

# Endicott Biofuels II, LLC 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.

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

<b>GREET Tab/Cell</b>	<b>Description</b>	<b>Default Value</b>	<b>Modified Value</b>
PFAD EBF BD/B11	PFAD Processing Energy (Btu/lb. of PFAD)		
PFAD EBF BD/B12	FFA Transesterification (Btu/lb. of biodiesel)		
PFAD EBF BD/B13	PFAD Transesterification (Btu/lb. of biodiesel)		
PFAD EBF BD/B21	PFAD use: lbs. PFAD/lb. biodiesel		
PFAD EBF BD/B41	Biodiesel Production/Glycerin co-product production		
PFAD EBF BD/C174, C177	Energy shares of process fuels - Feedstock processing Natural Gas/Electricity		
PFAD EBF BD/E174,E177	Energy shares of process fuels - FFA Transesterification - Natural		

<b>GREET Tab/Cell</b>	<b>Description</b>	<b>Default Value</b>	<b>Modified Value</b>
	Gas/Electricity		
PFAD EBF BD/F174, F177, F179	Energy shares of process fuels - Feedstock Esterification - Natural Gas/Electricity/Methanol		
PFAD EBF/C182, C192	Energy (natural gas, electricity) consumed (Btu/lb processed feedstock)		
PFAD EBF/E182, E192	Energy (natural gas, electricity) consumed (Btu/lb) for FFA Transesterification		
PFAD EBF/F189, F192, F194	Energy (natural gas, electricity) consumed (Btu/lb) for BD Production		
T&D - Columns IG/IH/II/IJ	PFAD Transport via Truck/Rail/Ocean Tanker/Barge		
T&D /AH5	Cargo Payload (tons) by transportation mode -- Ocean Tanker (transporting PFAD)		
T&D/ AH6	Cargo Payload (tons) by transportation mode -- Barge (transporting PFAD)		
T&D/ AH7	Cargo Payload (tons) by transportation mode -- Heavy Duty Truck (transporting PFAD)		
T&D/ II93	Transport distance (miles) of PFAD on Ocean Tanker		
T&D/ IJ93	Transport distance (miles) of PFAD on Barge		
T&D/ II108	Energy Intensity: Btu/ton-mile – Origin to Destination – Ocean Tanker		
T&D/ IJ108	Energy Intensity: Btu/ton-mile - Origin to Destination - Barge		
T&D/ II109	Energy Intensity: Btu/ton-mile – Back Haul – Ocean Tanker		
T&D/ IJ109	Energy Intensity: Btu/ton-mile – Back Haul - Barge		
T&D/ II111	Energy Consumption: Btu/mmBtu of fuel transported – Total Energy – Ocean Tanker		
T&D/ IJ111	Energy Consumption: Btu/mmBtu of fuel transported – Total Energy – Barge		
T&D/ II112	Energy Consumption: Btu/mmBtu of fuel transported – Fossil Energy – Ocean Tanker		

GREET Tab/Cell	Description	Default Value	Modified Value
T&D/ IJ112	Energy Consumption: Btu/mmBtu of fuel transported – Fossil Energy – Barge		
T&D/ II113	Energy Consumption: Btu/mmBtu of fuel transported – Coal – Ocean Tanker		
T&D/ IJ113	Energy Consumption: Btu/mmBtu of fuel transported – Coal – Barge		
T&D/ II114	Energy Consumption: Btu/mmBtu of fuel transported – Natural Gas – Ocean Tanker		
T&D/ IJ114	Energy Consumption: Btu/mmBtu of fuel transported – Natural Gas – Barge		
T&D/ II115	Energy Consumption: Btu/mmBtu of fuel transported – Petroleum – Ocean Tanker		
T&D/ IJ115	Energy Consumption: Btu/mmBtu of fuel transported – Petroleum – Barge		
T&D/ II117	Total Emissions – VOC: grams/mmBtu fuel transported – Ocean Tanker		
T&D/ IJ117	Total Emissions – VOC: grams/mmBtu fuel transported – Barge		
T&D/ II118	Total Emissions – CO: grams/mmBtu fuel transported – Ocean Tanker		
T&D/ IJ118	Total Emissions – CO: grams/mmBtu fuel transported – Barge		
T&D/ II119	Total Emissions – NOx: grams/mmBtu fuel transported – Ocean Tanker		
T&D/ IJ119	Total Emissions – NOx: grams/mmBtu fuel transported – Barge		
T&D/ II120	Total Emissions – PM-10: grams/mmBtu fuel transported – Ocean Tanker		
T&D/ IJ120	Total Emissions – PM-10: grams/mmBtu fuel transported – Barge		

GREET Tab/Cell	Description	Default Value	Modified Value
T&D/ II121	Total Emissions – PM-2.5: grams/mmBtu fuel transported – Ocean Tanker		
T&D/ IJ121	Total Emissions – PM-2.5: grams/mmBtu fuel transported – Barge		
T&D/ II122	Total Emissions – SOx: grams/mmBtu fuel transported – Ocean Tanker		
T&D/ IJ122	Total Emissions – SOx: grams/mmBtu fuel transported – Barge		
T&D/ II123	Total Emissions – CH4: grams/mmBtu fuel transported – Ocean Tanker		
T&D/ IJ123	Total Emissions – CH4: grams/mmBtu fuel transported – Barge		
T&D/ II124	Total Emissions – N2O: grams/mmBtu fuel transported – Ocean Tanker		
T&D/ IJ124	Total Emissions – N2O: grams/mmBtu fuel transported – Barge		
T&D/ II125	Total Emissions – CO2: grams/mmBtu fuel transported – Ocean Tanker		
T&D/ IJ125	Total Emissions – CO2: grams/mmBtu fuel transported – Barge		