



SOLID WASTE

Landfill Gas to Energy Update

April 21st, 2023

AGENDA

1. Background and review of 2021 discussion
2. Request For Expressions Of Interest (REOI) to evaluate and assess interest in a beneficial use of Landfill Gas and to solicit useful information from interested parties.
3. Existing system status:
 1. Current financial status of landfill gas to energy facility (LFGTE)
 2. Update on existing landfill gas collection system improvements
 3. New Revenue Source? eRIN market



Benefits of Landfill Gas to Energy

- Methane is a potent greenhouse gas our landfill gas collection system actively collects and combusts in the flare or the generator; significantly reducing greenhouse gas emissions
- Landfill gas is used by the generator to produce renewable electricity.
- Duke is obligated to purchase renewable electricity we produce
- Onsite Electric Vehicle Charging Station and Electric van powered by Landfill Gas to Energy Facility

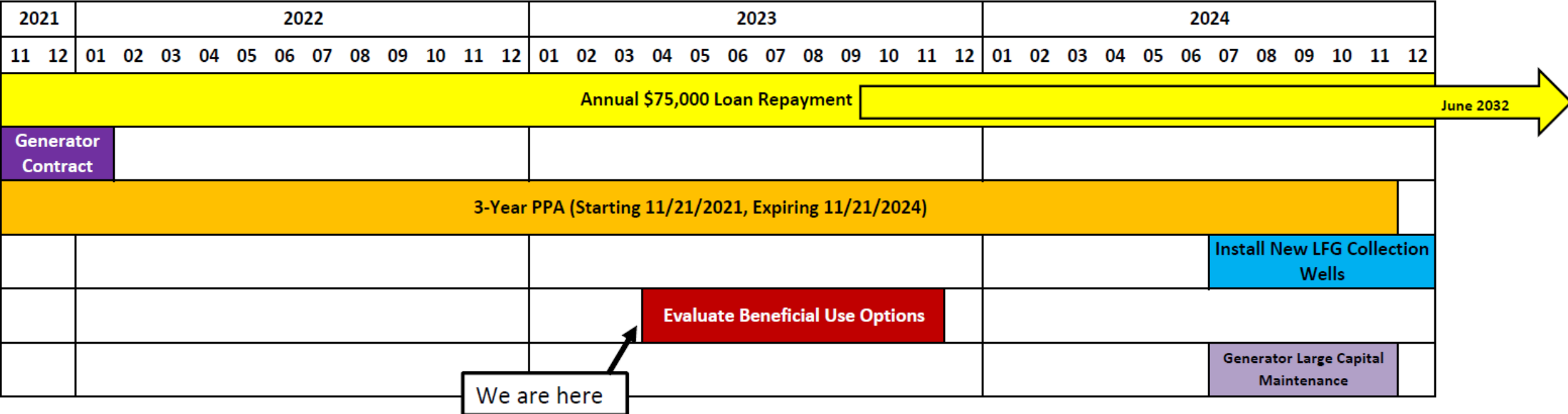


Review of November 2021 Action Items

- 3 year PPA contract executed-continuing renewable electricity production through November 21, 2024
- Evaluate additional beneficial uses of landfill gas
- Return to the board in 2023 to discuss long-term strategy for LFGTE project



REVIEW OF PROJECT TIMELINE



Request for Expressions of Interest

- An REOI is recommended to determine the level of interest and feasibility of an alternative beneficial use of landfill gas.
- Any and all ideas and concepts from experienced and qualified firms are eligible to respond to the REOI
 - Issue REOI in May 2023
 - Mandatory pre-submittal meeting at Buncombe County Landfill in May
 - Deadline to submit in June 2023
 - Evaluate Expressions of Interest and Feasibility
 - Request for Proposals (RFP) may be developed and issued following review and evaluations of REOIs
- Continue evaluating investment in current LFGTE program



Expression of Interest Options

1. Continue with existing system
2. Traditional Landfill Gas to Energy Developers
3. Renewable Natural Gas and Virtual Pipeline
4. Hydrogen Conversion
5. Other Beneficial use options

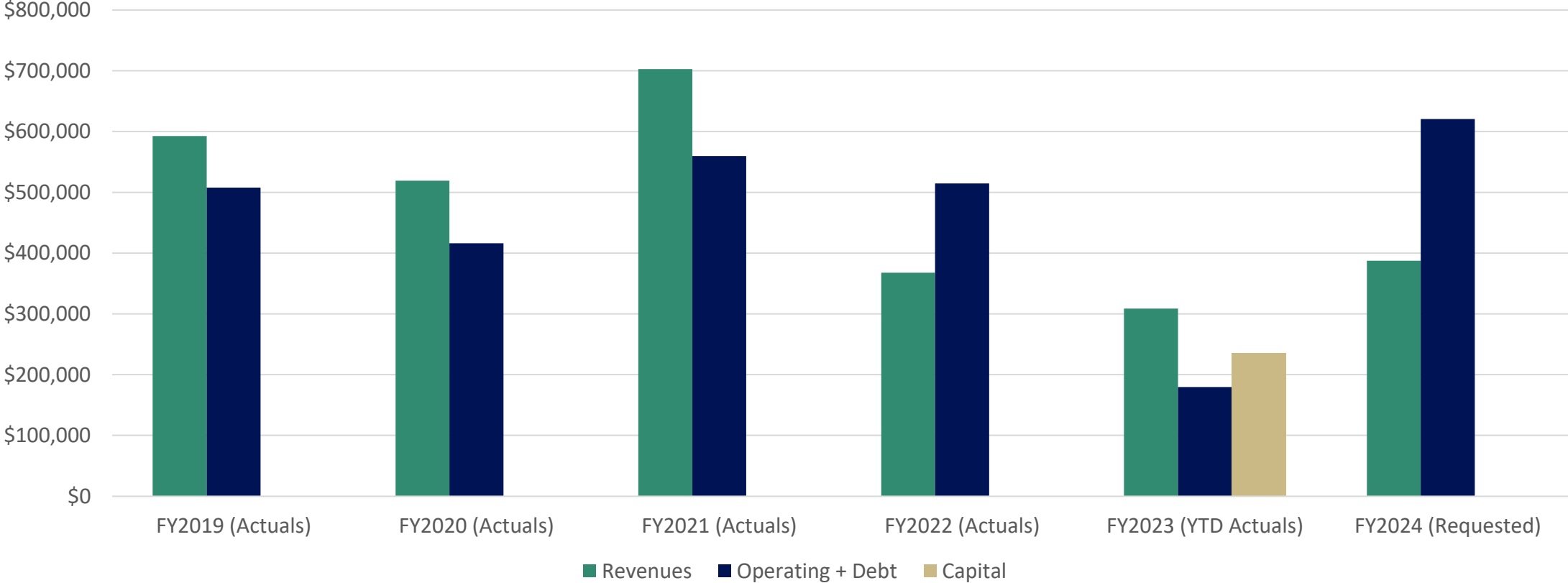


LFGTE Revenues and Expenses

- **Expenses**
 - Operating and Maintenance costs
 - Loan Repayment
 - Equipment - Interval Generator Maintenance (major and minor overhauls)
- **Revenue sources**
 - Electricity Sales
 - Renewable Energy Credits
 - Carbon Credits



Landfill Gas-to-Energy



Generator Maintenance

- FY23 Maintenance \$235,000
 - 40,000 Hour Generator Service through Innio Contract prior to contract termination
- FY25 Major Maintenance-estimated at >\$600,000



Update on Existing LFGTE System

- The existing landfill gas wellfield in the waste pile was installed in 2011
 - Several existing wells need improvement
 - Numerous new wells need to be installed
- Cost estimate for wellfield expansion came in over budget
- Estimated cost \$1.3M for gas well improvements and installations
- Upgrade to wellfield system has been postponed for next budget year and REOI results



eRIN Market Update

- December 2022 USEPA issued Renewable Fuel Standard (RFS) proposal introducing eRINs
- What are eRINs?
 - eRINs are credits produced when qualifying biogas is used to generate renewable electricity for the charging of light-duty electric vehicles
- Buncombe County's LFGTE system is eligible for revenue from the eRIN market

