



PREVIEW Biomethane Report

Market Intelligence

December 2022

Canada

biogasworld.com

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About BiogasWorld

BiogasWorld is a business generation network and project support platform, connecting the suppliers of products and services with project developers. We accelerate the biogas and biomethane industry worldwide.

With the experience of working with hundreds of suppliers and collaborating to over 50 biogas and biomethane (RNG) projects in North America, BiogasWorld offers to project developers a wide range of services to help them reduce the cost and duration of their project implementation.

For more details, feel free to contact us at info@biogasworld.com.



Project Leads

Access public and private opportunities for your business; find funding and grant opportunities for your projects.



Market Intelligence

Support your business development efforts and grow your business by getting access to market intelligence and tools.



Online Promotion

Promote your business in biogas and biomethane industry and generate business opportunities through our online platform.

Notice to Readers

Terminology: Biomethane Vs. RNG

There are two terms widely used to describe upgraded biogas: biomethane (used in Europe) and Renewable Natural Gas or RNG (used in North America). To make the reading of the report easier, we opted to use the term “biomethane”, however, some direct references to existing legislation and programs in Canada will use “RNG” to make it easier for readers to make additional research.

Energy Conversion

The report uses a number of energy units to present the information due to the fact that different sources of information may use various units of energy. When reading the report, you will find helpful the following table containing approximate energy conversions for biomethane as reference.

Table 1. Energy Conversion

Unit of Energy	Conversion
1 PJ	1 000 000 GJ
	0,9478 TBTU
	947 817 MMBTU
	277 780 TWh
	26 518 000 m ³ Biomethane (RNG)
	0,9478 Bcf

Abbreviations

PJ	Petajoule
GJ	Gigajoule
TBTU	Trillion British Thermal Units
MMBTU	Metric Million British Thermal Unit
TWh	Terra Watt hours
Bcf	Billion cubic feet



Canada

Market Overview

Current Market Overview

There are currently **XX** operating facilities upgrading biogas to biomethane (which represents a **XX%** increase over 2021) and **XX** pilot projects producing biomethane from woody biomass (Alberta & British Columbia). British Columbia is leading the way with **XX** plants, followed by Quebec with **XX** plants.



Current Market Overview

Projects in Development



There are around [redacted] plants in development or under construction, and a few [redacted] more at an earlier stage of concept development. Quebec alone received over [redacted]

Market Size & Potential



The CBA estimates that Canada is utilizing only [redacted]% of its biogas potential, translating to approximately [redacted] PJ of output.

RNG in Transportation



Research by CUTRIC published June 2022 found enormous potential in decarbonizing public transit and refuse collection vehicles via [redacted]

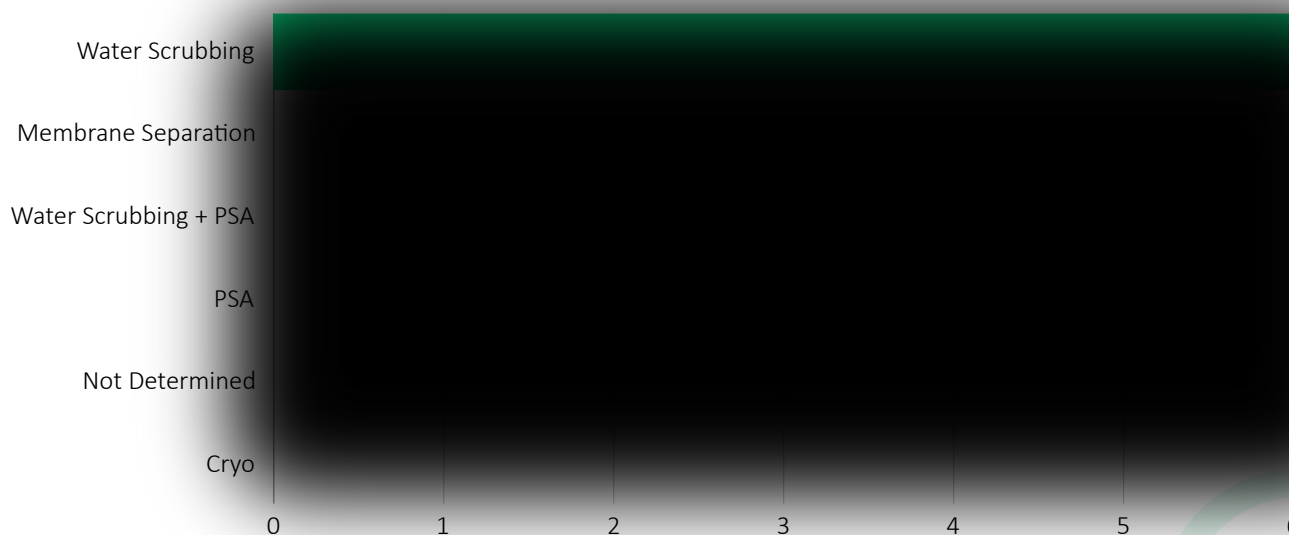
Upgrading Snapshot

Providers of upgrading technologies in existing biomethane plants in Canada are as follows:

- AB Energy (membrane) – 1 plant



Figure 1. Biogas Upgrading in Canada, Installed Units



A photograph of several tall, stainless steel industrial distillation columns in a refinery or chemical plant. The columns are connected by a network of pipes and ladders. The scene is set against a sunset sky with soft orange and blue tones. The text 'Canada' is overlaid in white, centered horizontally.

Canada

Market Drivers

A decorative graphic consisting of several overlapping, wavy green lines in the bottom right corner of the page.

Federal - Market Drivers

- The Clean Fuel Standard (CFS) came into force in July of 2022
 - The CFS replaced the RFR system reduction plans for 2030, 2035, 2040 and 2045.
- The 2022 Federal budget included several funding opportunities which could support the

Provincial - Market Drivers

- Emissions Reduction Alberta receives funding through NRCan to support the development of
- TIER also regulates the provinces industrial GHG emissions pricing regulation and



Gas Utilities and RNG Quality Specifications

Gas Utilities and RNG Quality Specifications

Overall, major developments in Canadian biomethane sector are happening in Quebec, Ontario and British Columbia. The table below presents the information on gas utilities active in the sector and on their biomethane programs.

Enbridge



Province: Ontario

Énergir



Province: Quebec

- Voluntary program available to customer with blend choices

- Application to increase RNG procurement price cap was done earlier in 2022 (to have the

FortisBC



Province: British Columbia

- RNG Voluntary Program offered since 2011

- 2 ownership models offered for biomethane suppliers:

Critical Parameters - Canadian Specifications

The critical parameters of biomethane quality requirements are presented in the Table below. Please note that in the cases when utility does not have a biomethane specification, the natural gas quality specifications are used

RNG / Biomethane Slippage

Methane slippage, the quantity of methane lost in the CO₂ stream during the upgrading process, is one of the important characteristics to take into account.

Overall, in Canada there are no federal or state/provincial rules as for the maximum allowed level of biomethane slippage.

Questions? Contact us!

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