



New Jersey's Clean Energy Program

LGEA Exit Meeting for:

Boonton Township Board of Education

Moussa Traore, TRC

February 22, 2018

Introductions



- *Boonton Township Board of Education*
 - Business Administrator: John Murray

- *NJ Clean Energy Program – TRC*
 - Auditor: Moussa Traore
 - Outreach Manger: Jim Friedl

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 Mine Hill Board of Education

Process to Draft Report



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

Rockaway Valley School



Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- On Site Generation – Backup Generator

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Rockaway Valley School



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			104,571	30.9	\$12,413.47	\$79,247.24	\$9,615.00	\$69,632.24	5.6	105,302
ECM 1	Install LED Fixtures	Yes	30,604	10.6	\$3,632.97	\$25,799.04	\$730.00	\$25,069.04	6.9	30,818
ECM 2	Retrofit Fixtures with LED Lamps	Yes	73,967	20.3	\$8,780.50	\$53,448.20	\$8,885.00	\$44,563.20	5.1	74,484
Lighting Control Measures			19,768	5.4	\$2,346.65	\$10,440.00	\$1,800.00	\$8,640.00	3.7	19,906
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	19,768	5.4	\$2,346.65	\$10,440.00	\$1,800.00	\$8,640.00	3.7	19,906
Motor Upgrades			649	0.3	\$77.04	\$1,064.34	\$0.00	\$1,064.34	13.8	654
ECM 4	Premium Efficiency Motors	Yes	649	0.3	\$77.04	\$1,064.34	\$0.00	\$1,064.34	13.8	654
Variable Frequency Drive (VFD) Measures			2,476	0.6	\$293.93	\$5,457.71	\$0.00	\$5,457.71	18.6	2,493
ECM 5	Install VFDs on Hot Water Pumps	Yes	2,476	0.6	\$293.93	\$5,457.71	\$0.00	\$5,457.71	18.6	2,493
Electric Unitary HVAC Measures			10,211	6.0	\$1,212.17	\$48,248.49	\$2,254.00	\$45,994.49	37.9	10,283
ECM 6	Install High Efficiency Electric AC	Yes	10,211	6.0	\$1,212.17	\$48,248.49	\$2,254.00	\$45,994.49	37.9	10,283
Gas Heating (HVAC/Process) Replacement			0	0.0	\$1,392.05	\$18,125.87	\$1,200.00	\$16,925.87	12.2	16,828
ECM 7	Install High Efficiency Furnaces	Yes	0	0.0	\$1,392.05	\$18,125.87	\$1,200.00	\$16,925.87	12.2	16,828
HVAC System Improvements			4,903	1.1	\$582.01	\$1,500.00	\$750.00	\$750.00	1.3	4,937
ECM 8	Install Dual Enthalpy Outside Economizer Control	Yes	4,903	1.1	\$582.01	\$1,500.00	\$750.00	\$750.00	1.3	4,937
Domestic Water Heating Upgrade			9,156	0.0	\$1,086.94	\$179.25	\$0.00	\$179.25	0.2	9,220
ECM 9	Install Low-Flow Domestic Hot Water Devices	Yes	9,156	0.0	\$1,086.94	\$179.25	\$0.00	\$179.25	0.2	9,220
TOTALS			151,735	44.3	\$19,404.26	\$164,262.89	\$15,619.00	\$148,643.89	7.7	169,624

* - 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).



On-Site Generation

- Photovoltaic Analysis

A preliminary screening based on the facility’s electric demand, size and location of free area, and shading elements shows that the facility has a **High potential** for installing a PV array.

The amount of free area, ease of installation, and the lack of shading elements contribute to the high potential for PV at the site. If Rockaway Valley School is interested in pursuing the installation of PV, we recommended a full feasibility study be conducted.

*	Potential	High	
	System Potential	116	kW DC STC
	Electric Generation	138,199	kWh/yr
	Displaced Cost	\$12,020	/yr
	Installed Cost	\$301,600	

* These are only estimates of possible generation totals and project costs.



Energy Efficient Best Practices

- Close Doors and Windows
- Perform Proper Lighting Maintenance
- Develop a Lighting Maintenance Schedule
- Ensure Lighting Controls Are Operating Properly
- Perform Routine Motor Maintenance
- Use Fans to Reduce Cooling Load
- Practice Proper Use of Thermostat Schedules and Temperature Resets
- Clean Evaporator/Condenser Coils on AC Systems
- Clean and/or Replace HVAC Filters
- Check for and Seal Duct Leakage
- Perform Proper Boiler Maintenance
- Perform Proper Water

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



➤ Direct Install

Donnelly Energy

Justin Avallone

845-401-6253

javallone@donnellyenergy.com

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

Direct Install – Financing Option



- Eligible NJNG customers can *finance the remaining 30 percent balance* at 0% APR through the “SAVEGREEN Project® On-Bill Repayment Program” (OBRP) for 36 months.
- For measures that may not qualify for Direct Install, NJNG also offers financing options for SmartStart that will cover up to \$130,000 per year.



Direct Install – Financing Option



- Questions? Contact Jerry at the following:

Jerry Ryan

Energy Efficiency Operations Manager

New Jersey Natural Gas

732-433-4362 (cell)

732 378 4920 (office)

jryan@njng.com



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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