

New Jersey's Clean Energy Program

LG&A Exit Meeting for:
Lakewood Township MUA

Tom Page, TRC

December 14, 2017

Meeting Setup



1) Dial the following:

1-877-304-9323

2) When prompted, enter the code below:

5391398#

Introductions



Lakewood Township MUA

- Chief Financial Officer: Daniel Rappoccio
- Director of Operations: Bob Farina
- Executive Director: Justin Flancbaum
- Operations Manager: Harry Robbins

NJ Clean Energy Program – TRC

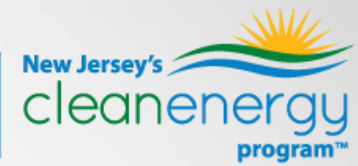
- Auditor: Tom Page
- Outreach Manager: Jim Friedl

Agenda



- Overview of LGEA process
- Energy use & existing conditions
- Review of Energy Conservation Masures (ECMs) identified
- Questions or concerns regarding the draft audit report
- Overview of NJCEP equipment incentives
- Next steps for Lakewood Township MUA

Process to Draft Report



- Application submitted to NJCEP
- Site Visit Performed
- Utility Analysis
- Baseline Condition
- Analysis
- Recommendations
- Report

Overview of Systems, Baseline & Existing Conditions:

- Building Envelopes
- Lighting Systems
- HVAC and Mechanical Systems
- Pumps & Motors
- Domestic Hot Water Systems

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

New Hampshire Ave. Admin Complex



Energy Conservation Measure		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		34,136	10.8	0.0	\$4,787.67	\$17,548.56	\$3,475.00	\$14,073.56	2.9	34,375
ECM 1	Install LED Fixtures	7,949	1.7	0.0	\$1,114.93	\$4,100.71	\$1,100.00	\$3,000.71	2.7	8,005
ECM 2	Retrofit Fixtures with LED Lamps	26,186	9.0	0.0	\$3,672.74	\$13,447.85	\$2,375.00	\$11,072.85	3.0	26,370
Lighting Control Measures		1,215	0.7	0.0	\$170.36	\$5,404.00	\$770.00	\$4,634.00	27.2	1,223
ECM 3	Install Occupancy Sensor Lighting Controls	1,215	0.7	0.0	\$170.36	\$5,404.00	\$770.00	\$4,634.00	27.2	1,223
TOTALS		35,351	11.4	0.0	\$4,958.03	\$22,952.56	\$4,245.00	\$18,707.56	3.8	35,598

* - All incentives presented in this table are based on NJ Smart Start Building equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

Shorrock St. Water Treatment Plant



Energy Conservation Measure		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		9,952	2.9	0.0	\$1,186.49	\$6,366.26	\$820.00	\$5,546.26	4.7	10,022
ECM 1	Retrofit Fixtures with LED Lamps	8,744	2.8	0.0	\$1,042.51	\$5,505.82	\$820.00	\$4,685.82	4.5	8,805
ECM 2	Install LED Exit Signs	1,208	0.1	0.0	\$143.98	\$860.44	\$0.00	\$860.44	6.0	1,216
ECM 3	Install High Efficiency Gas Water Heater	3,377	5.4	-11.5	\$300.63	\$1,067.76	\$50.00	\$1,017.76	3.4	2,051
TOTALS		13,329	8.3	-11.5	\$1,487.13	\$7,434.02	\$870.00	\$6,564.02	4.4	12,073

* - All incentives presented in this table are based on NJ Smart Start Building equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

Some Energy Efficient Practices

- Close Doors and Windows
- Ensure Lighting Controls Are Operating Properly
- Turn Off Unneeded Motors
- Reduce Motor Short Cycling
- Perform Routine Motor Maintenance
- Practice Proper Use of Thermostat Schedules and Temperature Resets
- Clean Evaporator/Condenser Coils on AC Systems
- Clean and/or Replace HVAC Filters
- Perform Proper Boiler Maintenance

See individual reports for specific EE practices by building

On-Site Generation Measures



- Solar Photovoltaic (PV)
 - Very Good potential for solar PV development
 - NH Ave = $\sim 13,815 \text{ ft}^2$ of potentially usable roof space
 - Shorrock = $\sim 17,438 \text{ ft}^2$ of space of roofs & ground
 - PV may be best opportunity to reduce utility costs.
 - Good subsidies available through SREC for 15 yrs
 - Potential payback in < 7 yrs, including SRECs
 - Project may be financeable through ESIP
 - PPA is also a possibility - less benefit, but no risk.

On-Site Generation Measures



- Advantages of PPA
 - No upfront costs
 - No maintenance responsibility
- Disadvantages of PPA
 - Usually have uplift in pricing each year (usually lower than average annual increase in utility prices)
- Advantages of Ownership
 - Access to SREC market and associated revenue
 - Greater savings on utility costs after break even achieved
- Disadvantages of Ownership
 - Upfront acquisition costs
 - Maintenance responsibility

On-Site Generation Measures

New Hampshire Ave Complex



Total Installed Cost	\$674,100	\$
Value of Electric Generation per Year	\$37,638.30	\$
Annual Income from SRECS	\$62,980.00	\$
Total Economic Value per Year	\$100,618.30	\$
Simple Payback Period	6.70	years

Shorrock Street Complex



Potential	High	
System Potential	243	kW-DC
Electric Generation	316,244	kWh/yr
Displaced Cost	\$37,700	/yr
Installed Cost	\$821,300	

Rough estimates of solar potential only. Values need to be verified by a qualified solar installer

PROGRAM PORTFOLIO



ELIGIBLE SECTORS

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

PROGRAMS

Equipment Rebates:

- Retrofit – Existing Buildings
- New Construction
- Direct Install – Small Business
- Large Energy Users

Whole Buildings:

- Pay for Performance Existing Buildings
- Pay for Performance New Construction

Energy Generation:

- Combined Heat and Power (CHP) and Fuel Cells

Recommended NJCEP Incentives

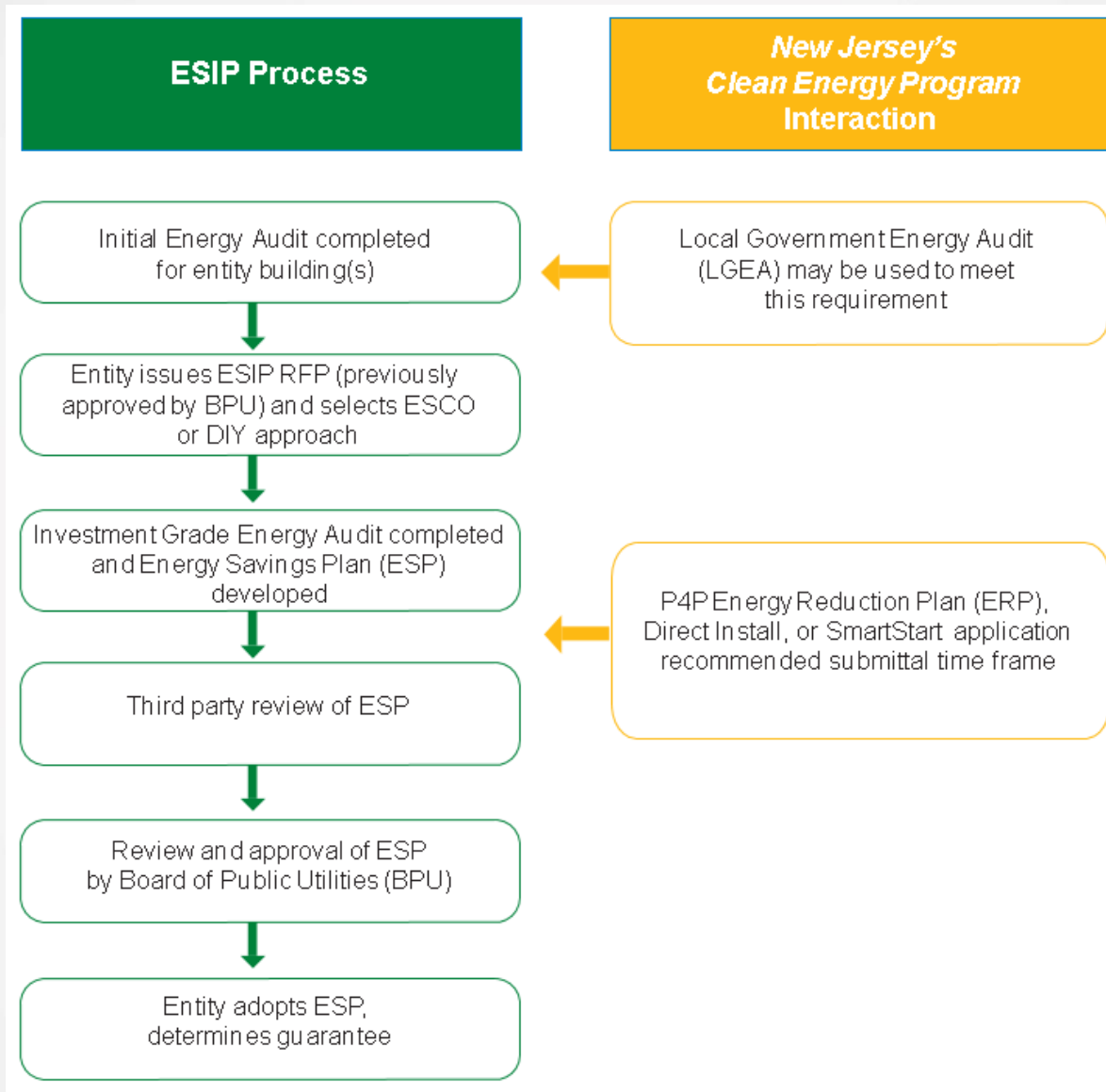


- SmartStart Buildings (i.e Retrofit – Existing Buildings)

Energy Savings Improvement Program (ESIP)



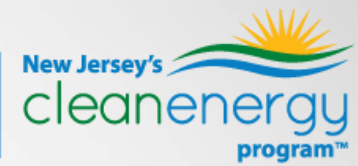
- Program administered directly by BPU
- Provides alternative financing for energy savings projects at public institutions.
- Value of energy savings leveraged to pay for cost of EE projects over a 15 year contract.
- Does not count as debt or require voter approval.
- Requires an audit as 1st step (LGEA satisfied this requirement)



Questions



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FOR MORE INFORMATION

Visit NJCleanEnergy.com

Call (866) NJSMART

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