

MANAGEMENT REPORT

Date: November 29, 2023
To: Infrastructure, Transportation and Safety Sub-committee
From: Johnny Bowes, Manager of Environmental Services
Report Number: ITS23-033
Attachments: None

Title: Renewable Natural Gas Project Update

Objective: To update Council on the status of the Renewable Natural Gas (RNG) initiatives and to seek Council approval to defer the Renewable Natural Gas project until the City has achieved significant city-wide greenhouse gas emission reductions.

Background: In 2016, Staff were approached by the City's wastewater pollution control plant (WPCP) operator Ontario Clean Water Agency (OWCA) to discuss energy recovery options at the WPCP facility. Over the next couple of years, Staff facilitated the development of a Renewable Natural Gas (RNG) project, refined preliminary designs, acquired partial funding, solicited public engagement, and made adjustments to the plans based on Council direction. Due to the pandemic and contractual end date of a key funding source (Ontario Centre of Excellence), in late 2021 Council directed that the City withdraw from the RNG Project in its original format and requested that Staff investigate possible alternative co-digestion initiatives.

Through 2022, Staff conducted research and reached out to other municipalities and entities pursuing similar initiatives to determine what alternative co-digestion options would be feasible for Stratford. Staff investigation supports similar, but smaller initiatives than those initially discussed, that would come with significantly less impact to residents, less costs and less overall risk to the municipality. As part of the 2023 budget deliberations, Staff included consultant support required to pursue these options in the operating budget. During Council discussion, a motion was made to defer the request to 2024 budget deliberations.

Analysis: Since the 2023 budget deliberations motion to defer the \$150,000 feasibility assessment of a biogas facility, significant progress has been made toward measuring and monitoring corporate emissions through the development of the Corporate Energy and Emissions Plan 2023. A similar long-term strategy is currently being developed at a community-wide scale, designed as a comprehensive roadmap to guide emissions

reduction efforts across key sectors and create a more energy efficient, resilient community and bolster the economy through the promotion of clean energy.

Recognizing that an RNG facility comprises unique characteristics with varied scopes of carbon emissions (direct and indirect), the process to identify, measure, monitor, and report on resultant GHG emissions will not be straightforward. It is anticipated that such a facility, when established, would be a part of both corporate and community emissions monitoring, thus would have the ability to drive our collective emissions reduction trajectory.

As part of recommendations resulting from the Corporate Energy and Emissions (Reductions) Plan (CEEP), and the Community Climate Action Plan (CCAP), it is apparent that, should Stratford be successful at significantly reducing its corporate and community emissions, the City will be able to attain near-zero emissions (or a reduction of approximately 80-100% emissions), but not net-zero (100% emission reduction).

Part of the initial support to proceed with the RNG project was the potential to acquire carbon offset credits from the creation of renewable fuel derived from organic matter. These credits could then be used to offset the consumption of traditional fossil fuels in recognition that some asset classes may be challenging, if not impossible to decarbonize. This approach is supported by the Federal government¹, but currently does not come with any financial incentives or support, nor is there an associated carbon credit system in Ontario. Given this, along with the City's goal to get to net-zero being several years down the road, there is no immediate demand to expand services and acquire these carbon credit offsets. It is recommended that such an approach be utilized at a time when the City has realized deep GHG emission reductions (closer to 80%) and has a recognized need to address the gap to attain net-zero.

Holistically, using biogas still creates greenhouse gases including methane, carbon dioxide, and small quantities of other gases produced by anaerobic digestion of organic matter. Rather than being released into the atmosphere, there is considerable opportunity to re-direct the biogas toward other community needs, for example, as a substitute or complement to natural gas in home heating, where electrification is not an option. Pursuing other and innovative technologies including carbon sequestration and carbon capture will also be useful instruments to support city-wide emission reduction from near-zero to net-zero. Many technologies are still nascent and just starting to be developed, however, are expected to be progress significantly in upcoming years.

Currently, the City has a mechanism in place to divert organic materials from its landfill through the Green Bin Program. Launched in 2020, this service is accessible by all residents and businesses throughout Stratford. Upon collection, organic waste is

¹ Canada's GHG Offset Credit System enables proponents of offset projects to generate federal offset credits if they register and implement projects meeting requirements in the Canadian Greenhouse Gas Offset Credit System Regulations and an applicable federal GHG offset protocol.

processed by StormFisher Environmental Resource Facility in Drumbo and utilized by their Biogas facility in London. Since 2020, approximately 3,000 metric tonnes of organic waste have been collected and sent for processing, which would mean that this quantity of organic waste was diverted from landfill resulting in substantial GHG reductions (cumulative avoided GHG emissions) of 461 tCO₂e city-wide. The Green Bin Program is currently being expanded to include institutional, commercial, and industrial buildings. As a part of this initiative, ongoing public education will help enhance waste reduction and management practices city-wide.

Staff still think that the biogas project has merit, however, recommend pausing this endeavour until the gap in the City's ability to be considered net-zero is better realized. The City can pursue further carbon offsets as a mechanism to close the remaining gap from near-zero to net-zero. Staff recommend that revisiting the concept in 2029 or upon renewal of the 2029-2033 Corporate Energy Conservation and Demand Management Plan. At that time there will be additional data, climate action progress, and likely developing technologies to consider and explore further.

Financial Implications:

Financial impact to current year operating budget:

There is no impact associated with the current year operating budget.

Financial impact on future year operating budget:

The scale of the project and depending on whether Council decides to proceed immediately, postpone, or cancel the project, will dictate the impact on future operating budgets. If Council does wish to proceed with co-digestion initiatives in 2024, Staff recommend allocating \$150,000 in the 2024 budget for a consultant-led feasibility assessment.

Link to asset management plan and strategy:

There is no impact anticipated at this time with the associated with the decisions made regarding this report.

Alignment with Strategic Priorities:

Strengthening our Plans, Strategies and Partnerships

Partnering with the community to make plans for our collective priorities in arts, culture, heritage and more. Communicating clearly with the public around our plans and activities.

Developing our Resources

Optimizing Stratford's physical assets and digital resources. Planning a sustainable future for Stratford's resources and environment.

Alignment with One Planet Principles:

Zero Waste

Reducing consumption, reusing and recycling to achieve zero waste and zero pollution.

Zero Carbon Energy

Making buildings and manufacturing energy efficient and supplying all energy with renewables.

Staff Recommendation: THAT the co-digestion (formerly RNG) initiative be deferred to 2029 or upon renewal of the 2029-2033 Corporate Energy Conservation and Demand Management Plan.

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