

**Staff Summary
Method 2B Application**

**San Diego Metropolitan Transit System
Lachenaie Landfill Gas (Montreal, Quebec) to Compressed Natural Gas
(Pathway Codes: CNG045)**

Deemed Complete Date: June 17, 2015
Posted for Comments Date: September 18, 2015
Certified Date: September 28, 2015

Pathway Summary

San Diego Metropolitan Transit (SD Metro) has applied for a landfill-gas-to-biomethane fuel pathway. The landfill gas (LFG) for the pathway is extracted from the Lachenaie Landfill in Montreal Urban Community in Quebec, Canada. The pathway covers the compression of the biomethane for dispensing at CNG fueling stations. All fueling stations covered by this pathway are located in California.

Because SD Metro does not have two years of production data from the Lachenaie Landfill processing plant, the pathway discussed in this summary is prospective (provisional) until the data has been received by staff and used to confirm that the pathway CI is less than or equal to the CI in the table below.

LFG from the Lachenaie Landfill is cleaned using grid electricity and propane. Purified LFG is used in the thermal oxidizer and flare pilot. The thermal oxidizer and flare are used to destroy LFG when the processing plant is not fully operational.

The SD Metro pathway utilizes the CA-GREET1.8b default values for LFG recovery. To determine combustion emissions from the consumed purified LFG and propane, the flare and the thermal oxidizer, the CA-GREET1.8b default values for natural gas combustion in a turbine were used. These emissions are more representative of operations at the Lachenaie Landfill plant than the emission factors for a compressor powered by a natural gas.

The biomethane SD Metro purchases from the Lachenaie LFG processing plant are injected into the interstate pipeline system for conveyance to fueling stations located in San Diego, California. The pipeline transport distance is 3,054 miles. As such, SD Metro will be obligated to retain records that unequivocally demonstrate that the credits it earns under the pathways described in this Summary correspond directly with the volumes of biomethane it purchases from the Lachenaie Landfill in Montreal Urban Community, Quebec, Canada.

Carbon Intensity of CNG Produced

As shown in table below, the applicant has calculated the CI of its pathway to be 7.04 gCO₂e/MJ.

Operating Conditions

1. Actual pathway energy consumption values shall remain at or below the levels specified in SD Metro's application. This pathway was calculated using LFG production data from September 14, 2014 to November 30 2014 and LNG liquefaction and CNG compression data covering calendar years 2011 and 2013. The recovery and processing efficiency levels at the Lachenaie Landfill in Montreal Urban Community, Quebec, Canada shall remain at or above the levels specified in the SD Metro's application. In addition, the compression efficiency at the CNG stations shall remain at or above the levels specified in the application.
2. Because the biomethane supplied under this pathway is commingled with fossil natural gas both when it enters the interstate pipeline system and when it enters SD Metro pipeline system to CNG stations, SD Metro must maintain an accounting system that will enable it to demonstrate unequivocally at any time that every unit of biomethane-based transportation fuel sold and reported under the LCFS can be associated with an equal unit of biomethane purchased from the Lachenaie Landfill.
3. Because SD Metro does not have two years of production data from the Lachenaie Landfill processing plant, SD Metro will provide quarterly production data until staff has two years' worth of production data. If the data submitted indicate that SD Metro's actual pathway carbon intensity is higher than the approved LCFS carbon intensity shown in the table below, staff may adjust that approved value upwards.

Proposed Lookup Table Entries

Fuel	Pathway Identifier	Pathway Description	Carbon Intensity Values (gCO ₂ e/MJ)		
			Direct Emissions	Land Use or Other Indirect Effects	Total
CNG from LFG	CNG045	2B Application*: Quebec, Canada landfill gas to pipeline-quality biomethane; delivered via pipeline; compressed to CNG in CA	7.04	0	7.04

* Specific Conditions Apply.

Staff Analysis and Recommendations

Staff has reviewed SD Metro's application for the production of CNG from LFG originating in Montreal Urban Community, Quebec, Canada. Staff has replicated, using the CA-GREET1.8b spreadsheet, the CI values calculated by SD Metro. SD Metro has provided documentation in support of the key components of its pathways: energy consumption at the Quebec LFG processing plant and the CNG fueling stations. It has also provided the volumes of CNG produced. Staff is satisfied that the energy consumption levels reported in SD Metro's application accurately represent actual usage for the time period for which records were submitted, and that SD Metro is capable of maintaining CIs that are at or below those shown in the table above. Therefore, staff recommends that SD Metro's application for Method 2B LFG-to-CNG pathway be certified.