

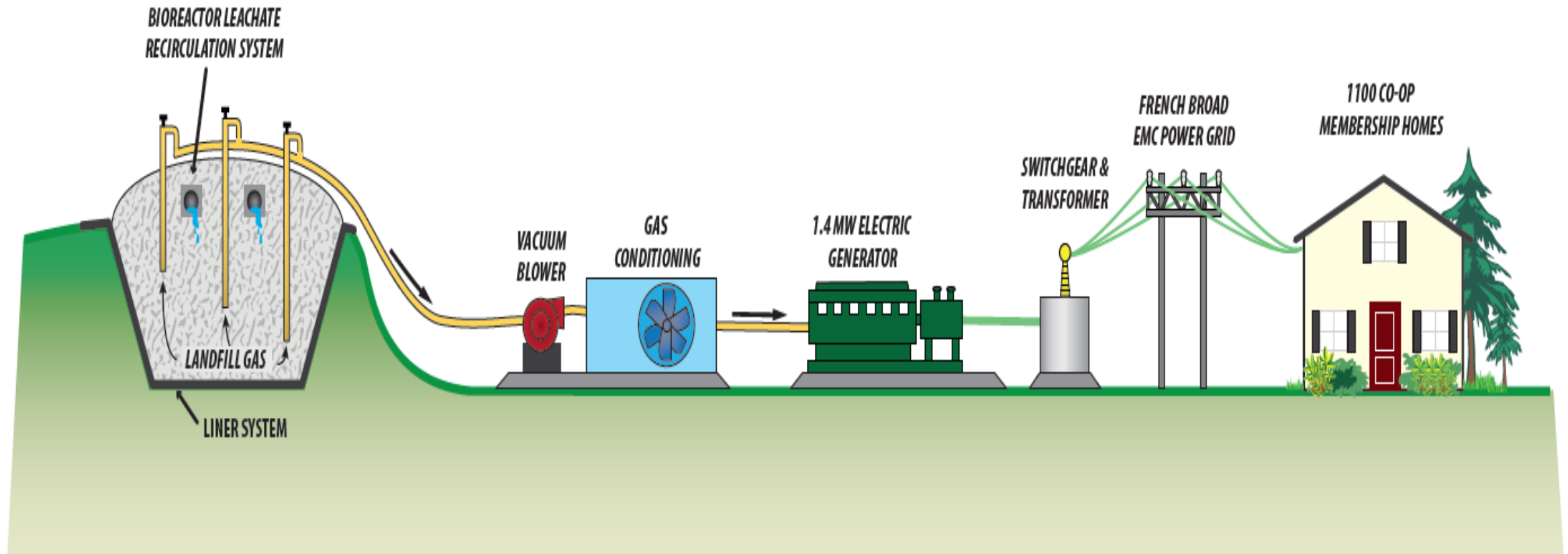


SOLID WASTE

Landfill Gas to Energy Update

November 2nd, 2021

Diagram of LFGTE Process



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
- Duke's power purchase agreement allows continued production of renewable electricity for Buncombe County



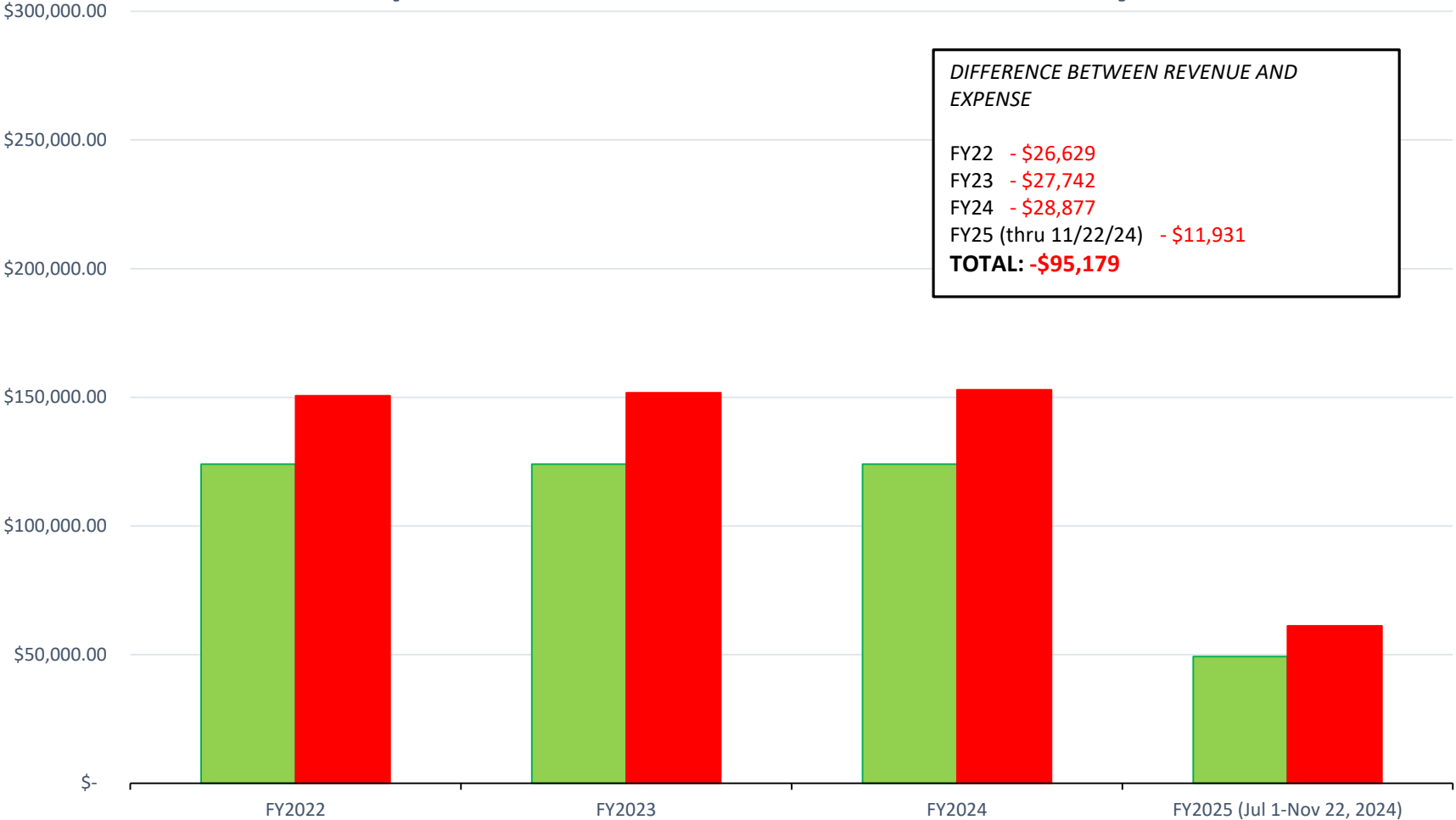
3 scenarios

1. Landfill Gas Collection and Control System (Flare only)
2. LFGCCS and Produce Renewable Electricity with 1 year Duke PPA
3. LFGCCS and Produce Renewable Electricity with 3 year Duke PPA



Scenario 1: Flare Only

(Carbon Credit revenue assumed)



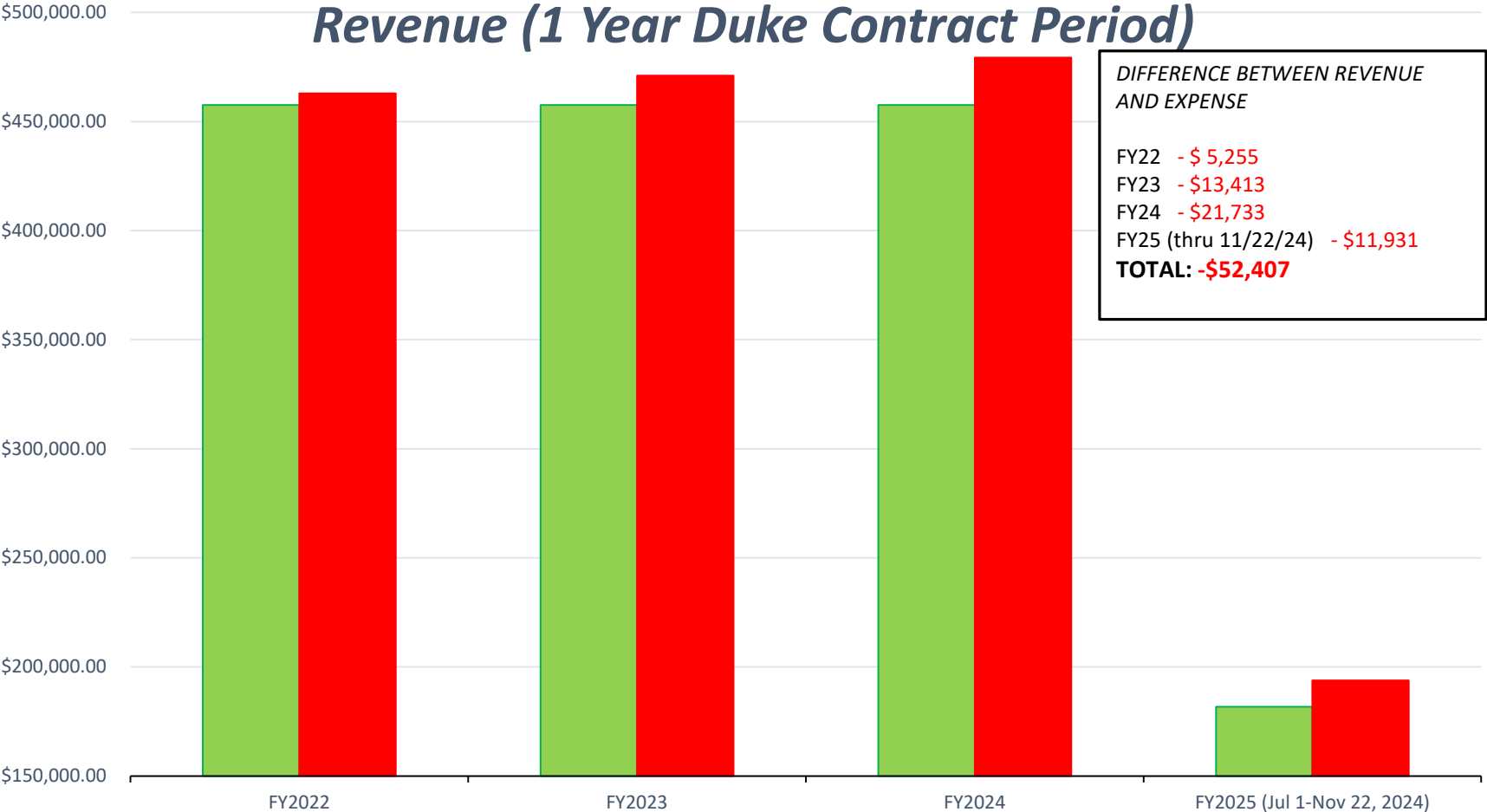
DIFFERENCE BETWEEN REVENUE AND EXPENSE

FY22 - \$26,629
FY23 - \$27,742
FY24 - \$28,877
FY25 (thru 11/22/24) - \$11,931
TOTAL: -\$95,179

Expenses: Historic Expense Budgets w/est. staffing; projected based on historic escalated at published inflation forecast
C. Credit revenue assumed at \$124K/yr

Carbon Credit Revenue Budgetary Expenses

Scenario 2: Landfill-Gas-to-Energy Program **Expenses and Energy, RECs Revenue, Carbon Credit** **Revenue (1 Year Duke Contract Period)**

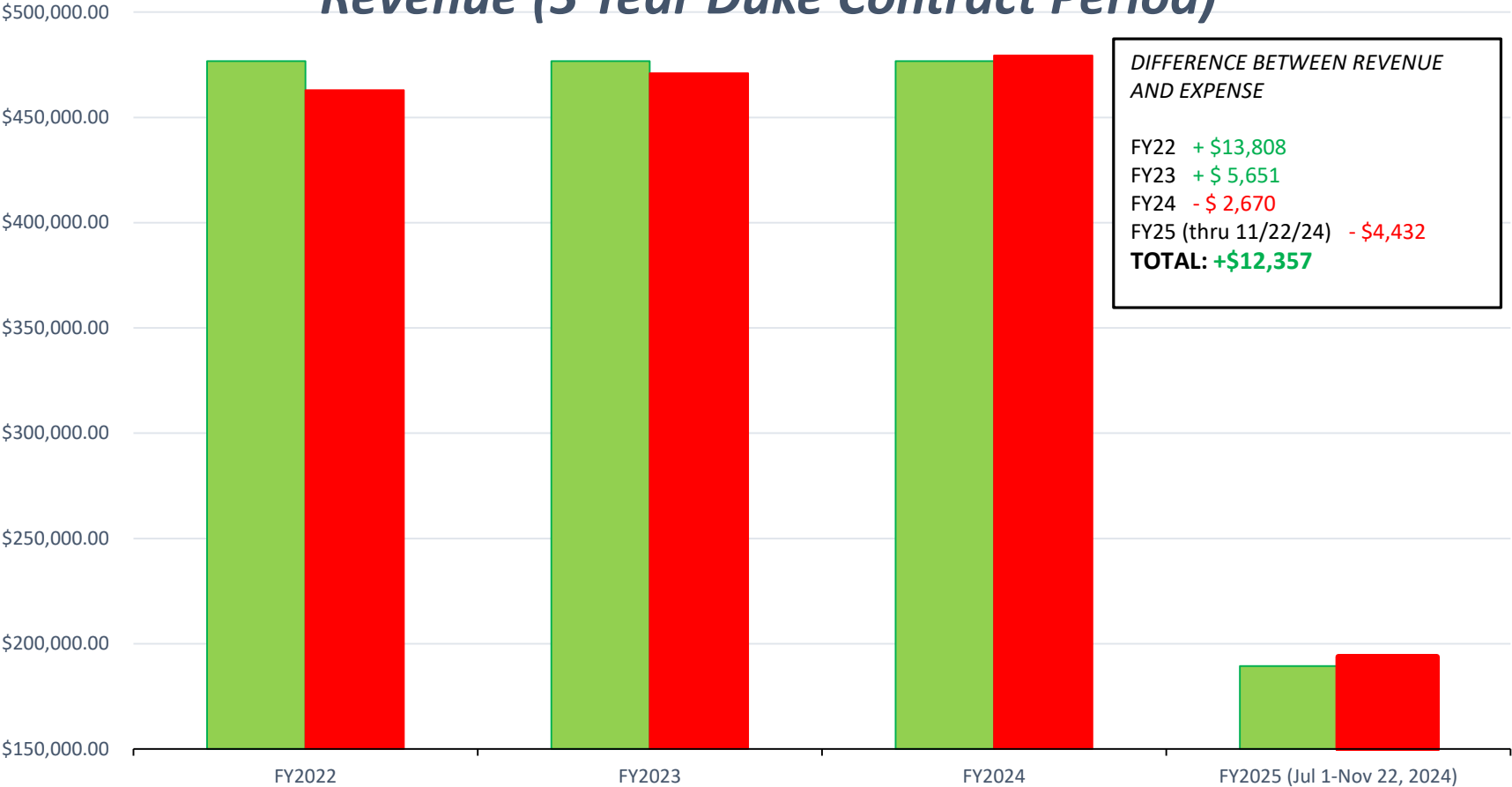


DIFFERENCE BETWEEN REVENUE AND EXPENSE	
FY22	- \$ 5,255
FY23	- \$13,413
FY24	- \$21,733
FY25 (thru 11/22/24)	- \$11,931
TOTAL:	-\$52,407

Expenses: Historic Expense Budgets w/est staffing; projected based on historic escalated at published inflation forecast
 Revenue: assumed at at 3.1 cents/kWh (1 yr contract) + RECs at \$4/MWh; C. Credit revenue assumed at \$124K/yr for period; excludes Innio contract termination

■ Energy Revenue + RECs + Carbon Credit
 ■ Budgetary Expenses

**Scenario 3: Landfill-Gas-to-Energy Program
Expenses and Energy, RECs Revenue, Carbon Credit
Revenue (3 Year Duke Contract Period)**



**DIFFERENCE BETWEEN REVENUE
AND EXPENSE**

FY22 + \$13,808
FY23 + \$ 5,651
FY24 - \$ 2,670
FY25 (thru 11/22/24) - \$4,432
TOTAL: +\$12,357

Expenses: Historic Expense Budgets w/est staffing; projected based on historic escalated at published inflation forecast
Revenue: assumed at at 3.3 cents/kWh (3 yr contract) + RECs at \$4/MWh; C. Credit revenue assumed at \$124K/yr for period; excludes Innio contract termination

■ Energy Revenue + RECs + Carbon Credit

■ Budgetary Expenses

Long-Term Financial Considerations

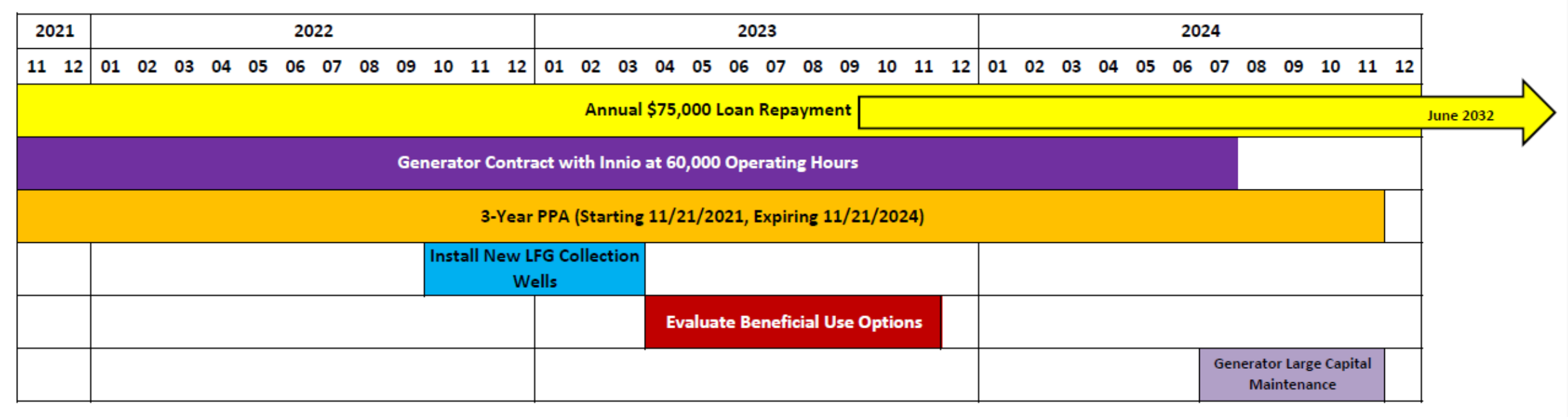
1. Capital Investment-The generator manufacturer recommends engine block replacement at 60,000 OPH
 - (Approx. July 2024)
 - (\$567,000)
2. Annual \$75,000 loan repayment until FY32



Staff will need to analyze long-term financial impacts and return to the Board in 2023 with a recommendation on whether to continue renewable energy generation



TIMELINE



Staff Recommendation

- 3 year PPA contract is least expensive option and continues production of renewable electricity
- Evaluate other beneficial uses of landfill gas
- Return to the board in 2023 to discuss long-term strategy for LFGTE project

