

production for 2013/14 ranging from 7.1 to 7.2 bill gal. These sources include projections by UNICA which in separate comment defended its analysis projecting 7.1 bill gal. This production rate would support the conclusion that enough ethanol should be available to meet Brazil's domestic demand (discussed following) as well as supply 580 mill gal or more to the U.S. during calendar year 2013.

ii. Brazilian Domestic Demand for Ethanol

Brazil's sugarcane ethanol production serves both its domestic market as well as the export market. The government of Brazil sets a minimum ethanol concentration for its gasoline. In 2011, the Brazilian government lowered this concentration to 20%, reflecting in part the decrease in domestic ethanol production. However, given the more optimistic production outlook, Brazil raised the minimum ethanol concentration to 25% effective May 1, 2013.⁵⁹ The ability of the Brazilian government to reset the minimum ethanol content introduces some uncertainty in projecting future Brazilian demand. However, historically, adjustments have been infrequent, relatively small in degree (a few percent), and largely been influenced by the price of ethanol (high prices leading to a reduction in the minimum). Since reinvestment in sugarcane stock is already underway, a considerable resurgence in Brazilian

ethanol export potential in the 2013 calendar year seems likely. Assuming that the 25% blending rate remains in effect through the 2013/14 sugarcane season, the analyses referenced above by MME and UNICA suggest that more than enough ethanol should be available assuming normal weather patterns to allow for at least 580 mill gallons of exports to the U.S. in 2013.

iii. Additional Market Factors

Aside from production capability and domestic demand within Brazil, market conditions generally determine the amount of sugarcane ethanol imported into the U.S. from Brazil. Approved as an advanced biofuel pathway, ethanol produced from sugarcane benefits from the RIN value associated with advanced biofuel but also has to compete with other sources of ethanol used for blending with gasoline in the U.S., most notably ethanol made from corn starch (which does not qualify as an advanced biofuel). The expiration of the tariff applicable to imported ethanol has helped make imported sugarcane ethanol more cost competitive in the U.S., and any volumes of Brazilian sugarcane ethanol imported into California to meet the requirements of their Low Carbon Fuel Standard (LCFS) would also count towards meeting the requirements of the RFS program.

b. United States-Brazil Ethanol Trade

In both calendar years 2011 and 2012 there was some two-way trade in

ethanol between the United States and Brazil. A number of stakeholders raised concerns about this two-way ethanol trade between the U.S. and Brazil. Some suggested that we should adjust the advanced biofuel standard to reduce or eliminate such outcomes.

According to currently available Energy Information Administration (EIA) data, 2013 U.S. fuel ethanol imports from Brazil through May were 75.9 million gallons compared to 36.1 million gallons during the same period in 2012, a 110% rise.⁶⁰ The U.S. Department of Commerce also collects data on U.S. imports of Brazilian fuel ethanol. They too report a significant increase in 2013 imports—105 million gallons through May 2013, up from 42.6 million gallons through the same period in 2012, a 147% increase.⁶¹ This increase, combined with the fact that the majority of Brazilian ethanol exports to the United States have historically occurred in the second half of the calendar year, suggests that Brazilian ethanol exports to the U.S. are on a trajectory that would readily enable Brazil to supply 580 million gallons to the U.S. in 2013.⁶²

2013 exports of fuel ethanol from the U.S. to Brazil have been relatively small. EIA data indicates that 26 million gallons of fuel ethanol have been exported from the U.S. to Brazil between January 1 and May 31, 2013.

TABLE III.B.3.b-1—U.S. FUEL ETHANOL TRADE WITH BRAZIL
[Mill gal]

	2008	2009	2010	2011	2012
U.S. Fuel Ethanol Imports from Brazil ⁶³	203	5	0	101	403
U.S. Fuel Ethanol Exports ⁶⁴					
Total	N/A	N/A	398	1195	742
To Brazil	N/A	N/A	23	396	86

Both the EIA and U.S. Department of Commerce data consider fuel ethanol that is transported directly from Brazil to the United States. However, significant volumes of fuel ethanol originating from Brazil and imported by the United States pass through Caribbean Basin Initiative (CBI) countries for dehydration before continuing on to the U.S. Such volumes are not included in the Table III.B.3-1.

EIA data indicates that the U.S. imported 40 million gallons of fuel ethanol from CBI countries in 2012; most of this originated in Brazil, though determining the specific quantity is difficult.

Comments on this two-way trade focused on associated GHG impacts, both direct impacts from transportation-related emissions, and the indirect GHG impacts resulting from the market

dynamics that could potentially result as a consequence of EPA's volume determinations.

i. Direct Transportation Emissions

With respect to direct emissions, commenters noted that GHG emissions occur as a result of shipping sugarcane ethanol to the U.S. and shipment of corn-based ethanol to Brazil. We recognize that there are GHG emissions

⁵⁹ Platts, "Brazil to raise ethanol mix in gasoline to 25% from 20% May 1," <http://www.platts.com/RSSFeedDetailedNews/RSSFeed/Oil/8194390>.

⁶⁰ EIA, *U.S. Imports from Brazil of Fuel Ethanol*. http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pets&s=mfeim_nus-nbr_1&f=m.

⁶¹ The data from EIA and the U.S. Department of Commerce are generally consistent, but slight differences may arise due to differences in the survey population, the reporting methodology, the reporting schedules, and the timing of updates.

⁶² In 2012, 90% of the 403 million imported gallons occurred in June through December.

⁶³ EIA, *U.S. Imports from Brazil of Fuel Ethanol*. http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pets&s=mfeim_nus-nbr_1&f=m.

⁶⁴ EIA, *Exports by Destination*. http://www.eia.gov/dnav/pet/pet_move_expc_a_EPOOXE_EEX_mbb1_a.htm.