

New Jersey's Clean Energy Program

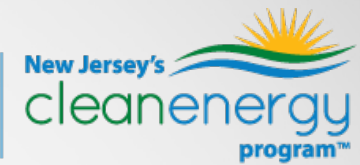
LGEA Exit Meeting for:
Plainsboro Township

June 8, 2018

Introductions

- Plainsboro Township
 - Neil Blitz – Superintendent
 - Anthony Cancro – Township Administrator
 - Rosemary Redding – Assistant to Administrator
- TRC - NJ Clean Energy Program
 - Brian DeLuca – Program Manager
 - Alex Klieverik – Auditor

Agenda



- Overview of LGEA process (application to deliverable)
- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**easures (ECMs) identified
- Questions or concerns regarding the draft audit report
- Overview of NJCEP equipment incentives
- Next steps for Plainsboro Township

Process to Draft Report



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

Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Municipal Complex



Energy Conservation Measure		Recommend?	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			97,506	19.9	0.0	\$14,286.20	\$89,352.84	\$5,750.00	\$83,602.84	5.9	98,188
ECM 1	Install LED Fixtures	Yes	20,101	4.3	0.0	\$2,945.08	\$25,560.36	\$210.00	\$25,350.36	8.6	20,241
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	1,716	0.4	0.0	\$251.44	\$1,923.50	\$125.00	\$1,798.50	7.2	1,728
ECM 3	Retrofit Fixtures with LED Lamps	Yes	62,917	14.2	0.0	\$9,218.37	\$58,965.00	\$5,415.00	\$53,550.00	5.8	63,357
ECM 4	Install LED Exit Signs	Yes	12,772	1.0	0.0	\$1,871.31	\$2,903.99	\$0.00	\$2,903.99	1.6	12,861
Lighting Control Measures			7,286	1.5	0.0	\$1,067.50	\$7,628.00	\$780.00	\$6,848.00	6.4	7,337
ECM 5	Install Occupancy Sensor Lighting Controls	Yes	5,751	1.1	0.0	\$842.62	\$5,558.00	\$745.00	\$4,813.00	5.7	5,791
ECM 6	Install High/Low Lighting Controls	Yes	1,535	0.3	0.0	\$224.87	\$1,800.00	\$0.00	\$1,800.00	8.0	1,546
Motor Upgrades			1,204	0.3	0.0	\$176.37	\$3,211.00	\$0.00	\$3,211.00	18.2	1,212
	Premium Efficiency Motors	No	1,204	0.3	0.0	\$176.37	\$3,211.00	\$0.00	\$3,211.00	18.2	1,212
Electric Unitary HVAC Measures			8,615	5.1	0.0	\$1,262.26	\$103,070.77	\$4,883.50	\$98,187.27	77.8	8,675
	Install High Efficiency Electric AC	No	8,615	5.1	0.0	\$1,262.26	\$103,070.77	\$4,883.50	\$98,187.27	77.8	8,675
Gas Heating (HVAC/Process) Replacement			0	0.0	152.7	\$1,349.78	\$44,276.07	\$3,042.80	\$41,233.27	30.5	17,879
	Install High Efficiency Hot Water Boilers	No	0	0.0	50.6	\$447.60	\$11,377.62	\$1,042.80	\$10,334.82	23.1	5,929
	Install High Efficiency Furnaces	No	0	0.0	102.1	\$902.18	\$32,898.45	\$2,000.00	\$30,898.45	34.2	11,950
Plug Load Equipment Control - Vending Machine			5,178	0.0	0.0	\$758.66	\$920.00	\$0.00	\$920.00	1.2	5,214
ECM 7	Vending Machine Control	Yes	5,178	0.0	0.0	\$758.66	\$920.00	\$0.00	\$920.00	1.2	5,214
TOTALS FOR RECOMMENDED MEASURES			109,970	21.4	0.0	\$16,112.36	\$97,630.84	\$6,495.00	\$91,135.84	5.7	110,739
TOTALS FOR ALL MEASURES			119,789	26.8	152.7	\$18,900.77	\$248,458.68	\$14,456.30	\$234,002.38	12.4	138,506

* - 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).

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Library



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Lighting Upgrades			149,740	29.5	0.0	\$21,409.63	\$71,076.50	\$8,250.00	\$62,826.50	2.9	150,787
ECM 1	Install LED Fixtures	Yes	543	0.1	0.0	\$77.62	\$781.35	\$200.00	\$581.35	7.5	547
ECM 2	Retrofit Fixtures with LED Lamps	Yes	149,197	29.4	0.0	\$21,332.01	\$70,295.15	\$8,050.00	\$62,245.15	2.9	150,240
Lighting Control Measures			16,905	2.8	0.0	\$2,417.09	\$15,290.00	\$1,920.00	\$13,370.00	5.5	17,023
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	14,673	2.6	0.0	\$2,097.99	\$12,640.00	\$1,035.00	\$11,605.00	5.5	14,776
ECM 4	Install Daylight Dimming Controls	Yes	742	0.1	0.0	\$106.05	\$1,250.00	\$885.00	\$365.00	3.4	747
ECM 5	Install High/Low Lighting Controls	Yes	1,490	0.1	0.0	\$213.05	\$1,400.00	\$0.00	\$1,400.00	6.6	1,500
TOTALS			166,645	32.3	0.0	\$23,826.72	\$86,366.50	\$10,170.00	\$76,196.50	3.2	167,810

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Department of Public Works

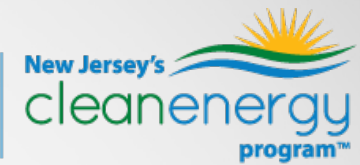


Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			35,857	8.0	0.0	\$5,396.53	\$42,190.44	\$4,530.00	\$37,660.44	7.0	36,108
ECM 1	Install LED Fixtures	Yes	24,287	3.8	0.0	\$3,655.25	\$33,983.41	\$3,100.00	\$30,883.41	8.4	24,457
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	1,319	0.4	0.0	\$198.57	\$1,079.00	\$90.00	\$989.00	5.0	1,329
ECM 3	Retrofit Fixtures with LED Lamps	Yes	10,250	3.9	0.0	\$1,542.71	\$7,128.03	\$1,340.00	\$5,788.03	3.8	10,322
Electric Unitary HVAC Measures			7,679	2.9	0.0	\$1,155.76	\$20,198.97	\$1,242.00	\$18,956.97	16.4	7,733
	Install High Efficiency Electric AC	No	7,679	2.9	0.0	\$1,155.76	\$20,198.97	\$1,242.00	\$18,956.97	16.4	7,733
Plug Load Equipment Control - Vending Machine			1,612	0.0	0.0	\$242.58	\$230.00	\$0.00	\$230.00	0.9	1,623
ECM 4	Vending Machine Control	Yes	1,612	0.0	0.0	\$242.58	\$230.00	\$0.00	\$230.00	0.9	1,623
TOTALS FOR ALL RECOMMENDED MEASURES			37,469	8.0	0.0	\$5,639.11	\$42,420.44	\$4,530.00	\$37,890.44	6.7	37,731
TOTALS FOR ALL EVALUATED MEASURES			45,148	11.0	0.0	\$6,794.87	\$62,619.41	\$5,772.00	\$56,847.41	8.4	45,464

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Energy Efficient Best Practices



- *Perform Routine Motor Maintenance*
- *Install Destratification Fans*
- *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*
- *Perform Proper Furnace Maintenance*
- *Perform Proper Water Heater Maintenance*
- *Perform Maintenance on Compressed Air Systems*
- *Install Plug Load Controls*
- *Water Conservation*

See individual reports for specific EE practices by building.

PROGRAM PORTFOLIO

ELIGIBLE SECTORS

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

PROGRAMS

Equipment Rebates:

- SmartStart Retrofit
- SmartStart New Construction
- Direct Install
- Large Energy Users

Whole Buildings:

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

Energy Generation:

- Combined Heat and Power (CHP)

* eligible programs are highlighted in yellow

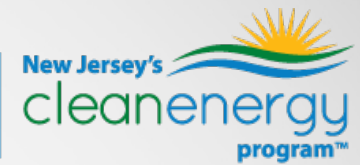
SmartStart: Overview

- Two types of incentives for high efficiency equipment installation:
 - Prescriptive
 - Custom
- Includes New Construction, Rehab and Retrofit projects
- Project pre-approval required for certain equipment
- Incentives up to \$500,000 per electric account & \$500,000 per natural gas account
- Project Categories:
 - New Construction
 - Renovation
 - Remodeling
 - Equipment Replacement
- Specific incentives and individual applications for Lighting, HVAC, VFDs, Refrigeration, Controls and more!

Direct Install: Overview

- Turn-key retrofit program to replace outdated and inefficient equipment, including lighting, HVAC, refrigeration, etc.
- Open to Small to Mid-Sized Commercial and Industrial facilities with a peak electric demand ≤ 200 kW
- Provides incentives of up to 70% of the installed cost
- Incentives are paid directly to the contractor
 - Customer only pays remaining 30% of installed cost
 - \$125,000 project cap
 - \$250,000 per entity cap (or up to \$500,000 if ESIP)
- Participating contractors provide support and process all paperwork
- Fast turnaround time: Average length of time for job completion (4-6 months)

Direct Install:



Participating Contractor

Tri-State Light & Energy, Inc.

Alan Rhode

610-789-1900 x226

asr@tsle.com

Questions



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FOR MORE INFORMATION

Visit NJCleanEnergy.com

Call (866) NJSMART

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