**ECOLine**

**Forging an Innovative & Aggressive Path to a Clean Energy Fuure**

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In partnership with Waste Management of New Hampshire, Inc., UNH finalized ECOLine, a landfill gas project that brings enriched and purified gas from Waste Management’s landfill in Rochester, NH, to the Durham campus, in spring 2009. ECOLine makes UNH the first university in the United States to begin to use landfill gas as its primary energy source. Coming from Waste Management’s Turnkey Recycling and Environmental Enterprise (TREE) facility in Rochester, NH, the landfill gas replaces commercial natural gas as the primary fuel in UNH’s cogeneration plant. Construction began in 2007 on the landfill gas processing plant in Rochester that purifies the gas, as well as on the 12.7-mile underground pipeline that transports the gas from the plant to the UNH Durham campus.

**Cost Savings.** UNH's landfill gas project cost an estimated $45 million – all internally funded – with an anticipated payback within 10 years of the project. Both the cogeneration (COGEN) plant and the landfill gas projects were financed by the campus through borrowing. No student fees or state funding was used. The analysis done as part of the due diligence process showed that the total cost of energy delivered to the campus was lower if the project was accomplished (assuming all costs for the new systems including repayment of the financing) than the "do nothing" alternative.

**Emissions Reductions.** When combined with the COGEN plant, this innovative landfill gas project lowers energy costs, provides energy security, and reduces the UNH Durham campus's greenhouse gas emissions. ECOLine is representative of UNH’s aggressive climate action plan (WildCAP), which sets to reduce greenhouse gas emissions 50% by 2020, 80% by 2050 and on the road to carbon neutrality by 2100.

**Renewable Energy Credits (RECs).** Rather than purchasing RECs, UNH is actually *selling* RECs. UNH receives RECs generated by the project and Waste Management sees a reduction in the amount of methane gas (the gas now being piped to UNH) they need to flare, which gives them greater flexibility in their operations. UNH's agreement with WM prices the gas based on a discount from one of the national indexes for natural gas prices -- a fairly typical pricing structure for these types of contracts.

Part of the proceeds from the sale of RECs help to finance the debt incurred from the project, thus positioning ECOLine to “pay for itself.” Other proceeds from RECs go into UNH’s Energy Efficiency Fund, which invests in energy saving projects on campus. The initial projects of the EEF include lighting upgrades campuswide to replace older fluorescent technology with the latest replacements, as well as the installation of occupancy sensors. Thus, the sale of RECs also directly supports advancement toward the emissions reduction goals set forth under WildCAP.

**A few additional facts to consider:**

The gas found in the existing landfill material will last for 20 years, even if the landfill is closed tomorrow. Turnkey Landfill, however, is expected to continue to accept waste into the future.

We need to cut greenhouse emissions now – an estimated 80% by 2050. Therefore, every landfill in the country should use or sell its methane gas for power – gas that is already being produced now from waste ALREADY in landfills. Landfills are already a significant contributor to GHG emissions from previous waste disposal, and controlling GHG emissions from landfills is an important way to reduce overall emissions, particularly if landfill gas replaces the traditional consumption of fossil fuels.