



Department Source: City Utilities - Water and Light

To: City Council

From: City Manager & Staff

Council Meeting Date: September 6, 2016

Re: Public Hearing to consider engine replacement of Landfill Gas units #1 and #2.

## Executive Summary

Public hearing declaring the necessity for engine replacement of Landfill Gas units #1 and #2. This project is to replace the two original engines located at the City's Landfill Gas Electric Generation Plant. The total estimated cost for this improvement project is \$1,000,000 and partial funding for this project has been appropriated in the 2016 Capital Improvement Program under project EL0203 with the remaining funds to be allocated in 2017.

## Discussion

The City owns and operates an electrical production plant at the City Landfill that uses methane produced in the landfill to fuel three (3) GE-Jenbacher reciprocating engine/generators. Each GE-Jenbacher set has a capacity of 1 MW. The plant entered service in June 2008 with two units, and a third unit was added in 2013, giving a total plant capacity of 3 MW. As the fuel for the engines is from the natural decay of material in the landfill, the energy produced in the Landfill Gas Electric Generation Plant is part of the City's renewable energy portfolio. The Landfill Gas Electric Generation Plant provides an average of 16,300 MWh of baseload renewable for Columbia, which is about 1.4% of Columbia's total energy.

The GE-Jenbacher engines have a design life of 60,000 hours of operation. Units #1 and #2 at the plant are nearing the end of the lives. Water & Light plans to replace the engines per the manufacturer's recommendations. The cost to replace each engine is estimated at \$500,000 each for a total estimated project cost of \$1,000,000. The project is part of Water & Light's Capital Improvement Plan (EL0203). The work is planned for the winter of 2017.

An interested parties meeting for the project was held on July 1, 2016. No negative comments were received.

## Fiscal Impact

Short-Term Impact: The total cost for the project is \$1,000,000

Long-Term Impact: None

## Vision & Strategic Plan Impact

### [Vision Impacts:](#)

Primary Impact: Environment, Secondary Impact: Secondary, Tertiary Impact: Tertiary



# City of Columbia

701 East Broadway, Columbia, Missouri 65201

## Strategic Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Secondary, Tertiary Impact: Tertiary

## Comprehensive Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Environmental Management, Tertiary Impact: Livable & Sustainable Communities

### Legislative History

Date	Action
03/05/2007	R66-07 Authorizing an agreement with Sexton Energy, LLC for design and construction of the landfill gas recovery plant.
08/20/2012	B197-12 Authorizing design and construction of an engine/generator set to provide additional capacity at the Landfill Gas Electric Generation Plant; providing for request for proposals through the Purchasing Division; appropriating funds.

### Suggested Council Action

Hold a public hearing for the engine replacement of Landfill Gas units #1 and #2. After the public hearing, approve a resolution declaring the necessity for the engine replacement of Landfill Gas units #1 and #2 at the City's Landfill Gas Electric Generation Plant.