



Green Innovation Grant Program (GIGP) No. 30
CWSRF Project No. C4-5419-04-70
Albany County
Project Name: Waste Heat Recovery/Co-Generation

DEC Region: 4 County: Albany

Type of Financing: American Recovery and Reinvestment Act (ARRA) Green Innovation Grant Program

Estimated Total Project Cost: \$8,558,325.00

Recommended GIGP Award Amount: \$5,868,742.00

Local Share: \$652,083.00

Other Funding Sources: \$2,037,500.00

Project Category: Clean Water SRF. Energy Efficiency.

Project Description:

This project involves the installation of a Combined Heat and Power (CHP) System to capture flue gas waste heat and produce electricity from the existing Albany County Sewer District's (ACSD) incinerator. ACSD uses multiple-hearth incineration as a permitted disposal method for sewage sludge. The project also includes the addition of an exterior structure on the existing site where new equipment will be installed. The entire project has been deemed eligible for GIGP funding. ACSD will obtain co-funding from NYSERDA for a portion of this project.

The scope of the project is defined by the Engineering Report titled: Albany County Sewer District Waste Heat to Energy Feasibility Study Nov 2008 Prepared by Camp Dresser and McKee and made eligible by NYSEFC on Nov 25, 2009. This project is further defined by plans and specifications titled "Incinerator Waste Heat Recovery/Co-Generation Contracts 1G- General and 1E Electrical dated March 2009 and made eligible by NYSEFC on Nov 25, 2009.

Project Summary:

The ACSD Waste Heat to Energy/Co-generation project is an innovative method to create renewable energy from sewage sludge as a bio-mass fuel and reuse this energy as clean power for a portion of the wastewater facility's electrical and space heating needs. The process will reduce demand on outside electrical sources by approximately a 69% on an average hourly basis (a 3.3 million kWh annual reduction) and will reduce the average weekly consumption of natural gas by an estimated 32% (approximately 100,000 therms per year). In addition, the project will result in significant cost savings, water conservation through the reuse of 50,000 gallons per day (gpd) of effluent for equipment cooling, and reduction in CO2 emissions by approximately 1,445 tons / year.

This project is categorically eligible for GIGP financing in three categories per the United States Environmental Protection Agency's (EPA's) "Guidance for Award of Recovery Act Funding to State Revolving Funds" dated March 2, 2009:

1. Energy Efficiency. Categorically eligible projects include the use of "improved technologies and practices to reduce the energy consumption of water quality projects... produce clean energy used by a treatment works" (page 43 of the EPA Guidance) including the example in IV. c. "producing clean power...on site [via]... biogas powered combined heat and power" (page 44);
2. Water Efficiency. Categorically eligible projects include the use of "improved technologies and practices to deliver equal or better services with less water" (page 42). Through the reuse of wastewater effluent for

equipment cooling, this project meets the EPA criteria, particularly for example V.e. "Reclamation, recycling and reuse of existing ...wastewater streams" (page 43); and

3. Environmental Innovation. Categorically eligible projects "manage water resources in a more sustainable way, including projects that achieve pollution prevention...and projects that foster adaptation of water protection programs and practices to climate change," Example III. g. of the EPA Guidance includes "projects that facilitate adaptation of clean water programs and practices to climate change" (pp. 45-46). The use of biogas and combined heat and power reduces reliance of a Section 212 facility on fossil fuels and mitigates climate change impacts of that facility.

Bids were opened for this project on 6/16/09.

Funding Summary:

The applicant has committed \$3,465,500 in local match. In addition, the County has agreements with NYSERDA for \$2,037,500 in funding.

SEQR Findings:

The Corporation has determined that the proposed action will finance a project which constitutes the "...construction or expansion of a primary or accessory/appurtenant, non-residential structure or facility involving less than 4,000 square feet of gross floor area..." and the "...purchase or sale of furnishings, equipment or supplies..." which is a "Type II" action under SEQR, pursuant to 6 NYCRR 617.5(c)(7) and 6 NYCRR 617.5(c)(25).

Construction Schedule:

<u>Description</u>	<u>Construction Start</u>	<u>Construction Completion</u>
Albany County Waste Heat Recovery/Co-Generation	December 1, 2009	July 11, 2011