

U.S. Energy Partners (White Energy) Plainview Plant
January 19, 2011

Plainview Plant Summary

White Energy produces ethanol at a dry mill plant in Plainview, Texas. The plant is permitted to produce 110 million gallons of ethanol annually. The primary feedstock used at the Plainview plant is corn from the Midwest, while the secondary feedstock is sorghum obtained locally—mostly from within Texas. Over the past two years, the percent of sorghum in the feedstock has varied between 2.4 and 7.6 percent. Historically, the plant has used between 5 and 20 percent sorghum feedstock. The plant produces distillers' grains with solubles (DGS) as a co-product. DGS is sold as livestock feed, replacing corn. Last year, the plant produced only wet DGS with a moisture content of 65 percent (by weight), but the plant also has the capability of producing modified DGS (50 percent moisture content) as well as dry DGS (12 percent moisture content). The modified DGS are produced with the same dryers as the dry DGS, except that they are operated for a shorter period of time. The main sources of energy at the plant are natural gas and electricity. Much of the ethanol from this plant is shipped by rail to California.

Carbon Intensity of Ethanol Produced— Plainview Plant

White Energy is seeking ARB approval for twelve sub-pathways for the Plainview plant. The sub-pathways vary based on the moisture content of the distillers' grains produced as well as the percentage of sorghum in the feedstock. The direct carbon intensities of the plant's sub-pathways are calculated by estimating the carbon intensity of corn ethanol and sorghum ethanol separately (using CA-GREET), and weighting the two together by feedstock volume. The land use change (LUC) impacts of sorghum ethanol have not yet been estimated. Since corn is the predominant feedstock for the plant, LUC impacts will be dominated by the current corn ethanol value of 30 gCO_{2e}/MJ. Accordingly, 30 gCO_{2e}/MJ will be used on an interim basis, pending Board approval of a LUC value for sorghum used as a fuel feedstock.

Table 1 summarizes the carbon intensities, as calculated by White Energy for the proposed twelve Plainview sub-pathways.

Table 1: Proposed Lookup Table Entries

Fuel/Feedstock	Proposed Lookup Table Pathway Description	Carbon Intensity in gCO₂e/MJ (Including Indirect Effects)	Do Special Conditions Apply? (Y/N)²
Ethanol/Sorghum, Corn	Midwest dry mill; 1% Sorghum, 99% Corn, Wet DGS	88.74 ¹	Y
Ethanol/Sorghum, Corn	Midwest dry mill; 1% Sorghum, 99% Corn, Partially Dry DGS	91.04 ¹	Y
Ethanol/Sorghum, Corn	Midwest dry mill; 1% Sorghum, 99% Corn, Dry DGS	97.04 ¹	Y
Ethanol/Sorghum, Corn	Midwest dry mill; 10% Sorghum, 90% Corn, Wet DGS	89.62 ¹	Y
Ethanol/Sorghum, Corn	Midwest dry mill; 10% Sorghum, 90% Corn, Partially Dry DGS	91.92 ¹	Y
Ethanol/Sorghum, Corn	Midwest dry mill; 10% Sorghum, 90% Corn, Dry DGS	97.92 ¹	Y
Ethanol/Sorghum, Corn	Midwest dry mill; 20% Sorghum, 80% Corn, Wet DGS	90.60 ¹	Y
Ethanol/Sorghum, Corn	Midwest dry mill; 20% Sorghum, 80% Corn, Partially Dry DGS	92.90 ¹	Y
Ethanol/Sorghum, Corn	Midwest dry mill; 20% Sorghum, 80% Corn, Dry DGS	98.90 ¹	Y
Ethanol/Sorghum, Corn	Midwest dry mill; 30% Sorghum, 70% Corn, Wet DGS	91.59 ¹	Y
Ethanol/Sorghum, Corn	Midwest dry mill; 30% Sorghum, 70% Corn, Partially Dry DGS	93.89 ¹	Y
Ethanol/Sorghum, Corn	Midwest dry mill; 30% Sorghum, 70% Corn, Dry DGS	99.89 ¹	Y

¹ The carbon intensity values reported in this table include a land use change value of 30 gCO₂e/MJ. This is an interim value which will be used until the Board approves a new regulatory value.

² The special conditions to which this column refers are discussed in the “Carbon Intensity of the Fuel Produced” section of this summary

Because the current, approved, LCFS Lookup Table contains no ethanol pathways for plants using multiple feedstocks, no reference pathway for the Plainview plant currently exists. White is, therefore, applying for the pathways shown in Table 1 under the Method 2B process. As such, the Plainview application is not subject to the substantiality requirements with which Method 2A applications must comply (a minimum improvement of five gCO₂e/MJ, and a minimum production volume of ten million gallons per year).

The following will become operating conditions upon approval by the Executive Officer of White Energy's proposed Plainview plant pathways:

- Total energy and electricity use
- Corn-sorghum ratios in the plant's feed stock
- DGS moisture content

Actual plant performance in each of these areas shall remain within the bounds established in White's application. The plant's energy and electricity use values are classified by the applicant as confidential business information.

Staff Analysis and Recommendation— Plainview Plant

Staff has reviewed the White Plainview Plant application, and finds the following:

- Staff has replicated, using the CA-GREET spreadsheet, the carbon intensity values calculated by White Energy for each of the twelve sub-pathways;
- White Energy has provided documentation for its plant's energy use, feedstock use and ethanol production levels; and
- Staff agrees that the energy values in the application accurately represent the Plainview plant's actual energy use values.

On the basis of these findings, the staff recommends that White Energy's application for twelve Method 2B mixed feedstock (corn/sorghum) ethanol sub-pathways be approved.