



DEPARTMENT OF
UTILITIES

Department of Utilities
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MEMORANDUM

Date: December 12, 2025
To: Chairperson Vered Meltzer and Members of the Utilities Committee
From: Chris Stempa, Director of Utilities
CC: Ryan Rice, Deputy Director of Utilities
Subject: **Action: Renewable Natural Gas (RNG) Purchase and Site Lease Agreement between Terreva Outagamie RNG and the Appleton Department of Utilities**

BACKGROUND:

The Department of Utilities has been engaged in active conversations with a Renewable Natural Gas (RNG) company, Terreva Outagamie RNG (Terreva), since early 2025 about the potential purchase of methane or biogas produced at the Appleton Wastewater Treatment Plant (AWWTP). The AWWTP produces up to 700,000 cubic feet per day of methane gas or biogas as a product of anaerobic digestion. Bacteria inside the anerobic digesters naturally break down organic waste and produce raw methane, carbon dioxide and other gases. Historically, this biogas has been used for on-site heat through the use of direct feed boilers with the balance of the unused biogas sent to flares. Raw methane is between 55% and 70% pure, which is not acceptable for commercial use. RNG facilities can effectively treat, or “upgrade,” biogas to remove contaminants. After RNG is upgraded, it can then be injected and transported through natural gas pipeline networks and used as a substitute that is virtually indistinguishable from natural gas. The difference is RNG is produced from biological materials instead of fossil fuel deposits.

The RNG market has remained strong and companies like Terreva are increasingly interested in upgrading raw biogas into pipeline-quality RNG that can be sold into energy markets or used for transportation fuel under programs such as the Renewable Fuel Standard (RFS) or Low Carbon Fuel Standard (LCFS). Terreva’s interest in biogas produced at the AWWTP is underpinned by the strong RNG market but also a desire to stabilize the landfill gas presently being processed at their existing facility located at the Outagamie County Recycling and Solid Waste (OCSW) facility. Landfill gas typically contains elevated amounts of undesirable contaminants like siloxanes and hydrogen sulfide which negatively impact gas quality which result in high capital costs for purification. Although the volume of gas produced at the AWWTP is considered small by industry standards, it is considered a “high-quality” gas because it has consistently higher methane content and substantially lower contaminant levels when compared to landfill gas. By supplementing the high-quality biogas from the AWWTP with landfill gas, Terreva can stabilize purification processes at their existing OCSW facility increasing overall productivity and efficiency.

GAS PURCHASE AGREEMENT AND SITE LEASE

The Utilities Committee was presented an informational memorandum on June 10, 2025, which overviewed the general framework of a Gas Purchase Agreement (GPA) and also includes a standalone site lease. At that time the GPA was presented as a non-binding Letter of Intent that outlined shared goals, expectations, and the intent to proceed with feasibility assessments prior to advancing a potential development project. Terreva subsequently provided a draft GPA for a City of Appleton interdepartmental review (City Attorney Office, Facilities and Construction Management, Finance, and Utilities).

The GPA defines the terms under which the Utilities Department sells its produced biogas. It establishes pricing, delivery expectations, quality specifications, and risk-allocation responsibilities to ensure the City receives a fair and predictable revenue stream. It also clarifies each party's obligations for equipment, operations, access, and compliance, helping protect the Utilities Department's interests while enabling long-term, mutually beneficial use of the biogas resource.

The financial terms of the GPA include a royalty for each British Thermal Unit (BTU) of biogas delivered, plus a utility offset to reimburse the AWWTP for the lost energy value of the biogas. All payments are subject to annual escalation at a rate of 2.3% over the 20-year term following commissioning of the Biogas Transmission Project system by Terreva. The projected annual net payments made to the Utilities Department are expected to exceed \$400,000 per year or \$150,000 per year when factoring potential natural gas purchases.

The Project would require the City to invest up to \$75,000 in new natural gas boiler equipment to support the B-Building loop, which is currently primarily served by a boiler exclusively fueled by biogas. The Project will avoid the need for the AWWTP to invest approximately \$2M in the existing biogas collection and storage system which has reached its useful life (installed in 2010).

The site lease is a standalone document associated with the GPA. It outlines the terms under which the renewable gas company may use City-owned land or facilities and it protects both parties by clearly defining permitted uses, responsibilities, and related obligations. This structure helps ensure transparency, accountability, and alignment with the GPA.

DUE DILLIGENCE:

The City of Appleton has no internal experience with RNG agreements. As such, independent commercial due diligence was considered essential to protect the City's interests, validate assumptions, and assess the financial viability of the proposed transaction. Unfortunately, commercial due diligence for wastewater-to-RNG agreements is a niche service requiring knowledge of utility operations, gas markets, project finance, and regulatory compliance.

The services of Baker Tilly were solicited to provide a third-party review of the GPA. They were found to have extensive, nationally recognized experience in the wastewater and renewable energy sectors, with particular emphasis on RNG projects. The Baker Tilly team that was assembled to review the GPA brought a unique combination of technical, financial, and regulatory expertise that was not readily available from other firms that were approached making them uniquely qualified for an unbiased review. They have successfully assisted multiple municipal utilities and public agencies in structuring biogas-to-energy agreements, conducting due diligence, and advising risk allocation.

Baker Tilly's analysis indicated that the Project and associated GPA yield a favorable rate of return over the life of the agreement. While the Utility Offset may not fully cover the additional utility expenses incurred at the AWWTP due to the loss of the biogas fuel source, the GPA would remain cash-flow positive in all years when the Biogas Royalty payments are factored.

RECOMMENDATION:

I recommend approval of the proposed 20-year biogas purchase agreement with Terreva Renewables based on the independent financial review demonstrating a strong positive rate of return, the projected reduction in future capital expenditures to maintain the existing biogas storage infrastructure, reduce staff O&M workload associated with the existing biogas utilization equipment, and a 45% reduction in City's overall greenhouse gas emissions. This long-term partnership offers both fiscal and environmental benefits to the Utilities Department and the community.

If you have any questions regarding the potential partnership, please contact Chris Stempa at ph: 832-5945.