

Municipality of Chatham-Kent

Finance, Budget, Information Technology & Transformation

Administration

To: Mayor and Members of Council

From: Gord Quinton, MBA, CPA, CGA
Chief Financial Officer / Treasurer /
GM, Finance, Budget, Information Technology & Transformation

Tim Sunderland
GM, Public Utilities Commission

Date: June 14, 2023

Subject: Waste to Energy Project Update #2

Recommendations

It is recommended that:

1. Administration continue due diligence in advancing the Waste to Energy Project in partnership with Greenfield Global Inc. for a 90,000 to 120,000 tonne industrial anaerobic digester built to process organic wastes and convert to renewable natural gas (RNG), with an advance investment of up to \$1.3 Million or 40% of the cost to further engineering design and provide greater assurance of final construction cost and viability of the project.
2. Chatham-Kent enter into a contribution agreement with Greenfield Global Inc. prior to the advancement of the funds with final terms of the agreement to be approved by the Director, Legal Services and Chief Financial Officer.

Background

On June 21, 2021, the Federal Government launched the Clean Fuels Fund, a \$1.5 Billion fund to ensure Canada's economy will be powered by clean power and clean fuels to meet its goal of net-zero emissions by 2050.

At the July 15, 2019 meeting, Chatham-Kent Council unanimously declared a Climate Emergency, joining an international effort to change the way we deal with the negative effects of climate change. Administration was tasked with developing a climate change action plan to bring options for long term solutions, and at the June 6, 2022 meeting, Council reaffirmed their commitment to the Climate Change Action Plan project and the corporate priorities identified, one of which is Waste Management.

The Chatham-Kent Waste to Energy Project comprises an industrial anaerobic digester built to process industrial organic wastes (ICI) that would otherwise be disposed of in a landfill and turn the waste into Renewable Natural Gas (RNG). Greenfield Global currently operates a similar plant in Varennes, Quebec and has been very successful in serving over 30 local municipalities in the area south of Montreal. A plant in Chatham-Kent will provide significant environmental benefits and outcomes of this project fully align with Council Strategic Direction related to climate.

At its September 27, 2021 meeting, Council endorsed recommendations in support of the Waste to Energy project, including the continued due diligence of legal contracts and financial reviews. \$200,000 was approved for external consultants to assist in the decision making and approximately \$100,000 has been expended to date. A further update was received at the September 26, 2022 Council meeting on the progress.

Comments

The due diligence process has continued over the last year with a significant amount of staff time and expert consultant work invested in the project. The project remains viable and is ready to proceed to more detailed design and engineering stages.

In May 2023, a group consisting of the Mayor, three Councilors and administration staff toured the facility in Varennes, Quebec to become more aware of the opportunity and the operational needs of the facility.

The financial plan will be discussed during the Closed Session portion of the agenda as allowed under section 239 (i) of the Municipal Act, 2001; however, highlights of the plan are a profitable business with an equity investment of approximately \$15 to \$20 Million (TBD) split between the Municipality and PUC for 40% ownership of the project. It is expected the project will be profitable after the initial startup period of operations and provide an additional source of revenue for the Municipality and PUC for decades to come, while assisting to reach expected climate change targets and reducing waste being landfilled.

Location

The project will be situated at the property located at 175 Bloomfield Road in Chatham. This is an ideal location as it is adjacent to both the Chatham Wastewater Treatment Plant (WWTP) and the Greenfield Ethanol Plant. This will allow for an affordable wastewater pipe to be installed to pump sewage waste from the Chatham WWTP to the digester, as well as organic waste from the Ethanol Plant.

Partner

Greenfield Global Inc.'s mission is to **unlock the potential of people, partnerships and nature to accelerate sustainable solutions for the health of the planet**. What began in 1989 as a small Ethanol plant in Tiverton, Ontario accelerated into several Ethanol Plants and related industry and now increased investments in Renewable Energy. Greenfield Global Inc. is the leading producer of high purity alcohols and fuel

ethanol in Canada and own and operate five ethanol distilleries, four specialty chemical manufacturing and packaging plants and two research centres, with locations in Canada, the United States and Ireland. In 1997, Greenfield opened the Chatham Ethanol plant now employing 90 high-skilled staff and has been a great corporation in Chatham-Kent supporting many activities including donating to help complete the Greenfield Global Trail (Round the River Trail). Citizens and Council are welcome to review extensive details about the company on the [Greenfield Global website](#). Greenfield Global Inc. will be a 60% owner in the Waste to Energy Project.

Greenfield Global Inc. has operated a sister Waste to Energy plant named SÉMECs in Varennes, Quebec with a recent expansion in 2022. Through this experience, they have perfected the operations and now have the ability and know-how to build a similar plant in Chatham-Kent.

Environmental Items

The Waste to Energy Plant will take between 90,000 to 120,000 tonnes of material annually that would have potentially otherwise be headed to landfills, with potential for later expansion. The end result is the production of Renewal Natural Gas which offsets the need of new Natural Gas. It is expected that RNG demand will continue to grow in demand as climate targets are formed by most nations. The market for RNG is established in Quebec and British Columbia and is just coming into regulation in Ontario. There have been extensive discussions with Enbridge who will take the RNG into their system.

Transportation and Road Systems

The Bloomfield Road in front of the plant was extensively upgraded just a few years ago and includes a separated bike/walking trail from Riverview Drive to Richmond Street. It is anticipated there could be up to 80 transport trucks a day entering the plant to drop off waste. The site is only 4km from the 401 where most deliveries will come from. There are no traffic concerns about the proposed location.

Odour

The plant contains engineering design that focuses on ensuring there will be no odour in excess of the current odours from the Chatham WWTP; specifically, the entire plant uses truck dumping bays and process areas that are all negative pressure, meaning air is siphoned from all plant areas and fed through a natural carbon filter that eliminates any smells from exiting the plant. Site visits to the Varennes, Quebec plant have confirmed the adequacy of the air handling system and are very confident there will be no negative impacts on residents or businesses in the area of the plant.

Agricultural Community Benefits

The Waste to Energy Plant provides potential for the disposal of organic waste, particularly as government stops the disposal of organic waste at landfills. In addition,

one of the end products is a fertilizer material that may be economically sold to local farmers. This has proved quite successful at the SÉMECS plant in Varennes, Quebec.

Continued Due Diligence

After hundreds of hours of analysis by both parties, we are at the stage where we can recommend that further due diligence take place prior to a final decision on whether to build the project.

Phase 1 – The completion of “Black Book” or Detailed Process Engineering will take three months through October, 2023. The completion of the Black Book will provide details of mass of plant, equipment, modeling and spec sheets to support completion of the detailed engineering. Completion of this phase will also provide additional refinement of costing, however not to a +/- 10 % range and afford the parties an opportunity to confirm a decision to continue with the completion of detailed engineering. **Approximate cost of this phase \$3.2M.**

Phase 2 – Completion of Detailed Engineering which will take approximately six-eight months: August through January, 2024. Detailed engineering will provide cost estimates at +/- 10% range. **Approximate cost of this phase is an additional \$3.5M.** Completion of this phase will provide the decision gate for the **final go/no go decision.**

While both of these Phases will begin concurrently shortly, there will be two further opportunities for Council/PUC or Greenfield Global Inc. to confirm whether to proceed in the process.

Therefore, at this time, administration is asking Council to invest in advance approximately \$1.3 Million. In the fall of 2023, administration will return to Council with a decision on whether to proceed with the conclusion of Phase 2 and the completion of the engineering design and a second advance investment of approximately \$1.4 Million. These funds plus the initial \$200,000 already funded will total \$2.9 Million before any construction begins at the site.

Legal Agreements and Due Diligence

To avoid cost, the corporate governance legal work has not been completed until the viability of the plant is confirmed. It is anticipated that this work will now move forward after the adoption of this report as the project appears profitable. While final legal documents and corporate structure are currently not in place, recommendation #2 recommends Chatham-Kent enter a more detailed contribution agreement prior to funding the \$1.3 Million advance investment to detail the use of the funds and responsibilities of both parties in signing off on the use of such funds.

Areas of Strategic Focus

The recommendations in this report support the following areas of strategic focus:

			
Economic Prosperity	Healthy & Safe Community	People & Culture	Environmental Sustainability
			4.2

Consultation

Since the project was first brought to Council, the Chief Financial Officer, the General Manager, PUC and the Director, Legal Services have been engaged in consultation with Greenfield Global, external legal counsel, external capital financial experts and ministry support. There has been extensive non-binding discussions with many producers of organic waste and many users of RNG, including Enbridge.

Communication

Communication is proposed to be through the inclusion of this report on the Council agenda and related communications. As the project develops, there will be permitting required and consultation with many Chatham-Kent and Ontario businesses that will supply feedstock.

Diversity, Equity, Inclusion and Justice (DEIJ)

DEIJ and Environmental Issues are often thought of as complimentary. Sustainability is about not only lowering carbon emissions, but about creating a viable workforce and efficient management systems. The Waste to Energy Project will provide opportunities for a DEIJ workforce while obtaining climate goals and diverting organics from landfills.

Greenfield Global Inc.’s Principals and Standards for Responsible Business Practices is posted on their website and includes workplace practices including DEIJ elements. Greenfield is proactive to invest in equality, diversity, and inclusion and to ensure that the workplace is free of harassment and discrimination based on a person’s race, colour, religion, national or ethnic origin, gender, sexual orientation, gender identity, age, mental or physical disability, political beliefs, veteran or military status or other characteristics protected by Law.

The partnership between Greenfield Global Inc. and Chatham-Kent promises to promote DEIJ practices.

Financial Implications

Detailed pro forma financial information was disclosed to Council during the closed session of the June 26, 2023 agenda. Financing options continue to be explored with many agencies. The legal structure of the project continues to be developed. Overall, Chatham-Kent will have a 40% ownership in the project, which is further split 50/50 between the Municipality and the CK Public Utilities Commission. It is anticipated that for the project to move to construction there will be significant financial benefits to all parties for the 40+ year life of the project.

The funds required are treated as an investment of cash balances of the Municipality and the PUC, and therefore do not need any specific reserve to fund them.

If the project fails to move forward at a later decision point, the funds invested into the project may need to be charged to operational expenses and written down at some point. This would be brought to Council and the PUC for funding discussions at that time.

Prepared by: Gord Quinton, Chief Financial Officer / Treasurer /
GM, Finance, Budget, Information Technology & Transformation

Reviewed by: Michael Duben, Chief Administrative Officer

Consulted and confirmed the content of the consultation section of the report by:

Tim Sunderland, General Manager, Public Utilities Commission

Dave Taylor, Chief Legal Officer

Attachments: None