

Portland WWTP Biogas-to-Renewable Natural Gas Project | Portland, Oregon



On Earth Day 2017, the Portland, Oregon, announced a groundbreaking project that would convert waste methane from the city's sewage treatment process into renewable natural gas (RNG). The project will cut greenhouse gas emissions by 21,000 tons a year. It also will generate upward of \$3 million in revenue a year and replace 1.34 million gallons of diesel fuel with clean RNG – enough to run 154 garbage trucks for a year.

The fuel will be sold into three carbon markets: USEPA's Renewable Fuel Standard (RFS), California's Low Carbon Fuel Standard (LCFS), and Oregon's Clean Fuels Program (CFP). Successfully taking an RNG project from concept to commissioning requires deep knowledge of clean fuels regulations, fuel markets, and carbon markets. The City retained EcoEngineers' help to address this gap and guide the project to successful completion.

Key Performance

- Led a multi-day training session for all the project stakeholders including city staff, the interstate pipeline, and the technology vendor – educating them on current clean fuels policy and how project can maximize revenues through carbon markets
- Analyzed the feedstock and reviewed the City's plan to incorporate high-strength industrial waste without compromising carbon credit values (D3/D5 RINs in the RFS)
- Reviewed the pipeline interconnect agreement, offtake contracts, and the revenue sharing models to recommend the best contracting structure for the City

Key Results

The project now has an RNG offtake partner, a pipeline agreement, and a commissioning plan, and it is in the final stages of construction. Upon completion, EcoEngineers will perform the following:

1. Regulatory liaising and registration of the pathway under the RFS, LCFS, and CFP programs
2. Life-cycle analysis under the CA-GREET model to derive a project-specific carbon intensity
3. Verification of the carbon reduction claims (RIN QAP, LCFS Verification)
4. Provide a fuel-switching matrix that will guide the City's decision-making for the beneficial use of the RNG and maximize revenues

Project duration: Project is in progress; 2020 expected completion

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Project reference available upon request.