

Project Overview



Intern: Ryan Yates

Major: Mechanical Engineering

School: University of Nebraska-Lincoln

Company Background

The Nebraska Energy Office (NEO) is a government agency whose mission is to promote energy efficiency through incentives including low interest loans. The NEO provides technical assistance with residential properties to ensure they meet energy efficiency specifications.

Project Description

The NEO and the University of Nebraska-Lincoln collaborated to help reduce energy consumption by small community wastewater plants. The project included asset management for sustainability and long-term planning to promote an energy efficient future for the small communities.

Pollution Prevention Benefits

Pollution prevention is paramount to a society's wellbeing and is an ongoing battle that needs to be confronted directly. Reducing energy consumption at small community wastewater treatment facilities mitigates energy source production, resulting in decreased greenhouse gas (GHG) emissions. When a plant lowers their energy consumption they are also likely to reduce their operating costs, thereby reducing a small community's expenses.

Results

The pollution prevention opportunities and results detailed in this report are summarized in **Table 1**.

Table 1. Pollution Prevention Opportunities and Results

Facility	Annual Energy Savings	Annual Cost Savings	GHG Reduced (MT CO ₂ e per year)
Syracuse WWTF	91,500 kWh/year	\$6,380/year	59.7
Central City WWTF	115,900 kWh/year	\$5,810/year	47.9
Albion WWTF	1,000 kWh/year	\$80/year	0.8
Geneva WWTF	62,400 kWh/year	\$3,900	35.3
Cedar Rapids WWTF	7,470 kWh/year	\$525	27.5
Total	278,270 kWh/year	\$16,695	171.2