

White Energy, Inc. Hereford Ethanol Plant Corn and Grain Sorghum Pathways CA-GREET Model

The applicant has conducted its analysis of direct effects on carbon intensity for this pathway using CA-GREET, v.1.8b (Dec. 2009) (See http://www.arb.ca.gov/fuels/lcfs/ca_greet1.8b_dec09.xls). The standard inputs and parameters specified in CA-GREET remain unchanged except as noted in the input table below. The input table below specifies the spreadsheet location of the CA-GREET inputs and other parameters that were claimed as confidential business information or trade secret by the applicant, but it does not disclose the actual value of such inputs and parameters because they are claimed to be confidential business information or trade secret.

White Energy, Inc. Hereford Ethanol Plant input data table (Locations of cells containing Confidential Business Information are shown, but the actual values of such confidential information are not disclosed):

Table 1: Midwest Corn Pathways

CA-GREET Model Sheet Name	Cell number	Default Pathway Value	White Hereford Pathway Value	Units	Description	Comments
Regional LT	C2	U.S. Avg and Midwest	U.S. Avg. and SPSO	n/a	Region for Analysis	Midwest feedstock with U.S. Avg Power and Hereford ethanol production with SPSO power
Regional LT	C83	0.0%	Business Confidential	%	Residual oil	Changed from Midwest to SPSO sub-region value for Hereford ethanol production
Regional LT	C84	33.5%	Business Confidential	%	Natural gas	Changed from Midwest to SPSO sub-region value for Hereford ethanol production
Regional LT	C85	51.6%	Business Confidential	%	Coal	Changed from Midwest to SPSO sub-region value for Hereford ethanol production
Regional LT	C86	0.0%	Business Confidential	%	Nuclear	Changed from Midwest to SPSO sub-region value for Hereford ethanol production
Regional LT	C87	5.8%	Business Confidential	%	Biomass	Changed from Midwest to SPSO sub-region value for Hereford ethanol production
Regional LT	C88	9.1%	Business Confidential	%	Other (renewables)	Changed from Midwest to SPSO sub-region value for Hereford ethanol production
Fuel_Prod_TS	L277	36,000	Business Confidential	btu/gal (LHV)	Corn Ethanol Plant Energy Use, Dry Mill	Total Energy use
Fuel_Prod_TS	D277	2.72	Business Confidential	gal/bu	Ethanol yield of Corn Ethanol Plant, Dry Mill	xxx
Inputs	C247	10.19%	Business Confidential	%	Electricity 5 of total process energy	
T&D_Flowcharts	F1308	100%	Business Confidential	%	Corn, % from Field to Stack	xxx
T&D_Flowcharts	F1309	10	Business Confidential	miles	Corn from Field to Stack	xxx
T&D_Flowcharts	M1308	0%	Business Confidential	%	Corn, % by Rail from Stack to Ethanol Plant	All by rail for Hereford
T&D_Flowcharts	M1309	400	Business Confidential	miles	Rail Distance from Corn Stack to Ethanol Plant	Average distance for Midwest corn origination
T&D_Flowcharts	M1312	100%	Business Confidential	miles	Corn Per cent by Truck from Stack to Ethanol	All corn feedstock shipped by rail from stack to Plainview ethanol plant
T&D_Flowcharts	F1441	100%	Business Confidential	%	Percent shipped by rail	All ethanol is shipped by rail to California bulk terminal
T&D_Flowcharts	F1442	1,400	Business Confidential	miles	Distance from Ethanol Plant to Ca. bulk terminal	Average distance for bulk terminals in xxx area used by Plainview
T&D_Flowcharts	F1445	70%	Business Confidential	%	Percent shipped by truck to Bulk Terminal	All ethanol is shipped by rail bulk terminal

Table 2: Grain Sorghum Pathways

CA-GREET Model Sheet Name	Cell number	Grain Sorghum 100% WDGS	White Hereford Milo	Units	Description	Comments
		Pathway Value	Pathway Value			
Fuel_Prod_TS	CU271	26,100	Business Confidential	btu/gal	Grain Sorghum Ethanol Plant Energy Use, Default is 100% Dry Mill	Input added by CARB for Grain Sorghum default pathway.
Inputs	E247	10.19%	Business Confidential	%	Electricity used as % of total energy used for ethanol production	Input added by CARB for Grain Sorghum default pathway.
Inputs	E254	22,430	Business Confidential	btu/gal	Process fuel for 100% WDGS	Input added by CARB for Grain Sorghum default pathway.
Inputs	D235	2.72	Business Confidential	gal/bu	Ethanol yield of Dry Mill using Grain Sorghuma	Input added by CARB for Grain Sorghum default pathway.
Regional LT	C2	Midwest	Business Confidential	n/a	Region for Analysis	Sorghum is grown near Hereford
Regional LT	C2	Midwest	Business Confidential	n/a	Region for Analysis	Hereford ethanol production is in the SPSO eGRID Subregion.
Regional LT	C83	0.0%	Business Confidential	%	Residual oil	Changed from Midwest to SPSO sub-region value for Hereford ethanol production
Regional LT	C84	33.5%	Business Confidential	%	Natural gas	Changed from Midwest to SPSO sub-region value for Hereford ethanol production
Regional LT	C85	51.6%	Business Confidential	%	Coal	Changed from Midwest to SPSO sub-region value for Hereford ethanol production
Regional LT	C86	0.0%	Business Confidential	%	Nuclear	Changed from Midwest to SPSO sub-region value for Hereford ethanol production
Regional LT	C87	5.8%	Business Confidential	%	Biomass	Changed from Midwest to SPSO sub-region value for Hereford ethanol production
Regional LT	C88	9.1%	Business Confidential	%	Other (renewables)	Changed from Midwest to SPSO sub-region value for Hereford ethanol production
T&D_Flowcharts	F1308	0%	Business Confidential	%	Milo Per cent by Rail from Stack to Ethanol	xxx
T&D_Flowcharts	F1309	10	Business Confidential	miles	Milo from Field to Stack	xxx
T&D_Flowcharts	M1308	0%	Business Confidential	%	Milo % by Rail from Stack to Ethanol Plant	All milo feedstock shipped by truck from stack to Hereford ethanol plant
T&D_Flowcharts	M1312	100%	Business Confidential	%	Milo % by Truck from Stack to Ethanol Plant	All milo feedstock shipped by rail from stack to Hereford ethanol plant
T&D_Flowcharts	M1313	40	Business Confidential	miles	Truck Distance from Milo Stack to Ethanol Plant	Average distance from stack to Hereford ethanol plant
T&D_Flowcharts	F1441	100%	Business Confidential	%	Percent shipped by rail	All ethanol is shipped by truck from Hereford to bulk terminal
T&D_Flowcharts	F1442	1,400	Business Confidential	miles	Distance from Ethanol Plant to Ca. bulk terminal	Average distance for bulk terminals in xxx area used by Hereford
T&D_Flowcharts	F1445	70%	Business Confidential	%	Percent shipped by truck to Bulk Terminal	All ethanol is shipped by rail to bulk terminal