

Element Markets Renewable Energy CA-GREET Model

The applicant has conducted its analysis of direct effects on carbon intensity for this pathway using two versions of the CA-GREET model:

- For all upstream steps of the LFG-to-LNG pathway up until NG liquefaction:
CA-GREET model v.1.8b calibrated by ARB for pathway CNG006 and posted on the ARB website on 03/19/2013.
EMRE downloaded the spreadsheet on 07/17/2013 using following URL:
http://www.arb.ca.gov/fuels/lcfs/2a2b/internal/ca_greet1.8b_dec09_LFG_CNG_03-2013.xls
- For NG liquefaction and all other downstream steps of the LFG-to-LNG pathway:
CA-GREET model 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 the respective CA-GREET spreadsheets remain unchanged except as noted in the input tables 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.

Input table for all steps of the LFG-to-LNG pathway upstream from NG liquefaction (changes made to CA-GREET model for ARB pathway CNG006)

GREET sheet	GREET cell	Default value/formula	New value/formula
Regional LT	I83	0%	
Regional LT	I84	0%	
Regional LT	I85	100%	
Regional LT	I86	0%	
Regional LT	I87	0%	
Regional LT	I88	0%	
Input	L74	1	
T&D_Flowcharts	F479	3,600.00	
T&D_Flowcharts	F459	750.00	
NG	AI75	76.2%	
NG	AI79	23.8%	
NG	AI91	=1000000*(1/AI\$66-1)*AI79	
NG	AI99	Formula used Emission Factors for Large Gas Turbine, found in EF D6 -> D14	
NG	AI100		
NG	AI105		
NG	AI106		
NG	AI107		
Fuel_Prod_TS	AQ35	77.2%	
Fuel_Prod_TS	AR41	77.2%	

Input table for NG liquefaction and all downstream steps of the LFG-to-LNG pathway (changes made to CA-GREET model v.1.8b)

GREET sheet	GREET cell	Default value/formula	New value/formula
NG	AD66	80%	
NG	AD75	100%	
NG	AD79	0%	
T&D	CD93	50	