Energy Independence Study

CATEGORY K – ENERGY

Oregon ACWA
Portland, Oregon

THE OREGON ASSOCIATION OF CLEAN WATER AGENCIES, with funding from Energy Trust of Oregon, commissioned a groundbreaking study to show Oregon WWTPs how to become energy independent by eliminating the need to purchase any electricity to run their operations. The Kennedy/Jenks Consultants study shows WWTPs how to reach this ambitious goal by optimizing energy efficiency measures at the plant and using renewable resources.

Cogen unit gas treatment system at Gresham WWTP

CHARTING A COURSE TO ENERGY INDEPENDENCE

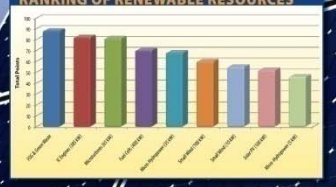
Kennedy/Jenks reviewed options to increase energy efficiency at two demonstration plants, conducted a wide-ranging review of renewable technologies, and encapsulated the information into a systematic approach that WWTPs can use to analyze, evaluate, and select the best measures to attain energy independence.

Corvallis Wastewater Reclamation Facility

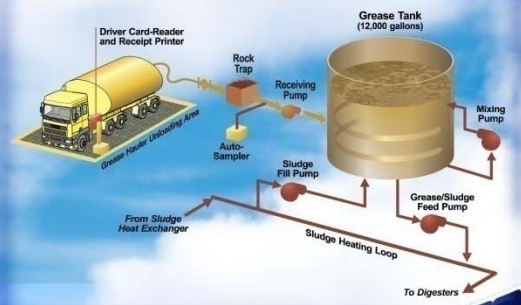
PROJECT BENEFITS

- Systematic approach to assessing energy-efficiency
- Concise, relevant information about renewable resources
- Reduced environmental, GHG, and air quality impacts of WWTPs
- Clear ranking of renewable energy options
- Sustainable solutions

RANKING OF RENEWABLE RESOURCES



GREASE RECEIVING AND CONVEYANCE SCHEMATIC



DEVELOPING THE PLAN

Identify energy-efficiency measures (EEMs) – optimize plant operations and install premium efficiency equipment

Determine plant energy profile – review energy use, energy purchases, and EEMs to determine the amount of energy that must be offset to reach energy independence

Assess renewable resource options –

- Evaluate each option for cost, environment impacts, technical maturity and reliability, greenhouse gas emissions, political/community impacts, operational impacts, and adequate size
- Evaluate and rank renewable technologies by weighted scores

Develop a plan for energy independence using the resource rankings and the plant's energy profile. Although recommendations in the study were specific to the Gresham and Corvallis WWTPs, they were designed for use by any other Oregon WWTP, or any other plant in the nation, wanting to become energy independent.

ACEC
American Council of Engineering Companies

Kennedy/Jenks Consultants
Engineers & Scientists