

Update on Landfill Gas Proposed Renewable Natural Gas (RNG) Project for Southeast Landfill

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City Council Work Session
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Presentation Agenda

- Landfill Gas Overview
- Voluntary Procurement Process
- Selected Vendor
- Recommendation and Next Steps



Background

- **Landfill gas (LFG)** is a natural byproduct of decomposing organic material.
- The City of Fort Worth owns the Southeast Landfill, and Allied Waste Services of Texas dba Republic Services (Republic) is the City's landfill operator by contract.
- The City and Republic have initiated efforts to capture LFG for processing and use, such as producing **renewable natural gas (RNG)**.
- Project benefits include:
 - **waste-to-energy from solid waste**
 - **reduction of methane emissions**
 - **revenue opportunities** (e.g., RNG sales, renewable identification numbers [RINs])
- For approximately 20 years, the Water Department has captured wastewater treatment digester biogas – this gas is piped to the Arlington Landfill for treatment at the site's RNG facility.

Collecting and Treating LFG to Produce RNG

- LFG contains:
 - Methane
 - Carbon dioxide
 - Other gases
 - Water vapor
- The treatment removes moisture and impurities to produce methane (RNG) for use.
- As of March 2024, the EPA reports:
 - 526 active U.S. LFG projects
 - 459 landfills are good candidates

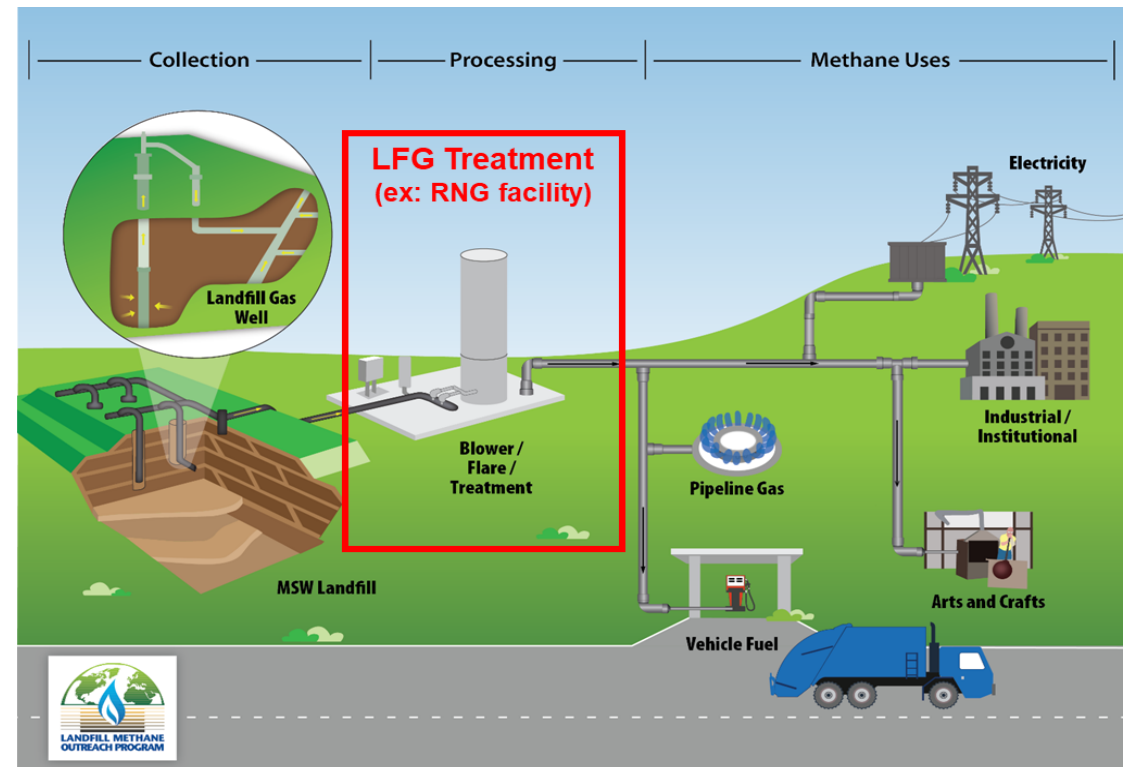


Illustration of LFG processing for energy.

(Source: USEPA, accessed April 2024)

Collaborative Effort

- **Multiple City Departments:**

Environmental Services, Aviation, City Attorney's Office, Financial Management Services, FWLab, City Manager's Office, Property Management, Development Services, Diversity & Inclusion, and Economic Development

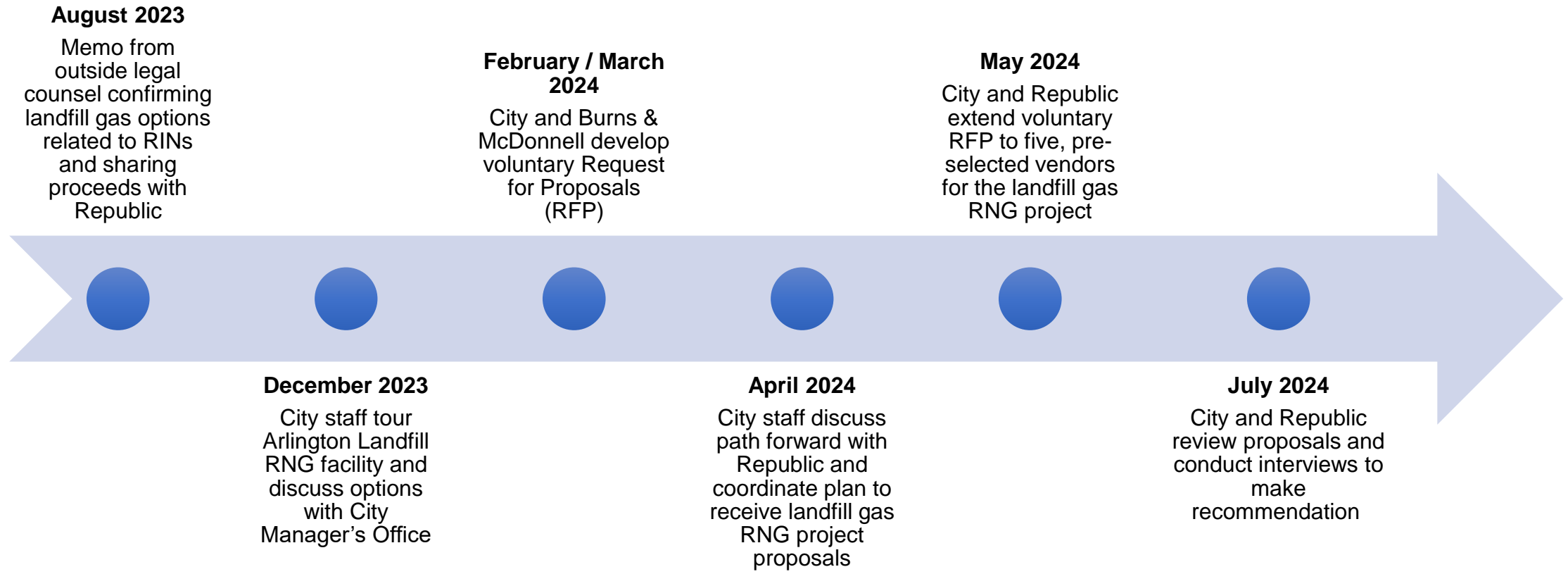
- **Outside Consulting Partners** include:

- Burns & McDonnell Engineering
- Tijerina Galvan Lawrence, LLC
- Innova Energy Services, LP
- Porter Hedges, LLP

- **Other Partners:**

- Republic Services (landfill operator)
- Community Partners

Timeline



To be eligible for an Investment Tax Credit (ITC), the developer must commence the RNG project by December 31, 2024, and continue until completed.

Selection Process

- City of Fort Worth conducted a voluntary, invitation-only RFP process to select a vendor:
 1. Five (5) Pre-selected Firms
 2. Interviews
 3. Best and Final Offers
 4. Joint evaluation panel – City and Republic
 5. Independent City panel scoring
 6. Mutual agreement with Republic
- No City funds – 252 Exemption
- Proposals from pre-selected firms included:
 - Financing Options
 - Design
 - Construction
 - Operations & Maintenance
 - Revenue Distribution



*Photograph of Archaea Energy RNG facility in Medora, Indiana.
(Source: BP, accessed August 2024)*

Selected Proposal & Benefits

- Archaea Energy – a bp company – is the recommended vendor for the development of an RNG facility at the City of Fort Worth Southeast Landfill (SELF).
- The Houston-based company was acquired by bp in late 2022.
- Archaea Energy will plan to develop an operational RNG facility at SELF:
 - Fully-funded development to capture and utilize methane (RNG)
 - 18 – 24 months to develop and produce RNG from landfill gas
 - Development fees paid to the City
 - 30% royalty for sale of RNG, RINs
 - Potential for future technology for carbon capture/sequestration



Projected Landfill Gas Financials

In accordance with the City of Fort Worth and Republic's landfill operations agreement, revenues will be split 50/50 between the City and Republic.

Southeast Landfill gas production and markets will change over time.

- Produce landfill gas for capture and conversion to RNG for 20 to 30 years
- Facility decommissioned in the future beyond useful life

Recommended proposal includes:

- Payment Upon Execution of Agreement: **\$100,000 (\$50,000 to City)**
- Annual Development Fee (Year 1 and Year 2): **~\$2M - \$3M per year (\$1M - \$1.5M / year to City)**
- Annual Revenue from Sale of RNG, RINs, etc.: **~\$5M - \$10M per year (\$2.5M - \$5M / year to City)**

Revenues generated for the City of Fort Worth are recommended for two beneficial uses:

- Create a capital fund for development of a future landfill or solid waste facility
- Support programs to conserve greenspace or other environmental projects

Recommendation and Next Steps

Recommendation: It is recommended that the City Council approve an M&C to authorize execution of a service agreement with Archaea Energy, a bp company, on the August 13, 2024 agenda.

Next Steps:

1. August 13, 2024: City Council to consider M&C to award a service agreement with Archaea Energy.
2. Execute agreement with Archaea Energy.
3. Archaea Energy to begin site development and seek to maximize the Investment Tax Credit (ITC).