

New Jersey's Clean Energy Program

LGEA Exit Meeting for:

Boonton Township Board of Education

Moussa Traore, TRC February 22, 2018

NJCleanEnergy.com

Introductions



- **Boonton Township Board of Education**
 - Business Administrator: John Murray
- NJ Clean Energy Program TRC
 - Auditor: Moussa Traore
 - **Outreach Manger:**

Jim Friedl





- Overview of LGEA process (application to deliverable)
- Energy use & existing conditions
- Review of Energy Conservation Measures (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 Fix tures 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

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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 <u>**High potential**</u> for installing a PV array.

The amount of <u>free area</u>, <u>ease of installation</u>, and <u>the lack of shading elements</u> 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.

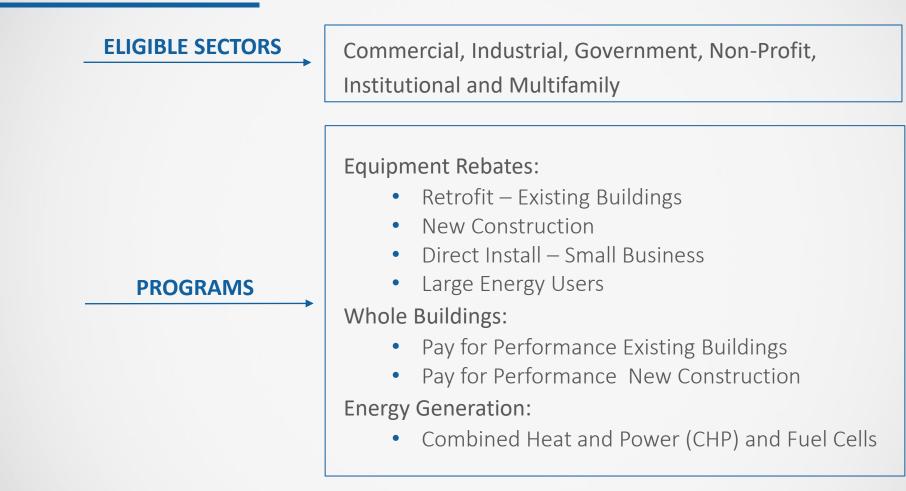


Energy Efficient Best Practices

- 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









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 <u>finance</u> <u>the remaining 30 percent balance</u> 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

• <u>Questions? Contact Jerry at the following</u>:

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)

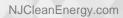


- Program administered directly by BPU
- Provides alternative financing for energy savings projects at public institutions.
- Value of energy savings leveraged to pay for cost of EE projects over a 15 year contract.
- Does <u>not</u> count as debt or require voter approval.
- Requires an audit as 1st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

Questions



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FOR MORE INFORMATION

Visit NJCleanEnergy.com Call (866) NJSMART

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