New Jersey's Clean Energy Program

LGEA Exit Meeting for: Linden-Roselle Sewerage Authority

February 14, 2020





INTRODUCTIONS

- Linden-Roselle Sewerage Authority
 - David Brown Executive Director
 - Paul Sweetwood, PE Vice President at T&M Associates
 - Eric Nathanson Supervising Environmental Scientist at T&M Associates
- NJ Clean Energy Program
 - Moussa Traore TRC Auditor
 - Amanda Muench TRC Account Manager
 - Tony O'Donnell TRC Outreach Manager
 - Arif Welcher BPU Government/Business Manager
 - Michelle Rossi BPU ESIP Coordinator



Agenda

- The audit process overview
- Energy use & existing conditions
- Review of Energy Conservation Measures (ECMs) identified
- Questions regarding the draft audit report
- Overview of NJCEP equipment incentives
- Next steps for Linden-Roselle Sewerage Authority



LGEA PROCESS

Application Approval

Scheduling Call

Audit

Benchmarking & Analysis

Draft Report

Exit Meeting Presentation

Final Report



UTILITY BREAKOUT

Total Annual Energy Costs

Utility Summary						
Fuel	Usage	Cost				
Electricity	8,555,104 kWh	\$840,645				
Natural Gas	18,373 Therms	\$19,023				
Total	\$859,667					



Rew Jersey's Cleanenergy

PLANT

Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Process Equipment (Pumps, Motors)
- Plug Load Equipment

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs



Benchmarking



Signature & Stamp of Verifying Professional

I	(Name) verify that the above information is true	and correct to the best of my knowledge
Signature:	Date:	

Licensed Professional

. (___)__- Professional Engineer Stamp

(if applicable)



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.

PLANT

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting	Upgrades		557,595	64.0	-101	\$53,744	\$261,883	\$91,282	\$170,601	3.2	549,659
ECM 1	Install LED Fixtures	Yes	384,114	37.9	-64	\$37,079	\$228,045	\$80,500	\$147,545	4.0	379,277
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	128,979	19.9	-27	\$12,389	\$25,017	\$7,040	\$17,977	1.5	126,665
ECM 3	Retrofit Fixtures with LED Lamps	Yes	43,367	6.0	-9	\$4,167	\$7,372	\$3,742	\$3,630	0.9	42,602
ECM 4	Install LED Exit Signs	Yes	1,135	0.1	0	\$109	\$1,448	\$0	\$1,448	13.3	1,115
Lighting	Control Measures		43,190	6.8	-9	\$4,149	\$43,642	\$13,525	\$30,117	7.3	42,415
ECM 5	Install Occupancy Sensor Lighting Controls	Yes	40,394	6.4	-9	\$3,880	\$41,842	\$12,190	\$29,652	7.6	39,669
ECM 6	Install High/Low Lighting Controls	Yes	2,796	0.4	-1	\$269	\$1,800	\$1,335	\$465	1.7	2,746
Motor U	pgrades		132,001	24.4	0	\$12,971	\$121,216	\$0	\$121,216	9.3	132,924
ECM 7	Premium Efficiency Motors	Yes	132,001	24.4	0	\$12,971	\$121,216	\$0	\$121,216	9.3	132,924
Electric L	Jnitary HVAC Measures		10,659	7.1	0	\$1,047	\$92,771	\$8,231	\$84,540	80.7	10,733
ECM 8	Install High Efficiency Air Conditioning Units	No	10,659	7.1	0	\$1,047	\$92,771	\$8,231	\$84,540	80.7	10,733
Gas Heat	ing (HVAC/Process) Replacement		0	0.0	111	\$1,153	\$103,401	\$19,194	\$84,207	73.1	13,034
ECM 9	Install High Efficiency Hot Water Boilers	No	0	0.0	34	\$350	\$57,089	\$9,594	\$47,495	135.9	3,953
ECM 10	Install High Efficiency Furnaces	No	0	0.0	78	\$803	\$46,312	\$9,600	\$36,712	45.7	9,080
HVAC Sys	stem Improvements		828	0.0	3	\$110	\$104	\$72	\$32	0.3	1,154
ECM 11	Install Pipe Insulation	Yes	828	0.0	3	\$110	\$104	\$72	\$32	0.3	1,154
Domestie	c Water Heating Upgrade		556	0.0	1	\$69	\$50	\$50	\$0	0.0	727
ECM 12	Install Low-Flow DHW Devices	Yes	556	0.0	1	\$69	\$50	\$50	\$0	0.0	727
	TOTALS (COST EFFECTIVE MEASURES)		734,170	95.1	-106	\$71,043	\$426,894	\$104,929	\$321,965	4.5	726,879
TOTALS (ALL MEASURES)		744,828	102.3	5	\$73,242	\$623,066	\$132,354	\$490,711	6.7	750,646	



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



CLEAN ENERGY PROGRAM PORTFOLIO

ELIGIBLE SECTORS

INCENTIVE PROGRAMS

OTHER PROGRAMS



Commercial, Industrial, Government, Non-Profit, Institutional and Multifamily

Equipment Rebates:

- SmartStart
- Customer Tailored Energy Efficiency Pilot (CTEEP)
- Direct Install
- Large Energy Users

Whole Buildings:

Pay for Performance

Energy Generation:

Combined Heat and Power – Fuel Cells

Renewable Energy Generation:

- SREC Registration Program (SRP)
- Community Solar

SOLAR ENERGY GENERATION POTENTIAL

	Plant
Potential:	HIGH
System Potential: (kW)	161
Electric Generation: (kWh per year)	191,811
Displaced Cost: (per year)	\$18,850

SREC Registration Program (SRP):

http://www.NJCleanEnergy.com/SREC

Community Solar Energy Pilot Program:

http://www.NJCleanEnergy.com/Com munitySolar



RECOMMENDED NJCEP INCENTIVES PER BUILDING

Linden-Roselle SA	Pay For Performance	SmartStart	CTEEP	
Plant	Х	Х	Х	

Buildings marked with a lighter X do not quite meet the requirements of the current P4P program. P4P should be evaluated again once project planning is underway.



PAY FOR PERFORMANCE

NJCleanEnergy.com/P4P

What is P4P: Comprehensive, whole-building approach to saving energy in existing or new facilities.



- Qualifications: Annual peak demand 200 kW+ in the previous year for existing buildings
- About: Customer choose from a network of pre-approved *Participating Partners*

Incentives: Incentives paid in <u>three</u> installments

- Up to \$2MM per project((\$4MM entity cap/year)
 - \$1 million for electric measures
 - \$1 million for gas measures
- Up to 50% of project cost (or 80% for UEZ/OZ/Local Govt./ K-12 Public Schools) up to \$2MM per project / \$4MM per entity annually



SMARTSTART

NJCleanEnergy.com/SSB

What is SSB: Individual high efficiency equipment rebates for new construction, renovation, remodeling, equipment replacement



Qualifications: • All C&I customer types contributing into the Societal Benefits Charge (SBC)

About:

- Prescriptive and custom designed measures
- Pre-approval required only for lighting projects with incentives >\$100,000 and <u>all</u> custom projects
- For measures not requiring pre-approval, applications must be submitted to the program within one year of purchase.

Incentives:

- Prescriptive: \$500,000 cap for each electric or gas account
- Custom, lesser of the following:
 - \$0.16/kWh and/or \$1.60/Therm saved annually
 - 50% of incremental installed cost
 - Buy-down to 1 year payback based on incremental cost and savings



SMARTSTART NJCleanEnergy.com/SSB

Prescriptive Incentives

- Lighting & Lighting
 Controls
- Packaged HVAC
- Boilers & Water Heaters
- Chillers
- VFD's
- Food Service
- Refrigeration

Prescriptive Only:

DOUBLE INCENTIVES FOR OZ/UEZ/ LOCAL GOVT./K-12 PUBLIC SCHOOLS

Custom Incentives

- New or innovative technologies proven to be cost-effective and not listed as prescriptive
- Projects must have a minimum first year energy savings of 75,000 kWh or 1,500 therms
- Project pre and post inspection required



CUSTOMER TAILORED ENERGY EFFICIENCY PILOT NJCleanEnergy.com/CTEEP

What is CTEEP: A streamlined/single application process for participants submitting multiple different technology types.

Qualifications: • All C&I customer types contributing into the Societal Benefits Charge (SBC)

About:

- On site assistance available
- Additional technical incentive available to offset soft costs associated with developing and planning custom projects

Incentives:

- \$250,000 fiscal year entity cap
 - Technical assistance incentives for custom project evaluation (up to \$10K)

SAME INCENTIVE VALUES AS SMARTSTART



FINANCING MECHANISM: ESIP

ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- Provides alternative financing for energy savings projects at public institutions
- Administered directly by the BPU
- Value of energy savings leveraged to pay for cost of EE projects over a 15 year contract
- Requires NO new bonding and is outside of capital budget
- Does not count as debt or require voter approval



FINANCING MECHANISM: ESIP





Program

ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

FOR MORE INFORMATION

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FOR MORE INFORMATION

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QUESTIONS



