

List of Site-Specific Inputs

US Venture, Inc. (5504)
Augean RNG Project (71081)

Simplified CI Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure

The applicant has conducted its analysis of carbon intensity for this pathway using a modified version of the Tier 1 Simplified CI Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure (DSM Calculator).

The standard inputs and parameters specified in CA-GREET3.0 remain unchanged. The table below specifies the specific calculator modifications approved by CARB for this application. All calculator modifications must be pre-approved by CARB and highlighted in the calculator, including those identified and implemented during the third-party validation and annual reporting/verification.

Operational data that can be populated as a user-defined input in the yellow cells of the DSM calculator does not constitute a calculator modification. Additional information regarding this project's user-defined inputs for life cycle assessment of GHG emissions can be found in LCA Report.

Calculator Modifications			
Parameter	Original Value	Modification	Cell
EF Table tab			
Fugitive Methane from Upgrading	=2%	=MAX(IFERROR(1-((('Biogas-to-RNG'!V55+'Biogas-to-RNG'!W55+'Biogas-to-RNG'!U55)/('Biogas-to-RNG'!F55)),0),0.0235)	E86
Fugitive Methane from Upgrading ¹	=2%	=MAX(IFERROR(1-((('Biogas-to-RNG'!V55+'Biogas-to-RNG'!W55+'Biogas-to-RNG'!U55)/('Biogas-to-RNG'!F55)),0),0.02)	E86
Avoided Emissions tab			
Section P2. Net Methane Emissions Avoided (Calculation)	=C37-C32*COUNTIF('Manure-to-Biogas (LOP Inputs)!B52:B75,">0")	=IF(C37-C32*COUNTIF('Manure-to-Biogas (LOP Inputs)!B52:B75,">0")<(C40*-1),(C40*-	C38

¹ When the direct injection pipeline is completed and is fully operational and the RNG product is no longer being trucked to the pipeline interconnect, please refer to this row of table and modify the calculator accordingly.

		1),(C37-C32*COUNTIF('Manure-to-Biogas (LOP Inputs)!B52:B75, ">0"))	
Section P3. Avoided CO2 diverted from land application	=-(C40-C32*COUNTIF('Manure-to-Biogas (LOP Inputs)!B52:B75, ">0"))*(44/16)	=IF((-C38=C40),0,-(C40-C32*COUNTIF('Manure-to-Biogas (LOP Inputs)!B52:B75, ">0"))*(44/16))	G37
Biogas-to-RNG tab			
Section 2.5. Biomethane Content	=IFERROR(AVERAGE(D28:D51),0)	=IFERROR(SUMPRODUCT(D28:D51,C28:C51)/C52,0)	D52
Section 2.7. Biomethane Content	=IFERROR(AVERAGE(F28:F51),0)	=IFERROR(SUMPRODUCT(F28:F51,E28:E51)/E52,0)	F52
Section 2.22 Biomethane Content (%Methane in Flared Gas)	=IFERROR(AVERAGE(U28:U51),0)	=IFERROR(SUMPRODUCT(T28:T51,U28:U51)/T52,0)	U52
Section 2.15	2.15 Utility Sourced NG (upgrading and compression)	2.15 Propane (upgrading and compression)	N26
Section 2.15	MMBtu, HHV	Gallons, HHV	N27
Section 2.15	gCO2e/MMBtu	gCO2e/gal	N56
Section 2.15	74,654.76	7,422.33	N57
Section 4. CI Calculation Details	Utility source NG	Propane	D70
Section 2.19	2.19 Buy back fossil NG to boost Btu prior to pipeline injection	2.19 Diesel for Decant Station	R26
Section 2.19	MMBtu, HHV	Gallons, HHV	R27
Section 2.20	2.20 Propane used to boost Btu prior to pipeline injection	2.20 Diesel Trucking	S26
Section 2.20	N/A	gCO2e/gal	S56
Section 2.20	N/A	12,766	S57
Section 4. CI Calculation Details	Biomethane (process fuel)	Diesel Trucking + Decant to Pipeline	D71

Section 4. CI Calculation Details	=N55*N57	=N52*N57	E70
Section 4. CI Calculation Details	=O55*O57	=(S52+R52)*S57	E71
Manure-to-Biogas Tab (LOP Tab)			
Section L4 Volatile Solids to Effluent Ponds	=C82*D82*E82*F82*0.3	=C82*D82*E82*F82*0.3*(1-M89)	G82
Section L4 Volatile Solids to Effluent Ponds	=C83*D83*E83*F83*0.3	=C83*D83*E83*F83*0.3*(1-M89)	G83
Added Tabs			
RNG Trucking	<i>Contains calculations for diesel fuel used in trucking biomethane to injection site</i>		