LGEA Presentation

Township of Ocean Sewerage Authority

February 11, 2022

New Jersey's
Clean Energy Program

Lighting the way to New Jersey's Clean Energy Future

INTRODUCTIONS

- *Township of Ocean Sewerage Authority*
  - Natalie Chesko – Technical Service Manager

- *NJ Clean Energy Program*
  - Sarah Walters – LGEA Project Manager
  - Moussa Traore – LGEA Lead Auditor
  - Michelle Rossi – ESIP Coordinator (BPU)

AGENDA

- The audit process overview
- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**easures (ECMs) identified & other recommendations
- Energy Savings Improvement Program (ESIP)
- C&I Transition of EE Programs
- Questions regarding the draft audit report
- Next steps for TOSA

LGEA Process

- Application Approval
- Initial Call
- Facility Interviews
- Audit
- Benchmarking & Analysis
- Draft Reports
- LGEA Presentation
- Final Reports

Site Visit & Utility Analysis

Overview of Systems, Baseline & Existing Conditions:

- Lighting System
- HVAC and Mechanical Systems
- Plug Load Equipment
- Process Equipment

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Sites Visited/Analyzed

- Township of Ocean Sewerage Authority
  - Administration Building
  - Control Building
  - Main Pump Building
  - Sludge Building
  - Lab/Garage
  - Grit Building
  - PSA Building

BENCHMARKING

ENERGY STAR® Statement of Energy Performance

LEARN MORE AT energystar.gov

72

ENERGY STAR® Score[1]

Township of Ocean Sewerage Authority (campus)

Primary Property Type: Wastewater Treatment Plant
Gross Floor Area (ft²): 20,430
Built: 1968

For Year Ending: March 31, 2021
Date Generated: December 23, 2021

1. The ENERGY STAR score is a 1-100 assessment of a building's energy efficiency as compared with similar buildings nationwide, adjusting for climate and business activity.

Property & Contact Information

Property Address	Property Owner	Primary Contact
Township of Ocean Sewerage Authority (campus) 224 Roosevelt Avenue Oakhurst, New Jersey 07755	Township of Ocean Sewerage Authority 224 Roosevelt Avenue Oakhurst, NJ 07755 732-531-2213	William Schmeling 224 Roosevelt Avenue Oakhurst, NJ 07755 732-531-2213 ext. 110 executivedirector@tosa-nj.org

Property ID: 16844918

Energy Consumption and Energy Use Intensity (EUI)

Site EUI
541 kBtu/ft²

Source EUI
1,430.3 kBtu/ft²

Annual Energy by Fuel

Natural Gas (kBtu)	985,729 (9%)
Electric - Grid (kBtu)	10,066,609 (91%)

National Median Comparison

National Median Site EUI (kBtu/ft²)	707.2
National Median Source EUI (kBtu/ft²)	1,869.7
% Diff from National Median Source EUI	-24%

Annual Emissions

Greenhouse Gas Emissions (Metric Tons CO2e/year)	987

Signature & Stamp of Verifying Professional

I _____ (Name) verify that the above information is true and correct to the best of my knowledge.

LP Signature: _____ Date: _____

Licensed Professional

___ _____
;
(___)___-_____
_____

Professional Engineer or Registered Architect Stamp (If applicable)

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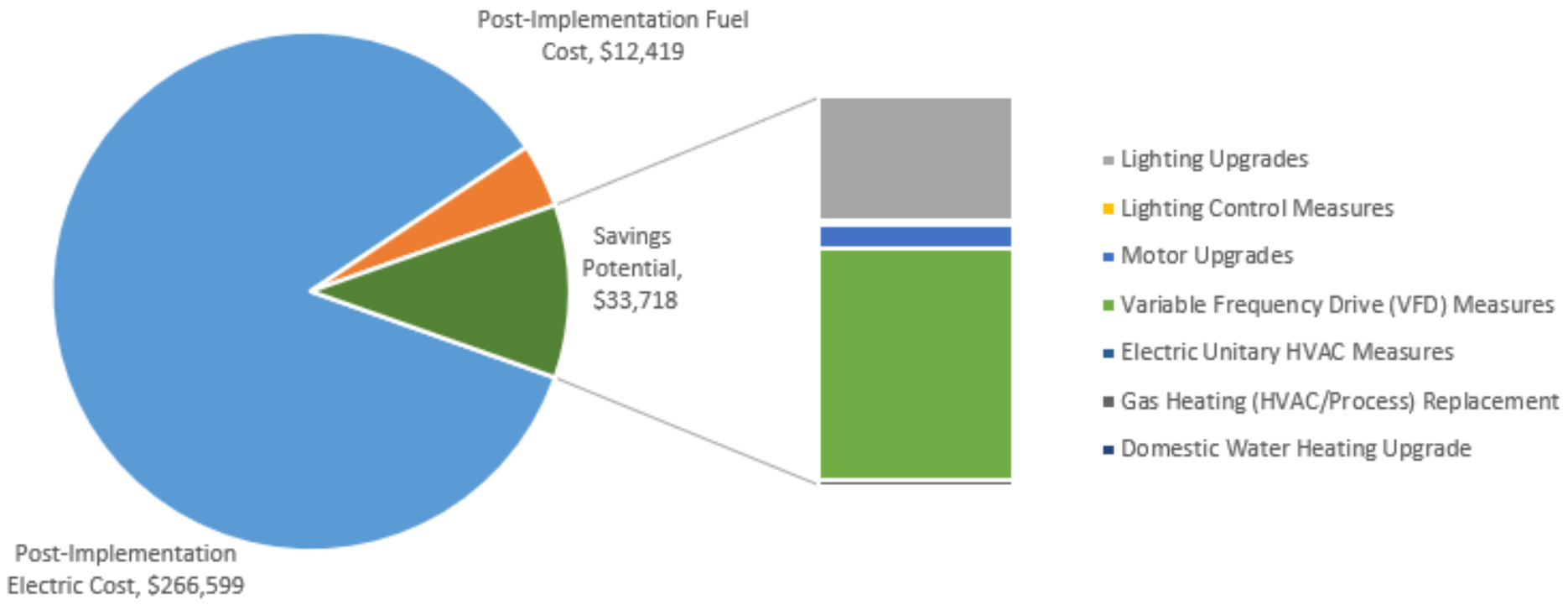
ENERGY STAR® scores are percentile ranking from 1 (least efficient) to 100 (most efficient). It compares your building's energy performance to similar buildings nationwide.

All Opportunities

Savings Potential



ALL OPPORTUNITIES

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated M&L Cost ($)	Estimated Incentive ($)*	Estimated Net M&L Cost ($)	Simple Payback Period (yrs)**	CO_2e Emissions Reduction (lbs)
Lighting Upgrades			**110,268**	**10.9**	**-20**	**$10,803**	**$33,754**	**$6,455**	**$27,299**	**2.5**	**108,751**
ECM 1	Install LED Fixtures	Yes	89,486	6.1	-15	$8,781	$25,998	$4,700	$21,298	2.4	88,382
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	1,715	0.6	0	$167	$1,008	$146	$862	5.2	1,681
ECM 3	Retrofit Fixtures with LED Lamps	Yes	19,067	4.3	-4	$1,855	$6,747	$1,609	$5,138	2.8	18,688
Lighting Control Measures			**3,078**	**0.8**	**-1**	**$299**	**$6,445**	**$955**	**$5,490**	**18.3**	**3,016**
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	3,003	0.8	-1	$292	$6,220	$815	$5,405	18.5	2,943
ECM 5	Install High/Low Lighting Controls	Yes	75	0.0	0	$7	$225	$140	$85	11.7	73
Motor Upgrades			**21,099**	**2.0**	**0**	**$2,115**	**$17,988**	**$0**	**$17,988**	**8.5**	**21,247**
ECM 6	Premium Efficiency Motors	Yes	21,099	2.0	0	$2,115	$17,988	$0	$17,988	8.5	21,247
Variable Frequency Drive (VFD) Measures			**199,319**	**14.4**	**0**	**$19,979**	**$70,136**	**$14,400**	**$55,736**	**2.8**	**200,713**
ECM 7	Install VFDs on Water Supply Pump	Yes	14,165	1.0	0	$1,420	$7,974	$1,800	$6,174	4.3	14,264
ECM 8	Install VFDs on Process/Pool Filtration Pumps	Yes	185,154	13.4	0	$18,559	$62,163	$12,600	$49,563	2.7	186,449
Unitary HVAC Measures			**669**	**0.7**	**0**	**$67**	**$2,536**	**$150**	**$2,386**	**35.6**	**674**
ECM 9	Install High Efficiency Heat Pumps	No	669	0.7	0	$67	$2,536	$150	$2,386	35.6	674
Gas Heating (HVAC/Process) Replacement			**0**	**0.0**	**31**	**$402**	**$5,889**	**$500**	**$5,389**	**13.4**	**3,679**
ECM 10	Install High Efficiency Furnaces	Yes	0	0.0	31	$402	$5,889	$500	$5,389	13.4	3,679
Domestic Water Heating Upgrade			**278**	**0.0**	**2**	**$52**	**$43**	**$22**	**$22**	**0.4**	**502**
ECM 11	Install Low-Flow DHW Devices	Yes	278	0.0	2	$52	$43	$22	$22	0.4	502
TOTALS (COST EFFECTIVE MEASURES)			**334,043**	**28.2**	**13**	**$33,651**	**$134,255**	**$22,332**	**$111,924**	**3.3**	**337,909**
TOTALS (ALL MEASURES)			**334,712**	**28.8**	**13**	**$33,718**	**$136,792**	**$22,482**	**$114,310**	**3.4**	**338,583**

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

** - Simple Payback Period is based on net measure costs (i.e. after incentives).

ENERGY EFFICIENT BEST PRACTICES

- Reduce Air Leakage
- Close Doors and Windows
- Develop a Lighting Maintenance Schedule
- Ensure Lighting Controls Are Operating Properly
- Use Fans to Reduce Cooling Load
- Use Window Treatments/Coverings
- Clean and/or Replace HVAC filters
- Check and Seal Duct Leakage
- Perform Proper Boiler Maintenance
- Perform Proper Water Heater Maintenance
- Plug Load Controls
- Water Conservation

See individual reports for specific EE practices by building

Solar Energy Generation Potential

TOSA	
Potential:	**MEDIUM**
System Potential: (kW)	139
Electric Generation: (kWh per year)	104,590
Displaced Cost: (per year)	$10,480

Successor Solar Incentive Program

https://www.njcleanenergy.com/renewable-energy/programs/susi-program

Community Solar Energy Pilot Program

http://www.NJCleanEnergy.com/CommunitySolar

FINANCING MECHANISM: ESIP

ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- Energy Performance Contracting – NJ ESIP
- Financing Mechanism that allows state entities to make energy efficiency improvements without impacting their budgets
- Administered by the NJBPU
- Project is paid for with the value of its own energy savings
- 15 or 20 year self-funding loan
- Recent Energy Efficiency Transition
    - NJBPU Approved Incentive Programs
        - Utility or NJCEP
- Can be combined with Federal/State Pandemic Relief Funds
- No upfront capital expenses
- No referendum or impact to tax payers

New Jersey's cleanenergy program™

FINANCING MECHANISM: ESIP

Preliminary Energy Audit

LGEA

Select Path

ESCO Model
Hybrid Model
DIY Model

Investment Grade Energy Audit

Prioritize ECM's to determine project

Energy Savings Plan Developed

Cash Flow Positive

Third Part Audit of Plan

Submitted for **BPU Approval**

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FOR MORE INFORMATION

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C&I Transition of Energy Efficiency Programs

https://www.njcleanenergy.com/transition

LOCAL GOVERNMENT CUSTOMERS

COMMERCIAL & INSTITUTIONAL CUSTOMERS

LARGE ENERGY CUSTOMERS

EXISTING BUILDINGS

MEASUREMENT & AUDITS

FREE Energy Audits

RETROFITS

Prescriptive & Custom Rebates

Direct Install

Engineered Solutions

And more from your local utility!

Incentives up to $4 million for eligible projects

NEW CONSTRUCTION

Prescriptive & Custom Rebates for New Construction and Gut Rehabs

Pay for Performance incentives for buildings over 50,000 sq. ft.

DISTRIBUTED ENERGY RESOURCES

Combined Heat & Power and Fuel Cell Installation Incentives

Microgrid Development

Battery Storage

Muni EV Fleets

New Jersey's cleanenergy program™

Key:

Programs run by investor-owned utility companies

Programs run by NJCEP

Utility Run Energy Efficiency Programs

PRESCRIPTIVE & CUSTOM REBATES:

- Individual high efficiency equipment rebates for renovation, remodeling, and equipment replacement
- Flexibility to do a little or a lot
- No size requirement

DIRECT INSTALL:

- Turn-key retrofit program to replace outdated and inefficient equipment including, lighting, HVAC, refrigeration, etc.
- The facility must have an average electric peak demand <200kW in the previous year to qualify

ENGINEERED SOLUTIONS:

- Comprehensive, whole-building approach to saving energy
- The facility must have an average electric peak demand >200kW in the previous year to qualify

For More Information

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THANK YOU