

Concerned High River & Foothills County Residents Against the Biodigester

Rimrock Renewables Ltd. has submitted an application to Alberta Environment and Parks (AEP) for an Environmental Protection and Enhancement Act (EPEA) Industrial Approval for the Rimrock Biodigester Facility (the Project). The decision by the AEP was expected February/March 2023 but Rimrock has **NOT** received approval to date.

NEWEST Supplemental Information Request #2

Submission Deadline to Alberta Environment was June 19, 2023

Submission received LATE on July 17, 2023

(Complete documents below)

After reviewing this Information, the following are items of concern:

Property size has increased from 98 acres to 102 acres.

Drawing #8 - Effluent Lagoon has increased from 12 acres back up to 20.7 acres x 9-11ft depth, with 2 sections instead of 3, the smaller of the two being 6 acres with aeration added to it.

Pgs 8,9 & 22 - Manure building has been replaced with a manure hopper building with room to store 5000 tonnes of manure near it.

Pg 21 - Piles of solid digestate will be located in a different area, but still out in the open, uncovered for the weather to get at, particularly the wind.

Pg 21 – The additional trucking is finally mentioned for the solid digestate transported to local fields, much like we experience now but with the added tanker trucks from Calgary. They estimate 15-20 trucks per day, 365 days of the year. However, still no mention of the trucking of the liquid effluent out and how long that will take to drain or how many trucks. Was this taken into consideration in the Traffic Impact Assessment?

Pg 23 - Admission to the handling of manure being the source of current odour issues.

The best is on Pg 13, and we quote:

"Rimrock notes that, while the Project will reduce cumulative H₂S and NH₃ emissions, the cumulative case is predicted to exceed the AAAQO due to existing baseline feedlot sources (as noted in the AQA) and it is anticipated that the cumulative case may continue to exceed the AAAQO during facility operations. This means that any air quality monitoring that is conducted at the Project fence line during facility operations is likely to show exceedance's, regardless of the Project's investment in odour abatement technologies, and would not be representative of

Project contributions to air quality." They now are using the current situation as the baseline that they created by concreting the pens!

Rimrock has also tried to baffle the AEPA with their new term, "BATEA" *best available technology economically achievable*.

[Open / Download the document - AEPA Cover Letter-Request for SIR2 - Deadline for Submission June 19-2023](#)

[Open / Download the document - Newest Supplemental Information Request #2 - Provided by Rimrock Renewables as requested by AEPA - LATE Submission July17-2023 PDF file \(41MB\)](#)

Rimrock Renewables Ltd. (Rimrock) has submitted an application (Complete document links below) to Alberta Environment and Parks (AEP) for an Environmental Protection and Enhancement Act (EPEA) Industrial Approval for the Rimrock Biodigester Facility (the Project). The decision by the AEP was expected February/March 2023 but Rimrock has NOT received approval to date. The County of Foothills has waived the requirement for a Development Permit (in November 2020). Rimrock/Korova also applied for a taxpayer funded grant through Emissions Reduction Alberta for \$5,000,000 for this project that has not been approved to date. Plus, an additional Alberta Emissions grant for 8,400,000.00.

The permit application submitted to the AEP by Rimrock states that letters of support have been provided by the Foothills County and the Town of High River. The Mayor of High River has publicly stated that NO such letter was provided by the Town. The AEP was requested to provide a copy of the letter from Foothills County but has stated that this letter was not included as part of the application.

Notice of the Project was circulated to 27 residents within a 2km radius of the Project site. This is the minimum requirement by the AEP but clearly the nature of the Project suggests that the area which may be affected by the Project would be much larger, including farms, ranches, several country residential subdivisions outside the 2km radius, as well as the Town of High River.

Earth moving and rough grading has been substantially completed; construction is expected to resume in March of 2023 as soon as AEP gives approval with operations beginning October 2023. The purpose of the Project is to produce methane gas (RNG) by upgrading biogas produced by the anaerobic digestion of feedstock comprised of livestock manure and off-farm organic resources. Anaerobic means 'in the absence of oxygen'.

Carbon Credits for the Renewable Natural Gas will be sold to FortisBC while the physical RNG will go into a local ATCO distribution system to be mixed with natural gas, FortisBC Energy has signed a 20 year contract to purchase the Carbon Credits. The production capacity of the Project is 450,000 GJ/year of methane. The Project does not intend to use biogas or RNG to power the onsite cogeneration units or boiler. Instead, fuel for the 2 cogeneration units and boiler will be supplied from the ATCO pipeline. The facility will also receive power through FORTIS from the existing distribution system via underground power cable to a transformer onsite.

Biogas in the biodigester will contain methane, 2000 ppm of H₂S, ammonia, CO₂, and volatile organic compounds (VOCs). The permit application states activated carbon filters will be used to trap VOCs, ammonia & H₂S. Guidelines published by the Canadian Biogas Association state that carbon filters are not effective at removing ammonia. H₂S is lethal at 200 ppm and the smell is detectable @ .00047ppm. A 39 ft tall x 9 ft diameter emergency flare system will burn biogas in the event of process upset or if the produced methane does not meet ATCO specs. CO₂ will be captured and vented to atmosphere through an exhaust stack.

Emissions from the Project will include NO₂, SO₂, H₂S, CO, CO₂ and particulates. No on-site air monitoring stations are proposed. Only an annual source emission survey for NO_x, flow, and temperature will be conducted. The application states that fugitive emissions which may result from leaking fittings, connections, or seals on equipment and piping systems are dismissed as negligible. There is no mention of toxic or combustible gas detection in the process area. The application states “Facility equipment will be visually inspected daily to ensure that there are no visible leaks”.

The feedstock capacity for the biodigester will be 100,000 tonnes/year of cow manure from the adjacent Rimrock feedlot (currently only allowed to produce 80,000 tonnes of manure) and 80,000 tonnes/year of off-farm organic/bio-waste resources which will be trucked from Calgary. This will require 15-20 semi tanker truck loads per day 365 days per year. See bottom for details of organic/bio-waste pages 10-13 of the February 13, 2023, Supplemental Application Information.

Approximately 333,000 m³/year of water will be required for Project operations. Water will be sourced from the Highwood River under two Water Licences, one was issued September 2022 into Korova Feeder’s name and is currently in progress.

The Project originally submitted had a 24 acre, 9.84 ft deep open pond to store liquid digestate, but was revised in the supplemental information request #1 to 12.35 acres (size of approx 9 football fields), but the depth was increased to approx 16 ft deep. However, it has been resized again in the supplemental information request #2 to 20.7 acres x 9-11ft depth with 2 sections instead of 3, the smaller of the two being 6 acres with aeration added to it. Plus, a 4.75 acre outdoor storage area for solid digestates in the request #2 has since been revised as well. The digestate pond has been sized to hold 7 months of liquid digestate. Digestate was to be spread on surrounding farmland in the spring and fall; 2-4 weeks in the spring and 4-6 weeks in the fall, but a new application in for a taxpayer funded grant \$8,400,000 with Emissions Reduction Alberta shows Rimrock Renewables marketing the liquid digestate to Alberta-based greenhouses, Mushroom Farmers, Organic Farmers, Conventional Farmers and Cattle Producers. The application does not mention the likelihood of the liquid or solid digestate storage areas causing odour or if the spreading process spring and fall will cause odours. The Traffic Impact Assessment doesn’t take into account the removal trucking of the liquid digestate.

No odour impact study has been submitted as part of the AEP application. The application makes very few mentions of odour and has no detail on what practices or processes will be in place to ensure odour is not an issue. By contrast the Canadian Anaerobic Digestion Guideline written by the Canadian Biogas Association has a strong focus on odour and odour control throughout the document. The words odorous & odour occur over 185 times in their 77 page Guideline document.

There is no statement by Rimrock that the Project will provide a definite reduction to the odour problems currently experienced by their neighbours in Foothills County and High River or even if the new facility will create additional odours. When questioned about odour reduction during a meeting with High River Town Council the Rimrock representative stated:

“There's some research out there on odour mitigation, but we don't want to promise anything,”
“But logically, we feel like we can prevent odour by putting the manure into a

biodigester, which captures the gas.” They do not mention the open effluent digestate pond.

There is to be a Flare Stack 39 ft tall and 9 ft wide

- Manure Processing Building - 150' W x 286' L x 29.5' H
- Digestate Pump Building -28' W x 329' L x 28' H
- 6 Digester Tanks - each to be 38' H x 120' diameter with area set aside for 2 more (apparently 3/4 of each tank will be underground)
- 2 Co-generation units - 40' L x 8' W x 12' H with 32' stacks
- Digestate Separation Building - 62' W x 135' L x 25' H
- Office Building and other structures - dimensions unknown

The Project is much larger than existing biodigesters in Canada and Europe. Lethbridge Biogas is currently the largest in Canada and processes 100,000 tonnes/year of feedstock versus the proposed 180,000 tonnes/year capacity for the proposed Rimrock project. Also notable is that Lethbridge does not have an open liquid digestate storage pond for long term storage and does not stockpile solid digestate on site so direct comparisons between these plants cannot be made.

This is the **LARGEST** proposed facility of its kind to be built in **North America** and operated by these companies who have no previous experience operating a biodigester facility of this **MAGNITUDE**. The proposed facility will be constructed in an agricultural zoned area adjacent to their existing feedlot, **Rimrock Feeders**. This feedlot has a maximum capacity of 35,000 cattle. Manure is the main source for this biodigester to produce bio-methane gas that can escape to the atmosphere during digestion and subsequent storage and handling, as well as discharge nitrates into groundwater.

[Open / Download the document - Rimrock Biodigester Facility - EPEA IA Application - 9June2022 PDF file\(11MB\)](#)

[Open / Download the document - AEPA Cover Letter Request for SIR1 - November 28-2023 - Deadline for Submission - January 30-2023](#)

[Open / Download the document - Rimrock Supplemental Information Request #1 - Requested by AEPA - LATE Submission February 13-2023 PDF file \(33 MB\)](#)