

For Information

REPORT TITLE: Update on the Development of the Peel Renewable Natural Gas Centre (Anaerobic Digestion Facility)

FROM: Kealy Dedman, Commissioner of Public Works

OBJECTIVE

To provide an update on the development of the Peel Renewable Natural Gas Centre (Anaerobic Digestion Facility) and to highlight the impacts and timing of upcoming decisions.

REPORT HIGHLIGHTS

- In 2017, Regional Council approved the development of an Anaerobic Digestion Facility (Resolution 2017-972) and the Strategic Terms for the Anaerobic Digestion Facility Project (Resolution 2017-975).
 - In 2019, Regional Council approved and purchased 125 Orenda Road in the City of Brampton as the site of the facility (Resolution 2019-199).
 - The Anaerobic Digestion Facility (currently referred to as the Peel Renewal Natural Gas Centre) is a key component of the Region's long-term waste management strategy, allowing the expansion of the Region's Green Bin organics program to include diapers and pet waste while reducing waste for disposal. It will also produce renewable natural gas (RNG) which can be used to reduce the Region's greenhouse gas (GHG) emissions, supporting the Region's Climate Change Master Plan.
 - The Anaerobic Digestion Facility is being developed as a design, build, operate and maintain contract. It will have 90,000 tonnes per year of organics processing capacity which considers the Region's green bin program expansion and population growth.
 - The procurement process began in 2018 and is ongoing. Staff is evaluating the Request for Proposal submissions and will be recommending a preferred proponent to Council at its July 8, 2021 meeting. Proposals are subject to a 165-day bid validity period that will expire October 19, 2021. The project must be awarded and all necessary agreements executed by that date.
 - The Region has also been developing an agreement with Enbridge Gas Inc. that will allow the Region to inject renewable natural gas produced at the Anaerobic Digestion Facility into Enbridge's natural gas distribution system. Staff has negotiated the key terms of a Biogas Services Agreement with Enbridge, which will also be presented to Regional Council for approval at its July 8, 2021 meeting.
 - The Capital Budget includes \$124 million for the development of the Anaerobic Digestion Facility. The estimated operating impact of the Anaerobic Digestion Facility is expected to be \$6.0 million per year, effective 2025, excluding revenues from the sale of RNG, savings from reduced purchases of natural gas or debt related charges. Staff will report back to the July 8, 2021 meeting of Regional Council with the results of the procurement process and the recommended award to the preferred proponent along with the key terms and recommended approval of the Enbridge Biogas Services Agreement.
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DISCUSSION

1. Background

In 2017, Regional Council approved the development of an Anaerobic Digestion Facility (currently referred to as the Peel Renewable Natural Gas Centre) as part of the Region's long-term waste management strategy (Resolution 2017-972). Regional Council also approved the Strategic Terms for the Anaerobic Digestion Facility Project including the procurement plan and the use of a design, build, operate and maintain (DBOM) contract for the facility (Resolution 2017-975).

In 2019, Regional Council purchased 125 Orenda Road in the City of Brampton and approved it as the facility location (Resolution 2019-199).

The Request for Proposals to design, build, operate and maintain the Anaerobic Digestion facility was issued in 2019 and the procurement process is ongoing. In accordance with the Region's Procurement By-law, Regional Council has not been involved in the procurement process. Information on the evaluation of proposals and the recommended award to the preferred proponent will be brought to Regional Council at its July 8, 2021 meeting.

2. Overview of Project

The Anaerobic Digestion Facility will be located at 125 Orenda Road in the City of Brampton. It will comprise an administration building, a processing building, external anaerobic digestion tanks and structures housing ancillary operations. Environmental controls for noise and odour will be in place to meet provincial and City of Brampton permitting requirements. It will provide 90,000 tonnes per year of organics processing capacity, which considers the Region's green bin program expansion and population growth. The facility was originally envisioned to include a transfer station but, as more design details became available and in order to improve on-site logistics and reduce the number of trucks arriving at the site each day, the final facility is focused on receiving and processing organics only.

The Anaerobic Digestion Facility will be complemented by an RNG injection station on the same site that will be owned and operated by Enbridge Gas Inc. (Enbridge) and that will inject the RNG into the natural gas distribution grid. The Region will retain ownership of the RNG and, once in the Enbridge distribution grid, the RNG will be available for use within Peel Region or can be transported to markets elsewhere. Staff is assessing the preferred use for the RNG and will report back before the facility comes on-line with a recommendation in that regard.

Subject to Council approval, the Region will enter into an agreement with the successful proponent from the procurement process (referred to herein as "Project Company" or "Project Co.") to design, build, operate and maintain the Anaerobic Digestion Facility. The Region will enter into a separate agreement with Enbridge Gas Inc. (Enbridge) for the development and operation of the RNG injection station and to transport the Region's RNG. There will also be a number of ancillary agreements, which will be identified in the July 8, 2021 report to Regional Council.

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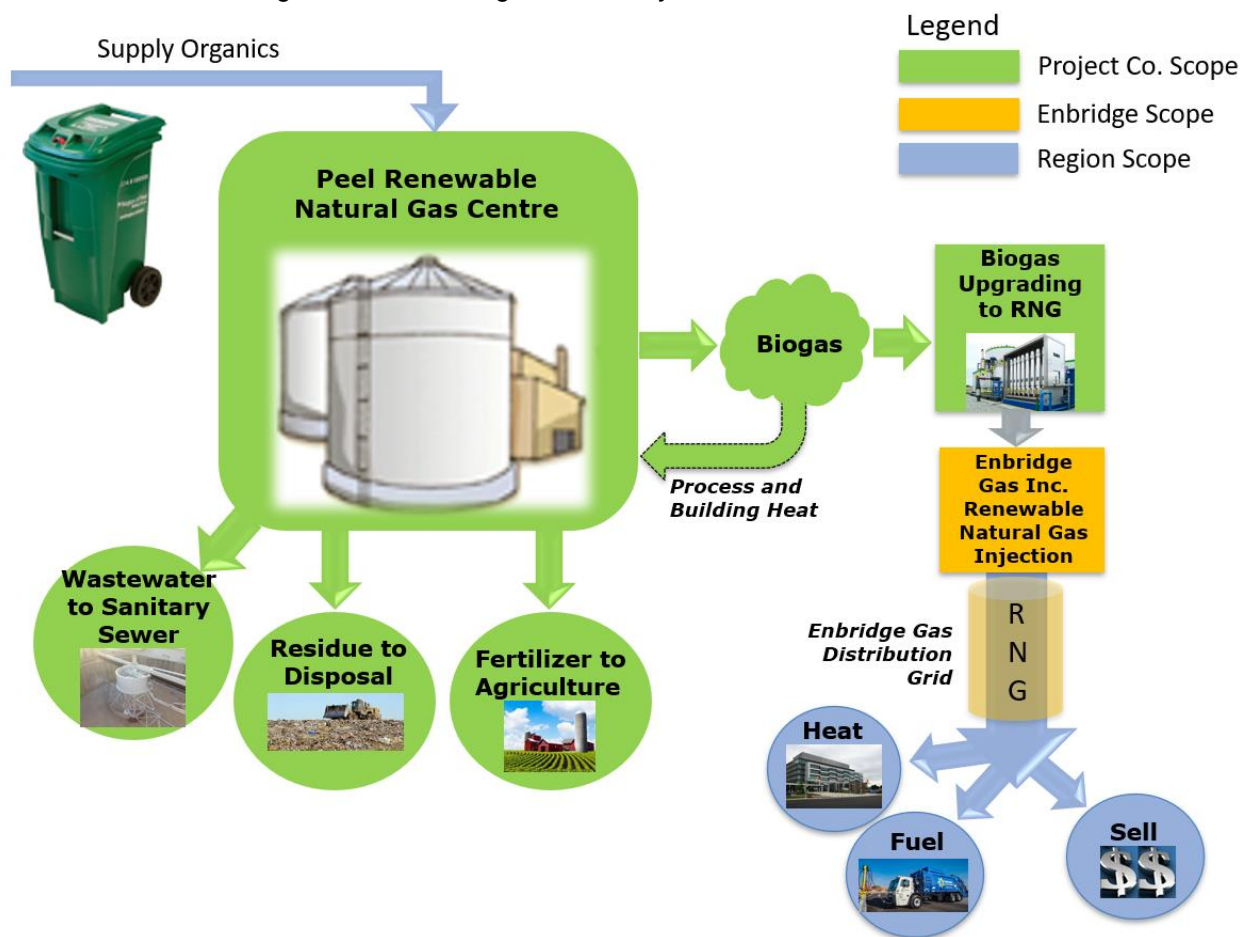
Table 1, below, summarizes the responsibilities of the Region, Project Company and Enbridge. Figure 1, immediately below the table, shows the responsibilities graphically.

Table 1 – Summary of Party Responsibilities

Party	Scope
Region of Peel	<ul style="list-style-type: none"> ● Provide a site for the Anaerobic Digestion Facility, RNG injection facility and related structures ● Supply a minimum of 75,000 tonnes per year and up to 90,000 tonnes per year of organics (if needed, this can include organics from other municipalities and, on approval of Project Company, organics from commercial sources) ● Accept pre-treated wastewater from the facility under a Surcharge Agreement, which could include a surcharge for Total Kjeldahl Nitrogen (TKN) that will be recommended to Council as an update to the Region's Wastewater By-law ● Pay Project Co. based on the agreed-upon payment terms and conditions ● Provide Enbridge with a right to use a portion of the Site for the renewable natural gas injection system ● Pay Enbridge based on the agreed-upon payment terms and conditions ● Retain ownership of the renewable natural gas and determine how it is to be used at the Region's sole discretion
Project Co.	<ul style="list-style-type: none"> ● Design, obtain necessary permits and approvals, construct and commission the Anaerobic Digestion Facility ● Operate and maintain the Anaerobic Digestion Facility for a period of 15 years plus an optional 5-year extension (at the Region of Peel's sole discretion) ● Perform lifecycle maintenance on the Anaerobic Digestion Facility ● Meet performance requirements for throughput and outputs ● Upgrade the biogas to renewable natural gas ● Manage outputs including certified fertilizer, wastewater and residue, but excluding renewable natural gas ● Pre-treat wastewater prior to discharge to the Region's sanitary sewer system and pay appropriate surcharges, including a surcharge for TKN, under a Surcharge Agreement ● Comply with all environmental requirements ● Provide required securities and insurance
Enbridge	<ul style="list-style-type: none"> ● Design, construct, operate and maintain an Enbridge-owned RNG injection station at the site ● Inject the Region's renewable natural gas into the Enbridge gas distribution system and distribute it to Regional facilities or other uses as determined by the Region

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Figure 1 - Roles in Delivering the Anaerobic Digestion Facility



The Anaerobic Digestion Facility will replace the Region’s existing organics composting infrastructure, which is nearing the end of its service life, with technology that is better able to remove contaminants from the green bin organic material. A separate study will be conducted in the near future to determine the best way to process the Region’s yard waste.

The Anaerobic Digestion Facility is a key component of the Region’s long-term waste management strategy, *the Roadmap to a Circular Economy in the Region of Peel*. Its development is necessary in achieving Peel’s target of 75 percent 3Rs diversion by 2034. It will allow the addition of diapers and pet waste to the Region’s Green Bin organics program, which is expected to divert an additional 25,000 tonnes per year from landfill and increase the Region’s diversion rate by five percentage points. This additional diversion will also help the Region achieve the organics diversion target of 70 percent set out in the province’s *Food and Organic Waste Policy Statement* (2018) for households receiving curbside collection. As added benefits, the Anaerobic Digestion Facility will produce renewable natural gas (RNG) and certified fertilizer.

The Anaerobic Digestion Facility will support the Region’s Climate Change Master Plan by reducing greenhouse gas (GHG) emissions from this waste stream and contributing to the Region’s objectives of addressing climate change. As a clean energy producer for the corporation and community, the Anaerobic Digestion Facility will be one of the most impactful projects the Region of Peel has ever undertaken to demonstrate progress towards

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greenhouse gas emission reduction targets. At full capacity, the facility will produce approximately 6 million cubic metres of RNG per year, which contains 215,000 gigajoules (GJ) of energy. This can be sold to help offset operating costs or used by the Region to help meet its greenhouse gas emission reduction targets. The Region uses approximately 600,000 GJ of energy per year to heat its buildings so the facility's RNG output could offset approximately a third of the Region's natural gas needs.

Key Contractual Performance Requirements of Project Co.

The key performance requirements Project Co. will be required to meet for the development and operation of the Anaerobic Digestion Facility are described below.

- develop the facility in accordance with agreed upon timelines
- process all Region supplied organics up to 90,000 tonnes per year
- minimize on-site time for collection vehicles to prevent queuing on Orenda Road and maintain the efficiency of collections
- produce biogas at a rate and of a quality that meets the minimum requirement
- convert biogas into renewable natural gas that meets the renewable natural gas quality specifications
- produce digestate that meets the specified quality requirements and is certified as a fertilizer product
- secure and manage fertilizer management services
- manage wastewater discharge to comply with maximum discharge limits set out in the Surcharge Agreement
- limit residue generation below maximum quantity and water content and manage all residue
- contain, control and treat odours and maintain odour emissions to below maximum limits

Enbridge Biogas Services Agreement

In 2017, the Region and Enbridge explored options to treat the biogas generated from the Anaerobic Digestion Facility to produce renewable natural gas and inject the renewable natural gas to Enbridge's natural gas distribution system.

In January 2020, the Region entered into an agreement with Enbridge that allowed Enbridge to complete a capacity assessment of the natural gas distribution system in the vicinity of the Anaerobic Digestion Facility Site, complete the preliminary design for the renewable natural gas injection station, and prepare a cost estimate to be included in the Biogas Services Agreement. If the Region enters into the contemplated Biogas Services Agreement, the cost of this work will be borne by Enbridge and reflected in the fee they charge to store and transport the Region's renewable natural gas. If the Region does not enter into the contemplated Biogas Services Agreement, the Region will pay Enbridge up to \$200,000 to help offset the cost of this work.

In August 2020, staff facilitated and participated in commercially confidential meetings between Enbridge and the Anaerobic Digestion Facility proponents. Staff has since been negotiating a Biogas Services Agreement, which will be presented to Council at its July 8, 2021 meeting for approval.

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3. Procurement Process and Status

The procurement process is being conducted in accordance with the Council approved procurement plan which included a Request for Prequalification and a Request for Proposal.

As directed by the Region's Procurement By-law a designated single point of contact has been maintained from the issuance of the Request for Prequalification and will continue to be maintained until the execution of the project agreement with the preferred proponent.

The Request for Prequalification was released in 2018 and the Request for Proposal was issued in 2019 to the prequalified proponents. The Request for Proposal included an initial draft of the project agreement.

Throughout 2020, staff engaged in three rounds of commercially confidential meetings with prequalified proponents to discuss the terms of the draft agreement. Changes resulting from the commercially confidential meetings were incorporated into procurement documents and revised versions of the Request for Proposal and draft Project Agreement were issued to all proponents following each round of commercially confidential meetings.

The technical proposals were received on March 23, 2021 and the financial proposals were received on May 7, 2021.

The next steps in the procurement process are as follows:

- Evaluation of proposals to identify a preferred proponent April - May 2021
- Recommendation report to Council July 8, 2021
- Finalize and execute all necessary agreements by October 19, 2021

A key consideration in the schedule is the expiration of the 165-day proposal validity period on October 19, 2021. During the proposal validity period, which the Request for Proposal defines as the 165 days following the financial proposal submission deadline, proponents agree to keep their proposal legally binding. Following such date, the Region would be unable to unilaterally accept the preferred proponent's proposal. If a contract is not entered into before the proposal validity period expires on October 19, 2021, proponents are no longer obligated to the terms or prices in their proposals. It is therefore critically important that the contract be awarded and executed before the validity period expires.

4. Assignment and Management of Potential Risks

Given the scale, scope and complexity of the Anaerobic Digestion Facility project, the elimination of all risks is not possible. However, risks can be mitigated through service delivery and contract development by ensuring that each potential risk is managed by the party best able to control and manage it in a cost-effective manner. The Region will therefore retain or share risks that cannot be managed by Project Co. such as:

a) Utility Cost increases above the rate of increase of the consumer price index

The Region has retained the risk of electricity, natural gas and sewer discharge price increases that exceed the rate of increase in the consumer price index. The Region's procurement of electricity and natural gas should help mitigate this risk.

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b) Permitting

The City of Brampton Official Plan and Zoning By-law currently permit the intended use (Anaerobic Digestion Facility) at the site location. The Region retained the risk of changes to the zoning by the City of Brampton that make the intended use no longer permitted at the site. Should this occur, the Project Agreement will be terminated, and Project Co. will be compensated for costs incurred. To mitigate this risk, staff has regularly engaged with City of Brampton staff and included them in commercially confidential meetings with Proponents and has also included design requirements related to appearance and environmental controls that will make the Anaerobic Digestion Facility a good transition between the contemplated residential/commercial areas and the adjacent industrial lands.

If the City of Brampton delays the issuance of the Site Plan Approval through no fault of Project Co., the Region may have to grant a project extension and pay Project Co. reasonable delay costs.

Similarly, if the Ministry of the Environment, Conservation and Parks delays the issuance of the Environmental Compliance Approval through no fault of Project Co., the Region may have to grant a project extension and pay Project Co. reasonable delay costs.

Finally, as Regional Council is aware, the site at 125 Orenda Road is within the secondary bird hazard zone of Pearson International Airport. Staff has been engaged with the Greater Toronto Airports Authority and Transport Canada to gather evidence and assess the bird hazards presented by the development of an Anaerobic Digestion Facility at that location. While staff is confident the facility will be found to present an acceptable risk, a final determination has not yet been made.

c) Quantity and Quality of Organics

The agreement includes provisions that temporarily relax or remove certain performance guarantees if the Region delivers organics with toxic substances that upset the biological process within the digesters. It also includes provisions to adjust performance guarantees for gas production and residue generation if the composition of the organics delivered by the Region changes beyond acceptable limits.

FINANCIAL IMPLICATIONS

There are no immediate financial implications resulting from this report.

The financial impacts associated with the award of the Anaerobic Digestion Facility project to the preferred proponent and the approval of the Enbridge Biogas Services Agreement for the injection and transportation of renewable natural gas will be included in the July 8, 2021 report.

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CONCLUSION

The procurement process for the design, construction, operation, and maintenance of the Peel Renewable Natural Gas Centre (Anaerobic Digestion Facility) is ongoing. Staff is currently evaluating the technical and financial submissions. Staff will report back to the July 8, 2021 meeting of Regional Council with the results of the procurement process and the recommended award of a contract to the preferred proponent.

For further information regarding this report, please contact Norman Lee, Director, Waste Management, Ext. 4703, norman.lee@peelregion.ca.

Reviewed and/or approved in workflow by:

Department Commissioner, Division Director, Financial Support Unit, Legal Services and Procurement.