

## **Pacific Ethanol Columbia, OR 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](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.

Columbia Input data table (Locations of cells containing Confidential Business Information are shown, but the actual values of such confidential information are not disclosed):

**Table 4. Summary of GREET Model Modifications Implemented in the LCA**

<b>Worksheet</b>	<b>Cell Address</b>	<b>Value Used</b>	<b>Parameter</b>
Fuel_Prod_TS	D277	█	Ethanol yield (gal/bu)
Fuel_Prod_TS	L277	█	Total process energy (BTU/gal, LHV)
Inputs	C247	█	Electricity share of process energy (%)
T&D_Flowcharts	M1308	100	Share of corn feedstock transported by rail (%)
T&D_Flowcharts	M1309	1300	Corn transport distance by rail (miles)
T&D_Flowcharts	F1441	100	Share of ethanol produced traveling by rail (%)
T&D_Flowcharts	F1442	1000	Ethanol transport distance by rail (miles)
Regional LT	A658	█	Title of electricity generation region (for ethanol production)
Regional LT	C2	█	Title of electricity generation region (for ethanol production)
Regional LT	J6	█	Title of electricity generation region (for ethanol production)
Regional LT	J83	█	BPA electricity mix, Residual oil share (%)
Regional LT	J84	█	BPA electricity mix, Natural gas share (%)
Regional LT	J85	█	BPA electricity mix, Coal share (%)
Regional LT	J86	█	BPA electricity mix, Nuclear share (%)
Regional LT	J87	█	BPA electricity mix, Biomass share (%)
Regional LT	J88	█	BPA electricity mix, Other (renewables) share (%)