

---

**REPORT TITLE: Proposed Wastewater Energy Transfer Project (District Energy) between Region of Peel and Enwave Energy for the Lakeview Village Development**

**FROM: Kealy Dedman, Commissioner of Public Works**

---

## **RECOMMENDATION**

- 1. That the Commissioner of Public Works be authorized to execute a conditional Memorandum of Understanding (MOU) with Enwave Energy Corporation (Enwave) to facilitate a proposed Wastewater Energy Transfer (District Energy) initiative project (Project), on business terms satisfactory to the Commissioner of Public Works and on legal terms satisfactory to the Regional Solicitor; and**
- 2. That the Commissioner of Public Works, in consultation with the Regional Solicitor, be authorized to settle the conditions of the MOU and, when all such conditions are met, move forward with the Project and negotiate and execute a Wastewater Energy Transfer Agreement, together with such further agreements and documents as deemed necessary or advisable with Enwave, on all business terms satisfactory to the Commissioner of Public Works and on legal terms satisfactory to the Regional Solicitor; and**
- 3. That the foregoing recommendations be conditional upon the Region of Peel and Enwave having entered into all agreements and ancillary documents required, on business terms satisfactory to the Commissioner of Public Works and on legal terms satisfactory to the Regional Solicitor, and in accordance with the terms and conditions of the MOU entered into between the parties for the Project; and**
- 4. That the Commissioner of Public Works be authorized to execute a conditional Memorandum of Agreement (MOA) with the Corporation of The City of Mississauga (City), Lakeview Community Partners Limited (LCPL) and Enwave Energy Corporation (Enwave) to facilitate a District Energy system, on terms satisfactory to the Commissioner of Public Works and Regional Solicitor; and**
- 5. That Construction of District Energy and Associated Infrastructure for \$450,000.00 be set up under Capital Project 23-2995, financed from the Wastewater Capital Financing Stabilization Reserve R0242; and**
- 6. That a permanent project management position, funded from applicable capital budgets, be added to support the detailed design, construction and overall contract administration for the Lakeview District Energy project, District Energy studies and other District Energy proposals currently under review; and**

## **Proposed Wastewater Energy Transfer Project (District Energy) between Region of Peel and Enwave Energy for the Lakeview Village Development**

- 7. That the G.E. Booth Wastewater Treatment Plant and Clarkson Wastewater Treatment Plant be re-named to the G.E Booth Water Resource Recovery Facility and the Clarkson Water Resource Recovery Facility.**

### **REPORT HIGHLIGHTS**

- Region of Peel (Region) has a unique opportunity to facilitate a low carbon District Energy (DE) system with Enwave Energy Corporation (Enwave) to service the future Lakeview Village Development.
- The DE system represents a significant partnering opportunity for transformational climate action and is strategically aligned to the Region's Climate Change Master Plan.
- The DE system will utilize thermal energy contained in treated wastewater effluent from the G.E. Booth Wastewater Treatment Plant (GEB) to heat and cool buildings within the Lakeview Village Development.
- The DE Conceptual Plan includes the construction of a DE Facility owned and operated by Enwave on the development lands and underground pipes, chambers and a distribution facility (Effluent Distribution Chamber and Facility "EDCF") located on Region property at GEB to complete the DE system.
- Regional staff recommend the endorsement of a Memorandum of Understanding (MOU) for the DE system between the Region and Enwave. The summary of key terms and conditions proposed for the MOU is summarized in Appendix II of this report.
- Regional staff resources for the effective oversight of the Lakeview DE project, DE related studies and overall administration and future DE opportunities is recommended. Funding for the various work required will originate from capital budgets through the new project being proposed under this report.
- The G.E. Booth Wastewater Treatment Plant and Clarkson Wastewater Treatment Plant be re-named to the G.E Booth Water Resource Recovery Facility and the Clarkson Water Resource Recovery Facility to reflect the evolving nature of these facilities.

---

## **DISCUSSION**

### **1. Background**

The Lakeview Village development is a 177-acre site located at 1082 Lakeshore Road East. The property is owned by the Lakeview Community Partners Limited (the LCPL) comprised of Argo Development Corporation, TACC Construction Limited, Branthaven Homes, Greenpark Group and CCI Development Group of Companies. The site is immediately adjacent to the Region's G.E. Booth Wastewater Treatment Plant (GEB).

LCPL have submitted applications for a Local Official Plan amendment, Zoning By-law amendment, and Draft Plan of Subdivision and received draft plan approval in November 2021. The proposed development is planned to accommodate approximately 20,000 people within 8,050 new residential units in a mix of housing forms (including townhouses, mid and high-rise apartment buildings), and 9,000 jobs, supported by retail, parkland, commercial, innovation corridor (mix of employment and commercial) and campus (school) uses.

The City of Mississauga's (City) approved Official Plan policies for the Lakeview Major node include a goal to build a low carbon district energy (DE) system. The proposed DE system for the Lakeview Village Development would utilize a low carbon energy source combined

## **Proposed Wastewater Energy Transfer Project (District Energy) between Region of Peel and Enwave Energy for the Lakeview Village Development**

with traditional heating and cooling equipment to heat and cool buildings, in lieu of conventional boilers and chillers within each building, which primarily utilize fossil fuels.

The DE project proposes to leverage the adjacency to GEB and its available treated wastewater effluent as a low-grade, low carbon source of energy. Treated wastewater effluent is the final product of the GEB treatment process prior to discharge to Lake Ontario. Treated wastewater effluent has consistent seasonal temperature characteristics and therefore is a preferred low carbon source for the proposed DE system. The DE system was originally proposed as a private utility owned model. However, in June 2021, the Region and City received notice from LCPL together with a Letter of Interest from Enwave Energy Corporation (Enwave) stating that they have established a new partnership to deliver a low carbon DE system to the Lakeview Village Development.

The proposed DE system will transfer effluent, through a series of underground pipes and an Effluent Distribution Chamber and Facility (EDCF) located on GEB, to a separate new facility, owned and operated by Enwave on development lands called the District Energy Central Energy Plant (DECEP). The DECEP would contain process equipment (heat Exchangers, pumps, strainers etc.) which would facilitate the transfer of the thermal energy from effluent to the associated development structures to be used for the purpose of heating and cooling. Appendix I provides a high-level overview of the Project and its various components. Once the Lakeview Village development is close to full build-out (2034), this system has the potential to avoid new community greenhouse gas (GHG) emissions by up to ~5,000 and 15,000 tCO<sub>2</sub>e per year, dependent on the final design scenario employed by Enwave, or at least 50 per cent less GHG emissions per year than a traditional “business as usual” development based on conventional natural gas boilers in winter and chillers for summer air conditioning needs.

## **2. Research and Findings**

Staff have invested significantly in researching District Energy projects across North America and have completed several studies regarding technical implications and challenges, opportunities and governance models. A summary of the activities completed to date or in progress are as follows:

### **a) Conceptual Plan**

The Lakeview DE Project proposed with Enwave includes a Conceptual Plan that would enable Enwave to construct a DE system throughout the Lakeview Village development utilizing effluent to supplement traditional heating and cooling for the planned development.

The conceptual plan for the Project leverages the opportunity to use effluent from GEB. The proposed DE system is made up of two main components – the “Peel System” and the “Enwave System”. The two system components are summarized schematically in Appendix I. The Peel System is that which exclusively resides on Regional lands, that being the GEB Wastewater Treatment Plant up to the demarcation point. The Enwave System is that which resides on the Lakeview Village development lands and includes a district energy plant and all process related piping equipment within the municipal right-of-ways of the Lakeview Village Development.

## **Proposed Wastewater Energy Transfer Project (District Energy) between Region of Peel and Enwave Energy for the Lakeview Village Development**

The proposed DE system, including all works on GEB and the Peel System in its entirety is proposed to be designed and paid for by Enwave. Regional Staff will be involved in the design process and will provide sign off on the design to ensure it meets applicable Regional standards and requirements. Ultimate operations and maintenance of the assets within the Peel System will be owned by Peel, operated and maintained by OCWA pursuant to the Region's existing long-term operating and maintenance agreement with OCWA, and funded by Enwave.

### **b) Benefits of the Conceptual Plan**

The benefits of the Conceptual Plan include:

- Provides a low carbon solution for a significant portion of heating and cooling for the new development;
- Strategic alignment with the Region's Climate Change Master Plan as buildings are heated and cooled through "Green Solutions" rather than typical, natural-gas fired boilers and chillers, which produce higher (GHG) emissions;
- Alignment with the Region's 2015-2035 Strategic Plan focus area of "*communities are integrated, safe and complete*". This focus area is tied to 2018-2022 Terms of Council Priorities of "*Build Environmental Resilience*" through the measuring of reducing GHG emissions (community and corporate) along with an increase in number of Regional assets that are assessed for climate change;
- Capital costs for constructing the Peel System will be borne by Enwave and upon completion of the capital construction, ownership of all assets related to the DE Project up to the demarcation point on GEB lands will be transferred to the Region of Peel;
- Operating and maintenance costs associated with the Peel System is intended to be cost neutral with operating costs and maintenance costs to be borne by Enwave;
- Asset replacement costs consistent with applicable legislation and the Region's asset management programs will also be paid by Enwave.

The DE system at Lakeview Village Development would be the first significant step and milestone for the Region to partner with the private sector and establish a sustainable low carbon solution model for future growth. In addition, it aligns Peel with best-in-class municipalities across Canada, particularly several municipalities in British Columbia, where the use of low carbon district energy systems utilizing wastewater and effluent is more common and established.

As of 2020 the Region emits in the area of 93,000 tCO<sub>2</sub>e annually. There is currently a gap of approximately 17,000 tCO<sub>2</sub>e required to satisfy the Region's corporate 2030 GHG emissions reduction target. The amount of tCO<sub>2</sub>e reductions generated by the proposed DE system could greatly assist the Region in meeting its corporate 2030 GHG emissions reduction target.

### **c) Studies Completed by the Region**

In anticipation of an agreement with Enwave and future DE opportunities within the Region, staff have completed multiple studies to better understand DE systems, ownership and governance models. DE systems have been implemented in Europe,

## **Proposed Wastewater Energy Transfer Project (District Energy) between Region of Peel and Enwave Energy for the Lakeview Village Development**

Canada (City of Vancouver, City of Markham and City of Toronto) and the United States of America (City of Seattle), however, DE systems are relatively new to Ontario, especially DE systems that utilize wastewater or effluent as an energy source. The Region has completed various studies to assess regulatory and commercial markets, assess and recommend governance models and technical studies to ensure application of DE systems that utilize thermal energy from wastewater systems do not impact operational requirements in existing wastewater collection or treatment systems. The studies include:

### **a. Governance Model Analysis**

The Region retained Jacobs, Kerr Wood Leidal (“KWL”) and Reshape Strategies to prepare a technical memorandum, which included research regarding alternative ownership and governance models pertaining to district energy systems utilized across North America. The analysis concluded that multiple implementation and ownership models existed that the Region could leverage in creating a DE model for Lakeview.

### **b. Wastewater Heat Recovery Policy Memorandum**

The Region retained Jacobs, KWL and Reshape to provide advice and recommendations regarding the development of a Liquid Waste Heat Recovery Policy, standard terms and pricing, and principles for DE systems between potential DE proponents and the Region. As part of the Liquid Waste Heat Recovery Policy development, research has indicated that DE systems are widely endorsed by several municipalities, mainly in western Canada. DE system policies typically endorse service to interested parties be provided on a First-Come-First-Served basis. That is, other municipalities endorse DE systems as they materialize and where a project can be supported by waste heat in wastewater systems. The research also recommended policies and alternatives for funding, cost recovery, environmental attribute credit sharing and applicable governance structures.

### **c. Thermal Stability/Capacity Model**

The Region retained Jacobs and KWL to establish a digital model to assess the impact of DE systems to the Region’s wastewater collection and treatment processes. The model will allow staff to assess the Region’s ability to service future DE related projects and ensure operational requirements are not impacted. The model has already been utilized to review other potential DE projects that leverage wastewater in the Region and will be expanded in future.

### **d. Thermal Rejection of Effluent to Lake Ontario**

The Region is commencing further studies to establish the potential impacts of effluent temperature changes that can be safely discharged into Lake Ontario and the impact of modified effluent temperature on Lake Ontario. The Region will work with Stakeholders to ensure impacts from DE projects are minimized and taken into consideration during the detailed design and operation of the DECEP for Lakeview Village development.

## **Proposed Wastewater Energy Transfer Project (District Energy) between Region of Peel and Enwave Energy for the Lakeview Village Development**

### **e. Preliminary Design Report the Lakeview Village Development District Energy**

The Region retained Jacobs to draft a conceptual design for the DE system located on GEB property. The intent of the preliminary design was to establish a project impact baseline for GEB to ensure that it is feasible to integrate a DE facility into the current operations while respecting existing and future land use needs to accommodate growth as per the Water and Wastewater Master Plan. The design report also established suitable locations and connectivity to existing system to supply the DE system.

### **f. Financial Business Case for the Lakeview Village Development District Energy**

Region staff, in conjunction with Jacobs and Reshape, created a financial model to review for the proposed DE system and its benefits. Staff assessed alternate governance models to establish a cost basis for potential GHG credits.

### **g. Risk Report for the Lakeview Village Development District Energy**

The Region retained Jacobs and Reshape to conduct a risk review for the proposed DE system. The risk assessment recommended specific content be included in DE Agreements, construction documents and operations agreements. The study also identified specific risks that need to be addressed and/or mitigated. Staff will maintain the risk registry and update the mitigative measures taken over the life of the project.

### **h. Environmental Report for the Lakeview Village Development District Energy**

Region staff, in conjunction with Jacobs and Reshape, conducted an environmental study for the proposed DE system, which focused on the environmental attributes of the effluent (that is, amount of avoided GHG emissions that could be expected), options on owning and applying those GHG emissions credits, the state of carbon markets in Ontario/Canada and the market eligibility of potential GHG credits generated by a low carbon DE system.

## **d) Governance and Ownership Models**

DE system(s) add complexity to the Region's existing wastewater collection and treatment processes. While innovative and environmentally beneficial, significant care and control of process changes are required, including the development of Agreements between the Region and private entities responsible for the DE system(s).

Staff's investment in detailed studies regarding governance and ownership models, coupled with outreach to other municipalities, which have active DE projects, have resulted in the staff recommendation for two concept approaches to integrating DE projects into the Wastewater Utility.

## **Proposed Wastewater Energy Transfer Project (District Energy) between Region of Peel and Enwave Energy for the Lakeview Village Development**

The two approaches are defined below:

### **i) Participant Approach (Hands-on)**

This approach sees the Region as an active participant in the overall DE system ownership and includes active participation in the design, development, construction and/ or partial operation of the DE system. The Participant approach may see the Region providing a significant portion of the funding for capital related infrastructure to support the DE Utility. The Participant approach is consistent with several governance models employed by municipalities in western Canada.

#### **Benefits**

- The Region would seek retention of the majority portion of environmental/ GHG credits
- The Region would seek fees for thermal capacity service – indexed to price of carbon as applicable
- The Region may qualify for external funding opportunities (if/when they become available) and leverage this to offset capital costs
- The Region takes leadership and accountability role for climate change initiatives
- The operation of the DE system would be a partnership between the DE entity and the Region and all aspects of the operation and maintenance of the DE system would be shared including the risks and impacts the system has on heating and cooling building located within the Lakeview Village Development. Alternatively, where ownership is maintained, the Region could subcontract operation and maintenance of the DE component.

#### **Challenges**

- Significant Regional staff involvement required for project implementation including design and construction. A new Utility model may be required to be created.
- Regional Operational staff involvement would be required
- The Region must have staff resources to manage capital and operational phases of the project if/where applicable
- The Region is responsible for long term asset management
- The Region must monitor the system to ensure there is no impact to the wastewater collection and/or treatment system
- The Region would co-own issues and impacts associated with the operation of the DE system. Since the system provides basic heating and cooling of businesses and residences the impacts of service interruptions can be significant and could create significant public relations issues for the Region
- Co-ownership of the assets as well as co-responsibility for operational and maintenance issues requires a close working partnership with private utility companies, and a corresponding lack of full control over the DE system.
- The Region may incur some additional service liabilities (subject to final agreement terms).

## **Proposed Wastewater Energy Transfer Project (District Energy) between Region of Peel and Enwave Energy for the Lakeview Village Development**

### **Risks:**

- The Region would own a portion and/or all of the DE system
- The Region may take responsibility for the design and/or construction of a portion of the DE system
- The Region may potentially operate a portion of the DE system
- The Region may recover any and/or all operating and long-term asset management costs for any infrastructure which The Region will own and/or operate
- Where a new Utility is created, the Region would need to fully develop the ownership, funding, billing and governance model for the new Utility
- Customer service associated with the DE Utility could introduce additional responsibilities for the Region, along with the liabilities associated with ownership of the DE system.

### **ii) Enabler Approach (Hands-off)**

This approach requires the Region to be an enabler of a District Energy system. The Region's involvement is typically limited to providing connectivity to the Region's wastewater system only and typically will not include any capital investments in DE infrastructure or responsibility for operations and maintenance of DE system other than supply and return of the effluent from GEB.

### **Benefits**

- Less administration and technical effort required by staff
- Majority of responsibilities transferred to the DE system owner including customer service, management of interruptions in service, and the liabilities associated with ownership of the DE system.
- Majority of engineering and staff costs recovered. Will include some level of in-kind staff support, however this approach typically significantly reduces the financial investment the Region is required to make during the life of the DE Project.
- The Region may retain a portion of the environmental/GHG and/or other credits subject to agreement with the DE Utility owner
- Fixed fee for service – may or may not be indexed to the price of carbon and/or other applicable index.

### **Challenges**

- Funding opportunities may not be available to private enterprise and therefore future funding incentives may not be available for the project
- The Region must develop technical standards for DE system connectivity and must employ resources to ensure proper design and operation of the system
- The Region must monitor the wastewater system to ensure there is no impact to the collection and/or treatment system.
- The Region has significantly reduced ability to optimize the climate change aspects of the project (ie. amount of GHG emissions avoidance achieved)

### **Risks:**

- The Region must ensure that the DE system does not impact existing system and may need to monitor and/or regularly inspect the system to ensure compliance



## **Proposed Wastewater Energy Transfer Project (District Energy) between Region of Peel and Enwave Energy for the Lakeview Village Development**

- The Region will need to recover any and/or all capital, operating and long-term asset management costs for the connection
- Failure of the DE system may require the support of the Region's wastewater Operations
- The Region has less control over the design and management of the DE Utility and due to more costly design the GHG reductions may not be as robust.

Staff recommend the Enabler model for the Lakeview Village DE project given the implied costs, risks and internal governance simplicity of the model. Staff also recommend the model based on the governance reviews completed and the application of the model on other similar projects within Canada.

### **e) Memorandum of Understanding**

Since late 2021, the Region and Enwave have been working towards drafting and finalizing a Key Terms and Principles document based on the Enabler Approach ("Hands-off") Governance Model. Appendix II contains a summary list of Key Terms and Conditions. The Key Terms and Conditions have been drafted by both Enwave and the Region's Technical staff, along with Legal input and review, which will form the basis of the future Memorandum of Understanding (MOU). The terms and conditions may be subject to further negotiation and finalization. Upon completion of the negotiation of the MOU, staff and Enwave will complete and execute a Wastewater Energy Transfer Agreement.

### **f) Memorandum of Agreement**

In addition to working with Enwave on the future MOU, the Region, City, LCPL and Enwave have been working on a Memorandum of Agreement (MOA) between all parties to satisfy a condition of the draft approved Subdivision development application. This MOA documents key terms and principles for a series of Agreements required between the parties to fulfill the implementation of a low carbon DE system in the community and on municipal right-of-ways located within the development. This MOA is separate from the MOU and Wastewater Energy Transfer Agreement referenced in this report as it outlines the terms and conditions for the DE infrastructure owned and operated solely by Enwave within the development limits.

The agreements captured in the MOA include a Master Project Agreement between LCPL and Enwave, Ground Lease and License Agreements between the City and Enwave, and captures a Co-location Agreement and the MOU/Wastewater Energy Transfer Agreement between the Region and Enwave. The terms of the Wastewater Energy Transfer Agreement outlined in the MOA have been reviewed by technical and legal staff at the Region and includes some key terms and principles to be captured in the MOU/ Wastewater Energy Transfer Agreement between the Region and Enwave. The key terms of the co-location agreement are listed below:

- Acknowledgement of the proximity of the DE Service Network to Peel water and wastewater infrastructure in the right of way and provisions to address conflict mitigation;
- Enwave shall be required to include The Regional Municipality of Peel as a named insured on its insurance policy for the DE Service Network and the

## **Proposed Wastewater Energy Transfer Project (District Energy) between Region of Peel and Enwave Energy for the Lakeview Village Development**

- Region shall be required to include Enwave Energy Corporation as a named insured on its insurance policy for its infrastructure within the Lakeview Lands;
- Relocation cost allocation arrangement between the Region and Enwave;
  - Liability and indemnification clauses to the satisfaction of the Region and Enwave;
  - Such further terms and conditions as agreed upon by the Region and Enwave and their respective solicitors.

### **3. Proposed Direction**

Regional staff recommends the execution of a conditional MOU with Enwave using the Enabler Governance Model for the Lakeview DE project. The MOU will require certain conditions to be satisfied by Enwave before the Region provides its approval to move forward with the Project, including but not limited to, joint endorsement of the parties to the key MOU principles, joint endorsement on detailed engineering drawings and the parties reaching agreement on the compensation to be paid to the Region for recoveries related to operations maintenance, asset management and for the sale of effluent.

Should all the conditions of the MOU be satisfied, staff are seeking authority to negotiate and execute a Wastewater Energy Transfer Agreement, based on the conditions established in the MOU, together with such further agreements and documents as deemed necessary or advisable, with Enwave, on all business terms satisfactory to the Commissioner of Public Works and on legal terms satisfactory to the Regional Solicitor.

Staff also recommends that the foregoing be conditional upon the Region and Enwave having entered into all agreements and ancillary documents required, on business terms satisfactory to the Commissioner of Public Works and on legal terms satisfactory to the Regional Solicitor, and in accordance with the terms and conditions of the MOU entered into between the parties for the Project.

### **RISK CONSIDERATIONS**

The Region is proposing an “Enabler” style governance model for the proposed MOU and forthcoming Wastewater Energy Transfer Agreement between the Region and Enwave. Under this approach, the risk to the Region is reduced as compared to a “Participant” model approach. The overall exposure of the Region to future claims is also reduced compared to the Participant model and overall, the scale of investment required by the Region is significantly reduced.

Staff have completed a detailed risk assessment that includes a detailed review of the following categories related to the overall project - Commercial Terms, Regulatory/ Environmental, Social, Political, Safety, Program Schedule, Budget, Technical, Procurement, and Construction. Staff have developed a detailed risk register including applicable scoring and mitigation strategies for over 60 project related risks. As the project evolves the risk strategies will be reviewed for overall conformance and to ensure risks are appropriately managed.

Over the proposed term of the Wastewater Energy Transfer Agreement, the energy marketplace is likely to evolve significantly, including regulatory conditions related to carbon taxation. Regulatory evolution may affect the financial and regulatory aspects of the Wastewater Energy Transfer Agreement. To mitigate any regulatory changes, the Region will

## **Proposed Wastewater Energy Transfer Project (District Energy) between Region of Peel and Enwave Energy for the Lakeview Village Development**

include clauses and triggers to amend terms to the agreement subject to regulatory change in the industry. An example of this is that fees for effluent energy are proposed to be indexed to an applicable industry cost index or to the price of carbon per applicable regulations and/or provincial/federal programs during the term of the Wastewater Energy Transfer Agreement, and any ancillary agreements or document deemed necessary.

The Lakeview DE project represents a significant opportunity for community benefit given the long term GHG reductions as compared to the traditional fossil fuel based “business as usual” development option. The adjacency of the development to the GEB property represent a significant opportunity that, if not employed, would result in a significant lost environmental benefit for the Region and its constituents.

### **FINANCIAL IMPLICATIONS**

The financial costs to implement the proposed Project will be primarily borne by Enwave. The Region will provide in-kind support to assist in reviewing the design along with providing assistance during construction to coordinate the multitude of projects occurring at GEB at no cost to Enwave. As defined within the MOU, the financial implications within the Key Terms and Principles include the following:

- The Region will charge Enwave the following fees:
  - Thermal Energy Fee for the utilization of the effluent energy;
  - Operational and maintenance costs related to the EDCF and associated pipe and chamber assets;
  - Asset Management costs to ensure compliance to O.Reg 588/17;
- The Region and Enwave will equally share the GHG credits generated by the project;
- Enwave will contribute annually as part of the Region’s asset management plan including allowances for CPI for full asset cost recovery over a 25-year period.

The intent is that all revenue generated from the Project will be reinvested in other potential “Green” solutions in the Region. Revenue will also offset in-kind support costs.

Staff have reviewed precedent cases for the application of thermal energy charges. For the proposed Lakeview Village DE system, and dependent on the final design of the facility by Enwave, the Region could receive thermal energy revenues of between \$25,000-\$50,000 per year upon full build out of the Lakeview development. In-kind support and ongoing internal charges are anticipated to range between \$125,000 - \$200,000 per year plus additional costs for consultant-based support on an as required basis. A comprehensive financial tracking system is proposed to be employed for the overall project. In return, the Region could receive administrative GHG credits in the amount of 2,500 – 7,500 tCO<sub>2</sub> per year upon full buildout of the development, which is anticipated by 2034.

### **Resource Plan**

As work progresses additional resources are recommended over time to ensure successful implementation and effective oversight of DE opportunities. One permanent project management position, funded from capital budgets, is recommended to support the detailed design, construction and overall contract administration for the Lakeview DE project. The new staff will be responsible for monitoring and implementing the Agreement and also performance monitoring of the project to ensure compliance with the Agreement. The new staff will also be responsible for supporting other Water and Wastewater DE initiatives across the Region and

## **Proposed Wastewater Energy Transfer Project (District Energy) between Region of Peel and Enwave Energy for the Lakeview Village Development**

advancing key supporting projects as indicated in this report. Staff are informally working on a number of DE initiatives which will be supported by the proposed additional staff. Further resource requirements will be proposed as part of future capital and/or operating budgets as required.

Staff recommend the creation of a new capital project (Capital Project 23-2995), funded by the Wastewater Capital Financing Stabilization Reserve R0242 in the amount of \$50,000-450,000 per year (amended yearly to suit projected support requirements) to advance the Lakeview Village District Energy project in addition to supporting other DE initiatives in the future.

### **CONCLUSION**

An MOU as well as the Wastewater Energy Transfer Agreement between Enwave and the Region is required in order to proceed with the final design, construction and operation of the proposed Lakeview Village DE system. The new agreement(s) will showcase the Region's leadership in the DE marketplace and the Region's ability to collaborate and partner with private development and third-party providers in providing a low carbon heating and cooling option for new developments. The Project would allow the Region to generate modest revenue to offset internal costs, acquire a significant amount of GHG credits and be seen as a major contributor and partner in providing "Green" solutions in the Province of Ontario.

With the approval of the District Energy component to GEB and to reflect the evolving operations that occur at the Region's wastewater treatment plants, it is recommended to change the formal name of the existing Wastewater Treatment Plants. Staff are recommending that the Region's two main wastewater treatment plants, G.E. Booth Wastewater Treatment Plant and the Clarkson Wastewater Treatment Plant be renamed to the G.E Booth Water Resource Recovery Facility and the Clarkson Water Resource Recovery Facility. Regional Staff believe the proposed revision in the name of the facilities is a more more accurate reflection of these state-of-the-art facilities and what they contribute to the community of Peel based on the level of environmental benefit created from current and future projects.

### **APPENDICES**

Appendix I – Lakeview Village District Energy Diagram  
Appendix II – Key Terms and Conditions List

---

*Authored By: Frank Pugliese, Manager, Contract Administration and Oversight  
Matthew Bennett, Expert, Water and Wastewater, Engineering Services  
Anthony Parente, General Manager, Water and Wastewater Division*



---

Kealy Dedman, Commissioner of Public Works