

Subject: Landfill Gas Utilization Agreement Extension

File Number: ACS2025-PWD-SWS-0001

Report to Environment and Climate Change Committee on 18 February 2025

and Council on 26 February 2025

**Submitted on February 6, 2025 by Alain Gonthier, General Manager, Public Works
Department**

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Ward: Citywide

Objet : Prorogation de l'Accord sur l'utilisation des gaz d'enfouissement

Numéro du dossier : ACS2025-PWD-SWS-0001

Rapport présenté au Comité de l'environnement et du changement climatique

le 18 février 2025

et au Conseil municipal le 26 février 2025

**Soumis le 6 février 2025 par Alain Gonthier, directeur général, Direction générale
des travaux publics**

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Quartier : À l'échelle de la ville

REPORT RECOMMENDATION

That the Environment and Climate Change Committee recommend that Council delegate authority to the General Manager of Public Works to negotiate, amend, finalize, and implement a 5-year extension of the Landfill Gas Utilization agreement with PowerTrail Inc. for the Trail Waste Facility Landfill.

RECOMMANDATION DU RAPPORT

Que le Comité de l'environnement et du changement climatique recommande au Conseil municipal de déléguer, au directeur général de la Direction générale des travaux publics, le pouvoir de négocier, de modifier, de finaliser et de mettre en œuvre la prorogation de cinq ans de l'Accord sur l'utilisation des gaz d'enfouissement conclu avec PowerTrail Inc. pour la décharge contrôlée du chemin Trail.

BACKGROUND

The City of Ottawa owns and operates the Trail Waste Facility Landfill (TWFL) as its disposal facility for municipal solid waste. The TWFL has been in operation since 1980, has a total approved capacity of approximately 16,900,000 m³ and accepts approximately 225,000 tonnes of mixed (garbage and organics) municipal solid waste annually. Approximately 3,000,000 m³ of capacity remains at TWFL and while various Actions approved through [Solid Waste Master Plan](#) (SWMP) are underway to extend its life, the landfill could reach capacity between 2034 and 2036 if waste disposal habits do not change.

Landfill Gas

Landfill Gas (LFG) is produced as a result of the natural biodegradation of organic waste disposed in the landfill and, if not properly managed, LFG can be very harmful to the environment and can pose significant safety risks to landfill operations and to the surrounding communities. The generation process of LFG occurs over many years, which means that the LFG generated and emitted at landfills today is the result of decades of disposal of biodegradable waste. While the City of Ottawa offers and encourages residents to dispose of organic waste through the Green Bin program, organic matter continues to be deposited in the landfill within residential garbage.

LFG is largely methane (CH₄) and carbon dioxide (CO₂). Small amounts of other compounds such as hydrogen sulphide, mercaptans and non-methane organic compounds may also be present which can create nuisance odours and affect local air quality. The methane component of landfill gas is of particular concern as it poses an explosion hazard when trapped in enclosed spaces. Methane is listed as a toxic substance in the Canadian Environmental Protection Act, 1999 (CEPA) and is a potent Greenhouse Gas (GHG) with at least 25 times more global warming potential than carbon dioxide (CO₂) over a 100-year period.

To manage the safety risks associated with landfill gas, the Province of Ontario requires that landfills operate under the Environmental Protection Act, Ontario Regulation 232/98 ([O. Reg. 232/98](#)), for the design and operation of municipal landfill sites in Ontario. The TWFL operates under several Certificates of Approval (CoA) which are granted by the Ministry of Environment, Conservation, and Parks (MECP) and issued to the City of Ottawa to show compliance.

Landfill Gas Management at the Trail Waste Facility Landfill

While the proper management of landfill gas is required to remain compliant with provincial regulations, there are also beneficial use opportunities associated with its collection. Collected landfill gas can be used to produce biogas, which can then be upgraded to energy sources such as heating, electricity, or renewable natural gas (RNG).

To optimize these opportunities, on February 20, 2004, Ottawa City Council approved the Landfill Gas Cogeneration at Trail Road report ([ACS2004-DEV-POL-0015](#)). This report authorized the utilization of landfill gas collected at the TWFL to produce electricity through a partnership with Energy Ottawa. Energy Ottawa is a subsidiary of Hydro Ottawa Holding Inc (HOHI), of which the City of Ottawa is the sole shareholder. The report also granted the City of Ottawa's General Manager of Transportation, Utilities and Public Works the delegated authority to complete the negotiation for the design, construction, and operation of an LFG facility at TWFL.

The 2004 report described the market conditions as favourable to establishing 'green power' sources and estimated that the resulting financial benefits to the City would include an avoidance of \$2 million in capital costs needed for gas collection system repairs and revenues of \$143,000 annually from the gas sold. Energy Ottawa would also provide LFG management services at TWFL at a value of approximately \$200,000 annually. Over the term of the agreement, the City has received an average of \$180,000 annually in revenues and landfill gas management services which has an estimated value of \$250,000 to \$300,000 annually.

The 2004 report recommendation explained that, as the sole shareholder of Energy Ottawa, the City would receive dividends from any profits realized by Energy Ottawa. However, in 2016, the dividend policy was amended for Hydro Ottawa Holding Inc. (HOHI) which resulted in the dividend paid to the City of Ottawa being based only on the net income of HOHI's regulated business, and the dividend would not extend to HOHI's

unregulated subsidiaries, i.e., Energy Ottawa. Therefore, the City does not currently receive any direct dividends from the earnings of this project. Details of this adjustment can be found in the Hydro Ottawa Holding Inc. – 2015 Annual Report ([ACS2016-HOH-001](#)).

The environmental benefits of the LFG-to-electricity plant, as described in the 2004 report, were anticipated to be significant. It was estimated that the electricity generated from the landfill would offset coal-based fired electricity, reducing GHG emissions by between 547,000 and 1.3 million tonnes per year, or 5.2 to 12.0 percent of Ottawa's community GHGs at the time. However, after a multi-year effort to phase out coal-powered electricity in Ontario, the last coal-fired electricity plant in the province closed in 2014 and today, approximately 90 percent of Ontario's electricity comes from non-emitting sources. This change altered the environmental benefits originally expected and has highlighted an opportunity to optimize landfill gas to support the City's [Climate Change Master Plan](#).

On September 15, 2004, the Trail Road and Nepean Landfill Site Gas Utilization License of Occupation Agreement was signed. A copy of the agreement can be found appended to this report as Document 1. The agreement stated that all gas rights and corresponding environmental attributes would be granted to Energy Ottawa (HOHI) and the City of Ottawa would receive a 5.5 per cent royalty on the sale of any electricity and LFG management services to maintain the wellfields and other infrastructure required for compliance. All Certificates of Approval required to operate the Landfill remain the responsibility of the City of Ottawa.

Following the signing of the agreement, Energy Ottawa (HOHI), and Integrated Gas Recovery Services Inc. (comprised of a partnership between Comcor Ltd and Walker Industries) combined to form PowerTrail Inc. (PowerTrail). PowerTrail and the City of Ottawa then signed and executed the PowerTrail Lease Agreement in 2006 (appended to this report as Document 2), with a Lease Amending Agreement signed in 2016 (Document 3).

In January 2007, PowerTrail commissioned the Trail Road Landfill Gas to Energy Facility and the 20-year term of the Landfill Gas Utilization Agreement began. The facility uses LFG collected through the City-owned gas collection system at the TWFL to power six one-megawatt (MW) internal combustion reciprocating engines to produce 6MW of electricity annually, which is enough to power 6,000 homes each year. The generated power is sold through a Power Purchase Agreement (PPA) to the

Independent Electricity System Operator (IESO) and, in alignment with the 2004 agreement, the City receives a 5.5 per cent royalty from the sale. Over the 20-year term (ending in 2027), this PPA will have generated approximately \$65.5 million in revenues, for which the City will have received \$3.6 million. Commissioning of the Trail Road Landfill Gas to Energy Facility also marked the beginning of PowerTrail providing LFG management services to the City. Over the 20-year term of the agreement, PowerTrail estimates that labour costs for LFG management services provided will have saved the City of Ottawa a total of \$4 million.

The current agreement with PowerTrail expires in 2027 and the City has the option of implementing two 5-year extensions. However, over the last two decades, opportunities for landfill gas management have evolved. The exploration of alternative options to optimize landfill gas collected at the Trail Waste Facility Landfill is included in the Solid Waste Master Plan report ([ACS2024-PWD-SWS-0004](#)), which was approved by Council on June 25, 2024. A long-term strategy recommendation for LFG management and optimization will be brought to Committee and Council in Q2 2025 for consideration. In the interim, the City is exploring one of the two available 5-year agreement extensions, which would allow for the continuation of stable energy generation for the Ontario grid and the maintenance of steady and compliant operations at the TWFL, while the longer-term strategy is planned for and implemented.

DISCUSSION

The purpose of this report is to seek delegated authority for the General Manager of the Public Works Department to negotiate, amend, finalize, and implement a 5-year extension of the Trail Waste Facility Landfill's current Landfill Gas Utilization Agreement with PowerTrail Inc. (PowerTrail), which is set to end in 2027. The amended extension agreement, if pursued, would reflect the strong and reliable working partnership between the City of Ottawa and PowerTrail cultivated over the last 20 years, while providing the City the flexibility they require to evaluate, pursue, and implement a long-term landfill gas management strategy that best reflects the current priorities of the City.

PowerTrail Inc.'s Bid to the Independent Electricity System Operator (IESO)

In August 2024, the Independent Electricity System Operator (IESO) launched a new energy procurement program for existing energy generators to continue to support Ontario's electrical grid. The new program is a Medium-Term Procurement (MT2) process and is for Power Purchase Agreements (PPAs) that expire between 2025-2029.

PowerTrail's PPA with the IESO also expires in 2027. To participate in the new program, existing power generators were required to submit a proposal to the IESO by January 16, 2025. Awards will be disclosed on April 1, 2025.

Following the IESO announcement in August, PowerTrail reached out to Solid Waste Services to discuss the execution of one of the two 5-year extension options available in the Landfill Gas Utilization Agreement (the agreement). PowerTrail was seeking a commitment from the City to extend the agreement in order to reduce the risk of pursuing a 5-year extension PPA through the MT2 process, and not being able to fulfill the commitment if approved.

To support the ongoing discussions and ensure due diligence, the City connected with the IESO directly seeking clarity on the MT2 process. The IESO explained that formal commitment from the City to PowerTrail on an extension agreement was not required in order for PowerTrail to submit a bid; however, the IESO communicated that it would be prudent for PowerTrail to pursue a commitment from the City before the bid was submitted, given that PowerTrail would face a financial penalty of up to \$60,000 if they were to withdraw their bid after submission due to an inability to fulfill the commitment.

The City and PowerTrail had a series of discussions about the pending bid and possible agreement extension. In December, Solid Waste Services communicated to PowerTrail that without Council's delegated authority granting the ability to extend the agreement, an extension prior to the IESO's submission deadline of January 16, 2025 was not feasible. Solid Waste Services did, however, advise PowerTrail of plans to pursue Council's delegated authority for the General Manager of Public Works to negotiate an amended extension agreement with PowerTrail prior to the accepted MT2 bids announcement, which will take place on April 1, 2025. This provided PowerTrail with the level of confidence they required to submit a bid to the IESO through the MT2 process application.

PowerTrail's bid was submitted to the IESO on January 16, 2025, and while it is not yet known whether PowerTrail's bid has been accepted by the IESO, granting delegated authority through this report will allow for immediate initiation of agreement extension negotiations should PowerTrail's bid be accepted on April 1, 2025.

Agreement Extension

The extension agreement with PowerTrail would not seek any additional financial benefits and it would not compromise or diminish the benefits that PowerTrail currently

receives. In exchange, staff will be seeking status quo LFG management operations and royalty structure, but will also seek additional flexibility within the agreement to ensure that a long-term option can be implemented as soon as possible unencumbered by the terms of the agreement. The extension agreement would also seek additional visibility into PowerTrail's required capital expenditures and would implement a more collaborative process between the City and PowerTrail to assess the necessity of any investments.

Extending the agreement with PowerTrail allows the City of Ottawa to meet and maintain regulatory and compliance requirements while a long-term strategy for landfill gas management and optimization is planned and implemented. While some of the benefits outlined in the 2004 Council Report (and noted in the Background section of this report) no longer apply, the extension would reflect the strong and reliable working relationship between PowerTrail and the City of Ottawa and provide the City the stability required to pursue a long-term option. The recommended long-term LFG Management and Optimization Strategy will be presented to City Council for consideration in Q2 2025. Members of Council will be provided with a webinar on LFG management and optimization, and offered briefing sessions, ahead of the report being considered at the Environment and Climate Change Committee, and Ottawa City Council.

NEXT STEPS

Maintaining regulatory compliance at the Trail Waste Facility Landfill (TWFL) is the top priority for the City of Ottawa and ensuring that the TWFL has an effective landfill gas management system in place is essential. Staff have been working on a long-term strategy for LFG management and utilization that will be presented to Council for consideration in Q2, 2025.

In March 2025, Solid Waste Services staff plan to provide Ottawa City Councillors a series of webinars to explain the longer-term options for solid waste residual management and resource recovery, including an overview of the proposed landfill gas management and optimization strategy. Briefings will also be available to members of the Council.

On April 1, 2025, the IESO will announce approvals or rejections for MT2 applications. Should PowerTrail's submission be accepted, the General Manager of Public Works could exercise delegated authority granted through this report to negotiate, amend, finalize, and implement a 5-year extension of the Landfill Gas Utilization Agreement with

PowerTrail Inc. for the Trail Waste Facility Landfill. If PowerTrail's application is rejected, the City would not likely pursue an extension of the current agreement; although a separate agreement may be explored to fill the gap between the short-term and long-term landfill gas management and optimization strategies. In the event that no agreement is reached, PowerTrail is required by the original agreement to leave the City with a fully functioning and compliant gas management system as to ensure that the City is always in compliance with its regulatory obligations. This would be a flaring-only system which has a comparable environmental impact to the current system but does not produce any useful energy. The City would be responsible to take on the full cost of operating and maintaining that system, a cost that PowerTrail has estimated to be between \$250,000 and \$300,000 annually.

An accepted application from the IESO could kick-start the agreement extension progress between the City of Ottawa and PowerTrail Inc., and, once the terms of the extension are agreed by both parties, the extension would come into effect starting January 30, 2027, for up to five years.

The long-term Landfill Gas Management and Optimization Strategy report will be presented to Council for consideration in 2025.

FINANCIAL IMPLICATIONS

There are no financial implications for the 2025 Budget associated with the report recommendation. No financial implications are expected in future years but, if they arise, they will be submitted for Council approval at that time.

LEGAL IMPLICATIONS

There are no legal impediments to approving the recommendations in this report.

ACCESSIBILITY IMPACTS

Solid Waste Services adheres to the requirements of the *Accessibility for Ontarians with Disabilities Act*, (2005) in its operations, programs and initiatives. This report is administrative in nature and has no associated accessibility impacts.

DELEGATION OF AUTHORITY IMPLICATIONS

If delegated authority is granted through this legislative report, the General Manager of Public Works will be authorized to negotiate, amend, finalize, and implement a 5-year

extension of the Landfill Gas Utilization Agreement with PowerTrail Inc. for the Trail Waste Facility Landfill.

RISK MANAGEMENT IMPLICATIONS

Anticipated risks and associated mitigation measures have been outlined within the body of this report.

SUPPORTING DOCUMENTATION

Document 1: Trail Road and Nepean Landfill Site Gas Utilization License of Occupation Agreement (2004)

Document 2: PowerTrail Inc. Lease Agreement (2006)

Document 3: PowerTrail. Inc Lease Agreement Amendment (2016)

DISPOSITION

Upon Council's approval of this report, the General Manager of Public Works will have authority to negotiate, amend, finalize, and implement a 5-year extension of the Landfill Gas Utilization Agreement with PowerTrail Inc. for the Trail Waste Facility Landfill if required. The amended extension agreement would reflect the strong and reliable working partnership between the City of Ottawa and PowerTrail cultivated over the last 20 years, while providing the City the flexibility they require to evaluate, pursue, and implement a long-term landfill gas management strategy that best reflects the priorities of the City for 2027 and beyond.