

ARB Staff Summary:

Pacific Ethanol Columbia, Oregon—Dry Mill Corn Ethanol

*Deemed Complete Date: June 28, 2013
Certified and Posted Date: August 1, 2013*

Pathway Summary

Pacific Ethanol operates a corn ethanol plant (the Columbia plant) in Boardman, Oregon. The plant is a dry mill, natural-gas-fired facility capable of producing 42.5 million gallons per year of denatured ethanol. The plant obtains its feedstock from the Midwest and produces wet distiller's grains with solubles as a co-product. Corn is transported approximately 1,300 miles by rail to the Columbia plant. Finished ethanol is then transported approximately 1,000 miles by rail to California.

The Columbia plant is within the region served by the Bonneville Power Administration (BPA). The applicant has submitted documentation demonstrating that all of the power it purchases from its local utility is generated by the BPA.

Because the LCFS Lookup Tables contain no pathways for the production of corn ethanol in the Pacific Northwest, Pacific Ethanol's Columbia plant is subject to the Method 2B provisions of the LCFS regulation.

Carbon Intensity of Ethanol Produced

The applicant provided natural gas and electricity purchase invoices covering calendar years 2010 and 2011. Using average energy consumption values calculated from these invoices and other facility-specific CA-GREET inputs, the applicant arrived at a carbon intensity (CI) of 77.25 gCO₂e/MJ for the Columbia plant.

The operating conditions placed on the Columbia plant are as follows:¹

1. Thermal and electrical energy use shall not exceed the current values that are classified by the applicant as confidential business information.
2. Condition 1, above, effectively limits Columbia plant to the production of 100 percent wet DGS for the ethanol sold into the California market (drying any DGS co-product will increase energy consumption and carbon

¹ Compliance with the "not-to-exceed" values will be based on monthly, quarterly, or annual average values, as determined by operational conditions. Calculation of the average values can exclude periods of abnormal operations, such as planned maintenance or force majeure events.

intensity beyond the values specified in the company's Method 2B application). In summary, Pacific Ethanol Columbia ethanol plant shall only sell ethanol to California buyers under this pathway if that ethanol is associated with 100 percent wet DGS. Any volumes associated with any level of DGS drying shall not be sold under this pathway in California.

Table 1: Proposed Lookup Table Entries

Fuel	Pathway Identifier	Pathway Description	Carbon Intensity in gCO ₂ e/MJ (Including Indirect Effects)		
			Direct Emission	Land Use or Other Indirect Effect	Total
Ethanol	ETHC088	2B Application*: Midwest Corn; Oregon Ethanol Plant; Dry Mill; Wet DGS; NG	47.25	30	77.25

*Specific Conditions Apply

Staff Analysis and Recommendation

Staff has replicated, using the CA-GREET 1.8b spreadsheet, the carbon intensity of 77.25 gCO₂e/MJ calculated by the applicant for Pathway ETHC088. Pacific Ethanol has provided documentation verifying the Columbia Plant's natural gas and electrical energy use. Staff is satisfied that the energy values presented in the application accurately represent the plant's actual thermal and electrical consumption, and that Pacific Ethanol is capable of maintaining a CI of 77.25 gCO₂e/MJ at the Columbia plant. On the basis of these findings, and subject to the conditions appearing in this summary, staff recommends that Pacific Ethanol Columbia's application for a CI of 77.25 gCO₂e/MJ for pathway ETHC088 be certified. Staff further recommends that this CI take effect on the date it is posted to the public LCFS Method 2 web site, and apply solely to fuel volumes sold on and after that date.