



Littleton/Englewood Wastewater Treatment Plant
BIOGAS USE APPLICATIONS



September 26, 2017



Study identifies uses for L/E WWTP to recover and reuse digester gas



Existing



CNG Fueling



Pipeline Injection

Preliminary analysis:

- Achieve alignment with L/E WWTP strategic vision
- Identify the best use of gas resource
- Analyze the revenue potential for CNG and pipeline injection
- Recommend best value solution with off-ramps
- Identify procurement options

Study identified financing approaches for further evaluation



Financing approaches:

1. City provided
2. Third-party financed
3. Issue bonds
4. Power purchase agreement



This project could satisfy multiple areas for the LE WWTP values based budgeting approach for 2018 and beyond.

Financing approach consistent with operational and economic objectives

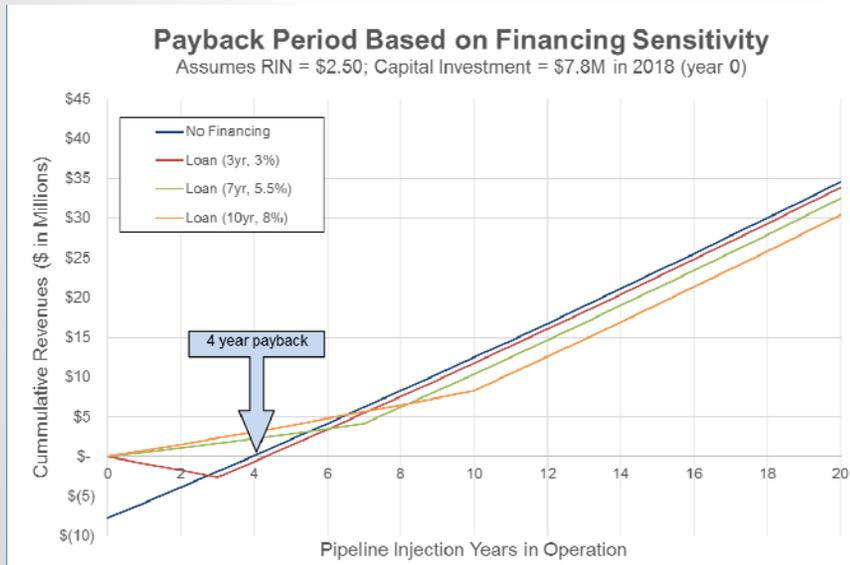


1. City Cash Financed

- Best return on investment
- Full control of operations and financing
- Monies available

2. Third-party Financed

- Tax-exempt municipal financing
- Used by many Colorado Cities
- Regulated by state statute
- Use dual-approach
 - Partial cash and debt funded
- Low risk as financier owns equipment until paid off
- Maintain full control of operations and equipment
- L/E WWTP has control over equipment design and standards



Other financing approaches for consideration



3. Issue Bonds

- Similar to 3rd party financing
- Requires time to sell bonds
- Additional costs incurred to sell bonds
- May impact current and future debt coverage ratios
- May require voter approval



4. Power Purchase Agreement

- Least financial volatility risk and least control
- Operations and performance measures
 - Incur penalties
- Limited control of equipment
- Another entity has access
- Reduced revenue potential
- Receive payments for gas and access to physical property
- No debt incurred
- Long-term agreement (> 7 years)
 - Reduced ability to adapt to market changes

Project commissioning by end of 2018 uses streamlined approach



Project Schedule - Council

1. Introduction to concept and project (Oct-16)
2. Approval to issue RFP for project (Dec-16)
3. Draft report issued by Carollo (July-17)
4. Briefing to individual Study Sessions (July-17)
5. Review at Joint Study Sessions (Aug-17)
6. Review at individual Study Sessions (Sept –17)

Next Steps - Council

7. September 28 – Supervisory Committee meeting
8. October 16 – Approval of design contract
9. January 2018 – Xcel memorandum of understanding
10. January 2018 – RIN broker services
11. Q1 2018 – City Council project update (additional financing discussions)
12. Q2 2018 – City Council approval of construction contract
13. Q4 2018 – Commissioning

Pipeline injection approach achieves best value focused on sustainability



Financial



Environmental

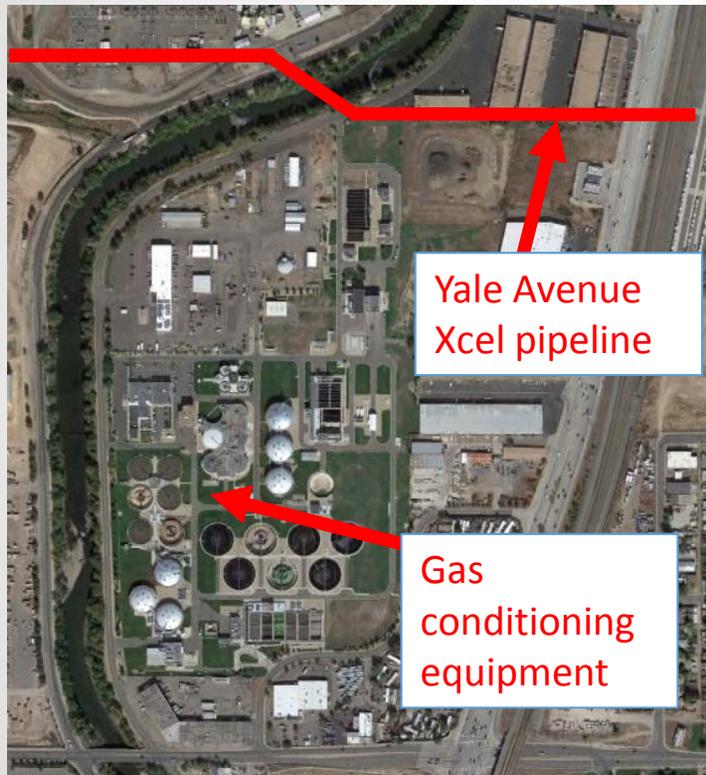


Balanced Risk

Findings:

- Capital investment = \$7.5M (lowest of options)
- Equipment payback (4 years) (lowest)
 - Solar projects payback typically > 10-12 years
- GHG offsets = 5,500 metric tons of CO2 per year (highest offset)
 - Equivalent to emissions from 1,162 automobiles
- Viable off-ramps with cleaner gas provides balanced risk (most flexibility)
- Local and national support for Clean Energy programs

Simplicity of pipeline injection approach maximizes near-term opportunities



- Simplified and lower construction risk
- Lower risk with 3rd party agreements



Gas conditioning equipment



Questions?

City of Littleton  *City of Englewood*

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