



New Jersey's Clean Energy Program

LGEA Exit Meeting for:
Belmar Board of Education

Moussa Traore, TRC

November 20, 2017

Introductions



- *Belmar Board of Education*

- Business Administrator: Loretta Hill
- Superintendent: David Hallman
- Facilities Manager: Justin Marsh

- *NJ Clean Energy Program – TRC*

- Auditor: Moussa Traore
- Outreach Manager: Jim Friedl

Agenda



- 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 Belmar Board of Education

Process to Draft Report



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

(1) Belmar Elementary School



Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- On-site Generation - Photovoltaic

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

(1) Belmar Elementary 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			146,091	28.4	\$17,168.33	\$81,238.56	\$11,310.00	\$69,928.56	4.1	147,112
ECM 1	Install LED Fixtures	Yes	4,595	1.7	\$539.73	\$3,125.42	\$800.00	\$2,325.42	4.3	4,628
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	13,189	2.5	\$1,549.08	\$10,957.00	\$10.00	\$10,947.00	7.1	13,282
ECM 3	Retrofit Fixtures with LED Lamps	Yes	124,982	24.0	\$14,679.06	\$61,240.62	\$10,500.00	\$50,740.62	3.5	125,856
ECM 4	Install LED Exit Signs	Yes	3,324	0.2	\$390.45	\$5,915.53	\$0.00	\$5,915.53	15.2	3,348
Lighting Control Measures			32,086	6.1	\$3,768.49	\$14,144.00	\$1,840.00	\$12,304.00	3.3	32,310
ECM 5	Install Occupancy Sensor Lighting Controls	Yes	32,086	6.1	\$3,768.49	\$14,144.00	\$1,840.00	\$12,304.00	3.3	32,310
Variable Frequency Drive (VFD) Measures			9,364	5.0	\$1,099.85	\$16,940.60	\$0.00	\$16,940.60	15.4	9,430
ECM 6	Install VFDs on Hot Water Pumps	Yes	9,364	5.0	\$1,099.85	\$16,940.60	\$0.00	\$16,940.60	15.4	9,430
Plug Load Equipment Control - Vending Machine			1,954	0.0	\$229.54	\$460.00	\$0.00	\$460.00	2.0	1,968
ECM 7	Vending Machine Control	Yes	1,954	0.0	\$229.54	\$460.00	\$0.00	\$460.00	2.0	1,968
TOTALS			189,496	39.5	\$22,266.21	\$112,783.16	\$13,150.00	\$99,633.16	4.5	190,821

* - 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).

(2) Board of Education Office



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

(2) Board of Education Office



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			9,835	3.2	0.0	\$1,539.73	\$6,536.99	\$1,240.00	\$5,296.99	3.4	9,904
ECM 1	Install LED Fixtures	Yes	2,515	1.3	0.0	\$393.80	\$1,953.39	\$500.00	\$1,453.39	3.7	2,533
ECM 2	Retrofit Fixtures with LED Lamps	Yes	7,320	2.0	0.0	\$1,145.93	\$4,583.60	\$740.00	\$3,843.60	3.4	7,371
Lighting Control Measures			1,612	0.4	0.0	\$252.33	\$928.00	\$140.00	\$788.00	3.1	1,623
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	1,612	0.4	0.0	\$252.33	\$928.00	\$140.00	\$788.00	3.1	1,623
TOTALS			11,447	3.6	0.0	\$1,792.06	\$7,464.99	\$1,380.00	\$6,084.99	3.4	11,527

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Some Energy Efficient Best Practices

- Close Doors and Windows
- Perform the Proper 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
- Perform Proper Boiler Maintenance
- Perform Proper Water Heater Maintenance
- 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:

- 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

 - Hutchinson Mechanical Services**

 - Ed Hutchinson

 - 856-429-5828 x215

 - edhutchinson@hutchbiz.com

- Pay for Performance (P4P)

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

we are

A L L T O G E T H E R



NJNG Commercial and Government Programs

2017

- Launched in September 2009
- Encompasses energy-efficiency rebates and incentives available for our customers
- Promotes energy-efficiency and conservation measures to support state policy, and benefit our customers and the environment
- Designed to complement New Jersey's Clean Energy Program (NJCEP)



BPU Direct Install Program with NJ Natural Gas Savegreen Loan Program

- Direct Install is a simple, expeditious alternative that covers many types of improvements and offers a grant for 70 percent of the total cost of energy improvements up to \$178,570 per project
 - A “project” is considered a single or collection of ECM’s within a single building
- NJ Natural Gas Company’s SAVEGREEN program can provide the 30 percent balance with an up-front zero (0) percent loan paid back over 36 months using On Bill Repayment

Financing for Smart Start

- Certain Smart Start eligible equipment can be financed up to \$130,000 per project
- Project is first reviewed for DI eligibility
- NJNG can provide financing for the portion of Smart Start eligible equipment not covered by the BPU Smart Start grant at 0% interest, paid back over 10 years



Quick Review - Commercial Programs

- Direct Install –
 - NJCEP provides 70% incentive
 - NJNG provides 0% financing to cover the balance
 - 3 year term- Repayments made on **regular monthly gas bill**
 - Maximum loan is \$53, 570
 - Combination means \$178,570 is available per project
- Smart Start
 - NJCEP provides rebates for qualifying equipment (varies by measure)
 - Including equipment identified in Direct Install assessment that may not be part of that program
 - NJNG provides 0% financing to help cover the balance
 - 10 year term- repayments made on regular monthly gas bill
 - Maximum loan amount is \$130,000
 - Need to review project with NJNG to confirm project qualifies
- SAVEGREEN can help with a consultation to discuss your Commercial Energy Efficiency Project



Contact Information

- Jerry Ryan
Energy Efficiency Operations Manager
New Jersey Natural Gas
732-433-4362 cell
732 378 4920 office
jryan@njng.com

Questions



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FOR MORE INFORMATION

Visit NJCleanEnergy.com

Call (866) NJSMART

Jim Friedl

Outreach Manager

732-855-6543

jfriedl@trcsolutions.com