from making a quantitative projection for 2012, such RINs may nevertheless play a role in meeting the advanced biofuel standard.

In light of the potential volumes of imported sugarcane ethanol, excess biodiesel, and other sources of advanced biofuel, we continue to believe that there will likely be sufficient volumes of advanced biofuels to meet the need for 490 million ethanol-equivalent gallons. As a result, the applicable volume of advanced biofuel set forth in the statute need not be lowered. A number of commenters on the NPRM agreed with this assessment. However, several commenters raised a concern about the ethanol blendwall, saying that the volume of ethanol that can be legally and practically consumed in 2012 is a limiting factor in how much advanced biofuel can be consumed. We disagree. Based on gasoline energy demand projections from EIA,<sup>18</sup> a total of about 14.3 bill gallons of ethanol could be consumed in 2012 if all gasoline

contained 10% ethanol.<sup>19</sup> Under the requirements of the RFS program, however, the total volume of ethanol that would need to be consumed to meet the RFS standards would be no more than 13.7 bill gallons in 2012.<sup>20</sup> This assumes an extreme case in which all renewable fuel that is not advanced biofuel is assumed to be ethanol, and all advanced biofuel other than biomass-based diesel is also assumed to be ethanol.

It is possible that more ethanol may be produced/imported in 2012 than is necessary to meet the RFS requirements, and such circumstances could accelerate the arrival of the blendwall. However, this would only occur if market forces favored the consumption of higher volumes of ethanol, and we cannot make reliable predictions of such market forces. Since the applicable standards are set before a given compliance year begins, obligated parties should be coordinating with producers, distributors, and blenders of the various forms of ethanol (e.g. cellulosic ethanol, corn-ethanol, sugarcane ethanol) to ensure that all RFS standards are met by the end of the compliance period.

Based on our assessment of the availability of volumes of advanced biofuel beyond those required to meet the cellulosic biofuel and biomass-based diesel standards, we do not believe that the advanced biofuel standard need be lowered below the 2.0 billion gallon level specified in the Act. Thus, we are not reducing the applicable volume of advanced biofuel for 2012.

A number of parties that commented on the NPRM requested that the applicable volume for total renewable fuel in 2012 be reduced. However, all such commenters tied the reduction in total renewable fuel to a reduction in the advanced biofuel standard. Since we are not lowering the advanced biofuel standard for 2012, and there are expected to be sufficient volumes of corn-ethanol to meet the need for 13.2 bill gallons of conventional renewable fuel (see Table II.C-1), we do not believe that there is a need to lower the total renewable fuel standard.

#### D. Biomass-Based Diesel in 2012

Unlike for cellulosic biofuel, the statute does not require EPA to project available volumes of biomass-based

<sup>15</sup> RFS2 EMTS Informational Data, updated on August 18, 2011. <http://www.epa.gov/otaq/fuels/renewablefuels/compliancehelp/rfsdata.htm>.

<sup>16</sup> Table ES1 of Electric Power Industry 2009: Year in Review. Available online: <http://www.eia.doe.gov/cneaf/electricity/epalepayir.pdf>.

<sup>17</sup> Table 36 of AEO2011, Report Number DOE/EIA-0383(2011). Number based on the conversion that 1 megawatt hour is equivalent to 3.41 million BTU [http://www.eia.doe.gov/forecasts/aeo/tables\\_ref.cfm](http://www.eia.doe.gov/forecasts/aeo/tables_ref.cfm).

<sup>18</sup> Total energy demand for light-duty vehicles, motorcycles, and nonroad per AEO 2011 Tables 10, 45, and 46.

<sup>19</sup> In reality, there may be some areas where gasoline without ethanol endures, but there will also be some E85 and potentially other gasoline-ethanol blends as well. We have used a scenario consisting of 100% E10 for this exercise.

<sup>20</sup> From Table II.C-1, sum of ethanol-equivalent gallons of conventional renewable fuel, cellulosic biofuel, and other advanced biofuel.