

## **Wastewater Energy Program Implementation**

**Date:** February 11, 2025

**To:** Infrastructure and Environment Committee

**From:** Executive Director, Environment, Climate and Forestry Division, General Manager, Toronto Water

**Wards:** All

### **SUMMARY**

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The primary purpose of this report is to recommend that authority be given to specified City officials, where appropriate, to negotiate and enter into wastewater energy transfer agreements and to provide details on how wastewater energy program project revenues will be collected and appropriately allocated. This report also provides general updates on the wastewater energy program, including the pilot project currently under construction at Toronto Western Hospital (TWH).

The City's wastewater energy program is an important initiative that will help achieve TransformTO's goal of sourcing 50% of community-wide energy from renewable sources by 2030. The recommended authorities will enable the City to enter into wastewater energy transfer agreements, while ensuring that candidate projects are suitable within the City's wastewater infrastructure and operations.

### **RECOMMENDATIONS**

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The General Manager, Toronto Water and Executive Director, Environment, Climate and Forestry Division recommends that:

1. City Council authorize the General Manager, Toronto Water and the Executive Director, Environment, Climate and Forestry to negotiate, enter into and execute wastewater energy transfer agreements and any other agreements, other than those agreements set out in Recommendation 2, required to give effect to a wastewater energy transfer agreement, related to wastewater energy program projects, subject to the following conditions with wastewater energy program applicants:
  - a. The project(s) including, without limitation, its design, specifications, operation and use of City wastewater infrastructure shall be acceptable to the General Manager, Toronto Water;

- b. The project(s) will not detrimentally affect in any way or create inefficiencies or impacts of any nature in the operation, maintenance, alteration, repair or use by the City of the City's sewer collection and wastewater treatment systems, as determined by the General Manager, Toronto Water;
  - c. The project(s) will generate benefits to the City, as determined by the General Manager, Toronto Water and Executive Director, Environment, Climate and Forestry;
  - d. The project(s) shall be reviewed in accordance with the process set forth in this report;
  - e. The terms and conditions of any agreement may be based on terms and conditions as the General Manager, Toronto Water and Executive Director, Environment, Climate and Forestry considers appropriate, and in a form satisfactory to the City Solicitor; and
  - f. The agreements may be for terms up to but not exceeding 30 years in duration, subject to any limitations under law.
2. City Council authorize the General Manager, Transportation Services, or designate, to negotiate, enter into and execute encroachment agreements and any other agreements required to give effect there to, related to wastewater energy program projects.
  3. City Council adopt the new Environment, Climate and Forestry Division Wastewater Energy Project Fees set out in Attachment 1 to the report (February 12, 2025) from the Executive Director, Environment, Climate and Forestry Division, to become effective on April 1, 2025.
  4. City Council authorize the necessary amendments to the City of Toronto Municipal Code Chapter 441 - Fees and Charges, Appendix C – Schedule 20 and any other necessary Municipal Code Chapters as may be required, to give effect to City Council's decision.
  5. City Council authorize the City Solicitor to introduce any necessary Bills required to implement City Council's decision, subject to any necessary refinements, including stylistic, format and organization, as may be identified by the City Solicitor, the Executive Director, Environment, Climate and Forestry Division.
  6. City Council direct that all the rates, fees and charges set out in Attachment 1 to the report (February 12, 2025) from the Executive Director, Environment, Climate and Forestry Division, adopted in Part 3 above, continue in full force and effect until such time as they are amended or repealed by City Council.

## **FINANCIAL IMPACT**

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The revenue generated by these projects are intended, as a minimum, to cover all City costs on a full recovery basis.

The following user fees would be charged for data use and application and project review:

1. A fixed \$319.53 sewer data request fee would be charged to applicants by the Environment, Climate and Forestry Division for each request for City sewer system data;
2. A fee will be charged back to applicants by the Environment, Climate and Forestry Division on a full cost recovery basis for costs attributable to application and project review by Toronto Water, the Environment, Climate and Forestry Division, Development Review staff, and any associated third-party consultant peer review costs;

A sewer data request fee of \$319.53 will be implemented and charged to applicants who request sewer data, subject to the execution by the applicant of a data use agreement acceptable to the General Manager, Toronto Water and in a form satisfactory to the City Solicitor. This user fee will be collected by the Environment, Climate and Forestry Division and will be distributed to Toronto Water to recover the costs associated with processing these data requests. Anticipated application fee revenues will be minimal for the roll-out of the wastewater energy program starting in 2025.

Processing and reviewing wastewater energy program applications will require significant effort and time from City staff and third-party peer review consultants. In accordance with the City's User Fee Policy, it is proposed that these costs be charged back to applicants on a cost recovery basis. Staff from Development Review, Toronto Water, and the Environment, Climate and Forestry Division will track their hours and corresponding costs, and any third-party peer review costs incurred during application reviews. The Environment, Climate and Forestry Division will administer the cost recovery process, charging applicants accordingly and distributing collected fees to the Division that incurred them. The recommended fees are detailed in Attachment 1. There will be no wastewater energy program costs on the tax base.

In addition to the application and project review fees, the recovery of any operations and maintenance costs incurred by Toronto Water due to a wastewater energy project, along with an Energy Transfer Fee (ETF), will be addressed under a project-specific wastewater energy transfer agreement.

Once a wastewater energy project becomes operational, the City will charge applicants an ETF based on a dollar rate per unit of energy recovered/rejected by the project. The ETF will be negotiated between the City and each applicant and will be determined on a project-by-project basis, considering factors such as the amount of thermal energy transferred as determined by the temperature of the sewage, the flow rate of the sewage, and established renewable energy rates for similar projects. The revenue generated from the ETF, as part of wastewater energy program projects, will be paid

directly to Toronto Water, following the framework established for the City's pilot wastewater energy project at TWH.

Should the recommendations of this report be adopted by City Council, the new fee schedule will be introduced and come into effect on April 1, 2025. As the City advances the wastewater energy program, any financial implications, including direct and indirect costs and program revenues, will be reflected through annual budget processes in future years based on average application volume data and complexity of applications submitted after the roll-out of the program.

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial implications.

## **DECISION HISTORY**

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At its meeting October 2 and 3, 2019, City Council authorized the implementation and monitoring of two wastewater energy transfer pilot projects with Noventa Energy Partners Inc. ("Noventa"), under several conditions. The General Manager, Toronto Water, in consultation with the Director, Environment and Energy, and the City Solicitor, was granted the authority to implement, administer, and monitor the projects, including negotiating and executing necessary agreements. The projects are to last a minimum of two years, with access to the City's wastewater infrastructure limited to providing thermal energy to Sunnybrook Hospital, Humber College (North Campus), and William Osler – Etobicoke General Hospital. Noventa is responsible for covering all related capital and operational costs and assuming all risks, with access provided on an "AS IS" basis and no guarantee of energy supply. Additionally, Noventa will pay an energy transfer fee, the amount of which is to be determined by the General Manager, Toronto Water.

<https://secure.toronto.ca/council/agenda-item.do?item=2019.IE7.10>

At its meeting September 30, October 1 and 2, 2020, City Council authorized the Deputy City Manager, Corporate Services or designate, in consultation with the General Manager, Toronto Water, to negotiate, enter into and execute a Wastewater Energy Transfer Agreement with Noventa Toronto Western L.P., and any other agreements necessary to give effect thereto, generally in accordance with the terms and conditions set out in the Attachment 1 and Confidential Attachment 2 to the report (September 23, 2020) from the Deputy City Manager, Corporate Services, and upon such additional terms and conditions satisfactory to the Deputy City Manager, Corporate Services, and in a form satisfactory to the City Solicitor.

<https://insideto-secure.toronto.ca/tmmis/agenda/previewAgendaIt>

<https://www.toronto.ca/legdocs/mmis/2020/mm/bgrd/backgroundfile-156986.pdf>

At its meeting on November 17, 2021, City Council adopted agenda item IE26.18 and directed the Deputy City Manager, Corporate Services, and the Deputy City Manager, Infrastructure and Development Services, to establish a working group to develop an implementation plan that includes, without limitation, post-screening application review

process and procedures, design and technical standards, template agreements, real estate valuations, and project revenue allocations, and to report back to the Infrastructure and Environment Committee with details about the implementation plan for the wastewater energy program and with recommendations for authority needed to launch the full program.

<https://secure.toronto.ca/council/agenda-item.do?item=2021.IE26.18>

On July 19, 2022, City Council authorized the General Manager, Toronto Water to review and approve up to nine additional wastewater energy projects as proposed by Noventa Energy Partners, or an affiliate thereof, provided the projects generate benefits to the City and do not create inefficiencies or complications in the operation and maintenance of the City's sewer collection and wastewater treatment systems.

<https://secure.toronto.ca/council/agenda-item.do?item=2022.MM47.61>

## COMMENTS

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The wastewater energy program will involve the submission of applications to the City for wastewater energy program projects that use wastewater energy technology and connections to the City's sewer system for the non-contact exchange of wastewater flows to provide low-carbon heating and cooling solution for buildings. Wastewater energy projects have the potential to reduce, or eliminate, the need to burn fossil (natural) gas in buildings that are benefitted by the project by transferring heat generated in the City's sewer system and using it as a source of renewable energy.

In 2021, City Council endorsed the use of the City's wastewater infrastructure, where feasible, to facilitate wastewater energy program projects. In 2022, City Council authorized the General Manager, Toronto Water to review and approve up to nine additional wastewater energy program projects as proposed by Noventa Energy Partners ("Noventa"), provided the projects generate benefits to the City and do not create inefficiencies or complications in the operation and maintenance of the City's sewer collection and wastewater treatment systems.

One wastewater energy program pilot project is currently under construction at Toronto Western Hospital (TWH) which is being delivered by Noventa under a 2021 wastewater energy transfer agreement between Noventa and the City. This project will connect to, and utilize, wastewater flows from the Mid-Toronto Interceptor sanitary trunk sewer for non-contact thermal energy exchange, which will be used to cool and heat TWH's buildings. Once operational later this year, the project is anticipated by TWH and Noventa to reduce TWH's natural gas use by an estimated 90 per cent, which equates to an estimated reduction of approximately 8,400 tonnes of carbon dioxide equivalent annually.

The project is anticipated to be commissioned and operational later this year, and once that occurs, the City will collect flow monitoring data and monitor any potential impacts of the project on the Mid-Toronto Interceptor trunk sewer.

City staff from Environment, Climate and Forestry Division, Toronto Water, Corporate Real Estate Management, Transportation Services, Development Review, Legal Services and Financial Planning have developed a six-stage internal review and approval process that will be implemented for future potential wastewater energy program projects, which is as follows:

### **Stage 1: Screening and Feasibility of Conceptual Design**

Conceptual design is reviewed by City collaborator divisions and a pre-application meeting takes place between the applicant and the City. If the General Manager, Toronto Water determines the project is not acceptable, it is rejected at this stage.

### **Stage 2: 30% Design Review**

The 30% design package is reviewed and commented on by City collaborator divisions.

### **Stage 3: 60% Design Review**

The 60% design package is reviewed by City collaborator divisions. For the application to advance to Stage 4, the written approval of the General Manager, Toronto Water is required. The conditions for wastewater energy program projects, set out in Recommendation 1, must be met for an application to advance to Stage 4.

### **Stage 4: Agreement Negotiation**

Agreements, including the wastewater energy transfer agreement, an encroachment agreement, a parental company guarantee (where applicable), and such other agreements as the collaborator divisions consider appropriate, are to be negotiated between the City collaborator divisions and the applicant.

### **Stage 5: 90% Design Review, Permitting and Agreement Execution**

90% design package is reviewed by City collaborator divisions, relevant permits are obtained, and agreements are executed. For the application to advance to the commencement of any work on a project, the written approval of the General Manager, Toronto Water is required.

### **Stage 6: Commissioning and Post Construction Project Monitoring**

Commissioning protocol is reviewed and accepted by the City, project revenue is appropriately allocated. Project performance and energy transfer rates are monitored per the terms of the wastewater energy transfer agreement.

Staff have developed a general term sheet that sets out general minimum requirements and conditions for the development of wastewater energy program projects and which will be made publicly available on the City's wastewater energy program webpage.

Access to the City's sewer system and wastewater is provided on an "as is, where is" basis, meaning the City makes no guarantees whatsoever with respect to resource quantity or quality of the City's sewer system and wastewater and all projects are subject to the operational and other requirements of Toronto Water. The City is not procuring any good or service in respect to any third-party wastewater energy program project, but simply providing limited access to the City's wastewater infrastructure for projects approved under this program, provided that the project generates benefits to the City. One of the benefits to the City under a project shall include the ETF, negotiated between the City and the applicant, that is charged to the applicant by the City.

To mitigate risks to the City from these projects, the General Manager, Toronto Water and Executive Director, Environment, Climate and Forestry will negotiate and enter into any necessary legal agreements with project applicants, consistent with the Toronto Municipal Code, Council direction, and the City's obligations under federal and provincial legislation, interjurisdictional agreements, and wastewater treatment agreements and in consultation with Toronto Water and Legal Services. Such agreements may include one or more of the following:

- wastewater energy transfer agreement(s), for which this report seeks delegated standing authority, that describes the given project, addresses the project's connection to the City sewer system, addresses the City's cost recovery of Toronto Water's operational and maintenance costs, establishes an ETF, and sets forth various commercial terms and conditions to mitigate any risks to the City;
- agreement(s) to allow for long-term encroachments under the City's right-of-way, for which this report seeks delegated standing authority, as and where permitted under the Toronto Municipal Code and pursuant to existing Council delegations, and consistent with City policies;
- licence agreement(s) to allow for infrastructure to be placed under City-owned lands, as and where permitted under the Toronto Municipal Code and pursuant to existing Council delegations, and consistent with City policies;
- related non-disclosure agreements, data use agreements, financial guarantee agreements, and similar instruments; and
- permits issued in accordance with the Toronto Municipal Code and existing Council delegations.

Staff are also developing an application materials checklist that the Environment, Climate and Forestry Division will publish on the wastewater energy program City webpage, once finalized.

## CONTACT

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## SIGNATURE

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James Nowlan

Executive Director, Environment, Climate and Forestry Division

Lou DiGironimo

General Manager, Toronto Water

## ATTACHMENTS

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**Attachment 1** – Table of additions to Toronto Municipal Code Chapter 441 Appendix C – Schedule 20, Environment, Climate and Forestry

Rate ID	User Fee Description	Service	Fee Category	Fee Basis	Recommended Fee	Annual Adj.	Program Contact
54	Wastewater Energy Program - User Fee charged to applicants who request actual sewer data provided by Toronto Water	Environment, Climate and Forestry	Full Cost Recovery	Per Request	\$319.53	Yes	David MacMillan

Rate ID	User Fee Description	Service	Fee Category	Fee Basis	Recommended Fee	Annual Adj.	Program Contact
55	Wastewater Energy Program - Applicants are charged back on an activity-based costing for the time taken for City staff to review an application	Environment, Climate and Forestry	Full Cost Recovery	Actual Cost	\$variable – actual cost	No	David MacMillan