New Jersey's Clean Energy Program

LGEA Exit Meeting for:

North Wildwood Board of Education

TRC Energy Services

August 15, 2018

Introductions

- *North Wildwood Board of Education*
  - Chris Armstrong - Superintendent
  - Rose Millar – Board Secretary
  - Michael DeMayo – Facilities Manager
- *NJ Clean Energy Program*
  - Brian DeLuca – Program Manager
  - Ignacio Badilla – Auditor
  - Elizabeth Ebinger – Account Manager
  - Arif Welcher – BPU Ombudsman

Agenda

- The audit process overview
- 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 North Wildwood Board of Education

LGEA Process

- Application Approval
- Scheduling Call
- Audit
- Benchmarking & Analysis
- Draft Report
- Exit Meeting Presentation
- Final Report

Margaret Mace School

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

All Energy Conservation Measures (ECMs)

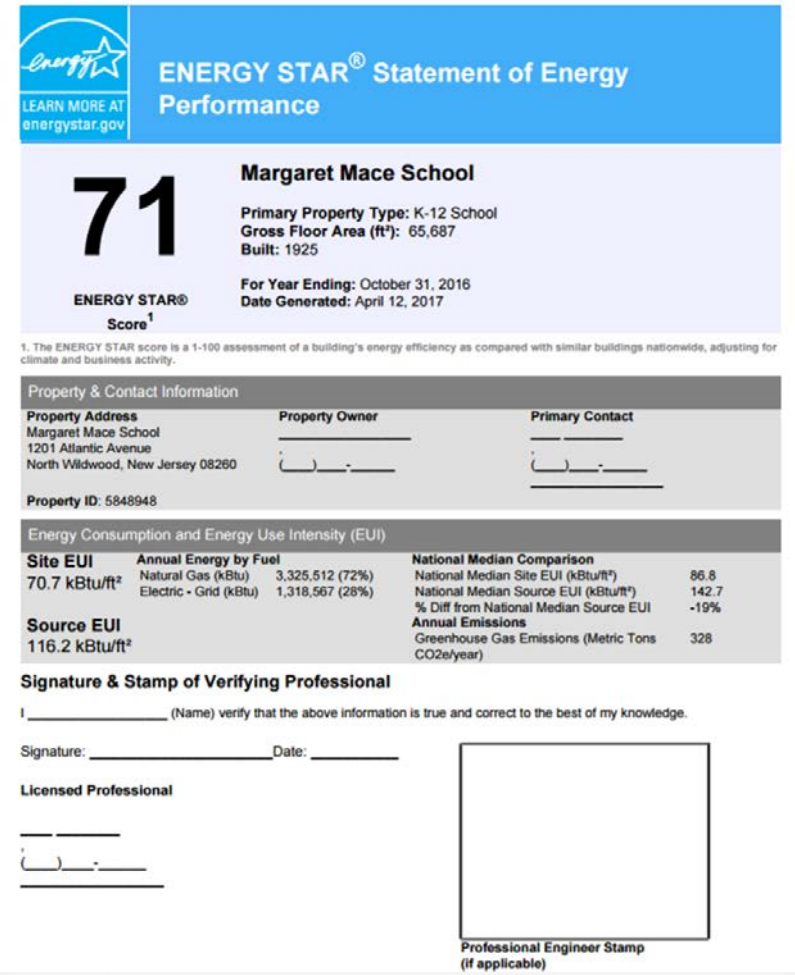
Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)*	Estimated Net Cost ($)	Simple Payback Period (yrs)**	CO_2e Emissions Reduction (lbs)
Lighting Upgrades			188,142	27.0	0.0	$30,587.72	$133,768.84	$10,230.00	$123,538.84	4.0	189,457
ECM 1	Install LED Fixtures	Yes	43,212	6.1	0.0	$7,025.33	$75,185.60	$4,200.00	$70,985.60	10.1	43,514
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	143,080	20.0	0.0	$23,261.59	$57,083.17	$5,880.00	$51,203.17	2.2	144,080
ECM 3	Retrofit Fixtures with LED Lamps	Yes	1,850	0.9	0.0	$300.80	$1,500.07	$150.00	$1,350.07	4.5	1,863
Lighting Control Measures			19,394	2.7	0.0	$3,153.03	$20,520.00	$2,660.00	$17,860.00	5.7	19,530
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	19,394	2.7	0.0	$3,153.03	$20,520.00	$2,660.00	$17,860.00	5.7	19,530
Motor Upgrades			12,052	3.2	0.0	$1,959.36	$14,611.69	$0.00	$14,611.69	7.5	12,136
ECM 5	Premium Efficiency Motors	Yes	12,052	3.2	0.0	$1,959.36	$14,611.69	$0.00	$14,611.69	7.5	12,136
Variable Frequency Drive (VFD) Measures			2,059	0.4	0.0	$334.75	$3,007.65	$0.00	$3,007.65	9.0	2,073
ECM 6	Install Air Compressors with VFDs	Yes	2,059	0.4	0.0	$334.75	$3,007.65	$0.00	$3,007.65	9.0	2,073
Gas Heating (HVAC/Process) Replacement			0	0.0	215.7	$1,944.95	$24,450.00	$3,000.00	$21,450.00	11.0	25,255
ECM 7	Install High Efficiency Hot Water Boilers	Yes	0	0.0	215.7	$1,944.95	$24,450.00	$3,000.00	$21,450.00	11.0	25,255
HVAC System Improvements			1,096	0.0	18.4	$343.70	$4,618.18	$0.00	$4,618.18	13.4	3,253
ECM 8	Install Programmable Thermostats	Yes	1,096	0.0	18.4	$343.70	$4,618.18	$0.00	$4,618.18	13.4	3,253
Domestic Water Heating Upgrade			0	0.0	23.1	$208.72	$136.23	$0.00	$136.23	0.7	2,710
ECM 9	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	23.1	$208.72	$136.23	$0.00	$136.23	0.7	2,710
Food Service Equipment & Refrigeration Measures			1,820	0.1	0.0	$295.87	$1,977.30	$75.00	$1,902.30	6.4	1,833
ECM 10	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	873	0.1	0.0	$141.90	$303.30	$0.00	$303.30	2.1	879
ECM 11	Refrigeration Controls	Yes	947	0.0	0.0	$153.97	$1,674.00	$75.00	$1,599.00	10.4	954
TOTALS			224,562	33.5	257.2	$38,828.10	$203,089.89	$15,965.00	$187,124.89	4.8	256,248

* - 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).

Margaret Mace School

Benchmarking



ENERGY STAR® Statement of Energy Performance

LEARN MORE AT energystar.gov

71

ENERGY STAR® Score[1]

Margaret Mace School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 65,687
Built: 1925

For Year Ending: October 31, 2016
Date Generated: April 12, 2017

1. The ENERGY STAR score is a 1-100 assessment of a building's energy efficiency as compared with similar buildings nationwide, adjusting for climate and business activity.

Property & Contact Information

Property Address	Property Owner	Primary Contact
Margaret Mace School 1201 Atlantic Avenue North Wildwood, New Jersey 08260	_____ (___)___-____	___ _____ (___)___-____ _____

Property ID: 5848948

Energy Consumption and Energy Use Intensity (EUI)

Site EUI
70.7 kBtu/ft²

Source EUI
116.2 kBtu/ft²

Annual Energy by Fuel	
Natural Gas (kBtu)	3,325,512 (72%)
Electric - Grid (kBtu)	1,318,567 (28%)

National Median Comparison	
National Median Site EUI (kBtu/ft²)	86.8
National Median Source EUI (kBtu/ft²)	142.7
% Diff from National Median Source EUI	-19%
Annual Emissions	
Greenhouse Gas Emissions (Metric Tons CO2e/year)	328

Signature & Stamp of Verifying Professional

I _____ (Name) verify that the above information is true and correct to the best of my knowledge.

Signature: _____ Date: _____

Licensed Professional

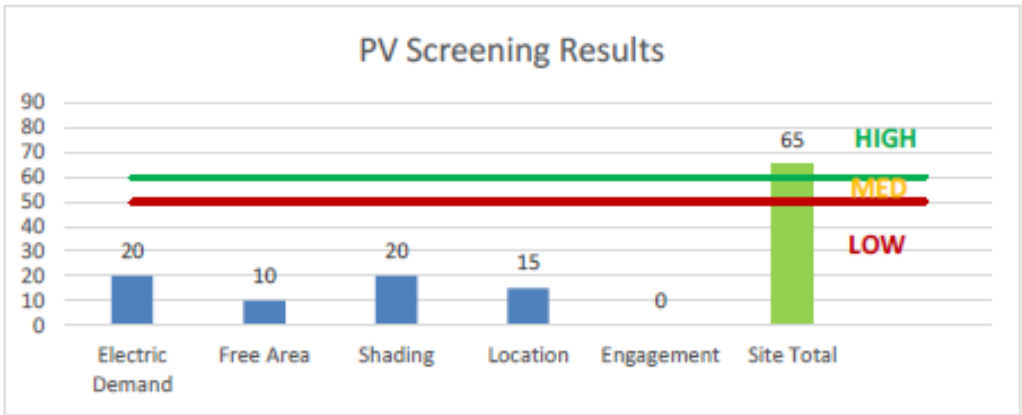
___ _____
,
(___)___-____
_____

Professional Engineer Stamp (if applicable)

Margaret Mace School

Solar Energy Generation Potential

Potential	High	
System Potential	54	kW DC STC
Electric Generation	64,334	kWh/yr
Displaced Cost	$5,600	/yr
Installed Cost	$154,400	



For more information on the SREC Registration Program (SRP) please visit:

http://www.njcleanenergy.com/renewable-energy/programs/solar-renewable-energy-certificates-srec/new-jersey-solar-renewable-energy

Energy Efficient Best Practices

- Reduce Air Leakage
- Close Doors and Windows
- Develop a Lighting Maintenance Schedule
- Ensure Lighting Controls Are Operating Properly
- Use Fans to Reduce Cooling Load
- Clean and/or Replace HVAC filters
- Check and Seal Duct Leakage
- Perform Proper Boiler Maintenance
- Perform Proper Water Heater Maintenance
- Plug Load Controls
- Water Conservation

See individual reports for specific EE practices by building

Clean Energy Program Portfolio

ELIGIBLE SECTORS

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

INCENTIVE 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)

OTHER PROGRAMS

Renewable Energy Generation:

- SREC Registration Program (SRP)

* eligible programs are highlighted in yellow

SmartStart: Overview

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

SmartStart: Financing Option

- 0% Financing
- Up to $100,000 for 5 years
- SJG can help guide you through the process

Contact:

Bruce Grossman – Program Manager

South Jersey Gas

#1 South Jersey Plaza

Folsom, NJ 08037

Phone: 609-561-9000, ext. 4271

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 an average 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/building cap
  - $250,000 per entity cap (up to $500,000 if using 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

Hutchinson Mechanical Services
Ed Hutchinson
856-429-5828 x215
edhutchinson@hutchbiz.com

Direct Install: Financing Option

The State of NJ pays:

- 70% of all qualified upgrades
- Up to $125,000

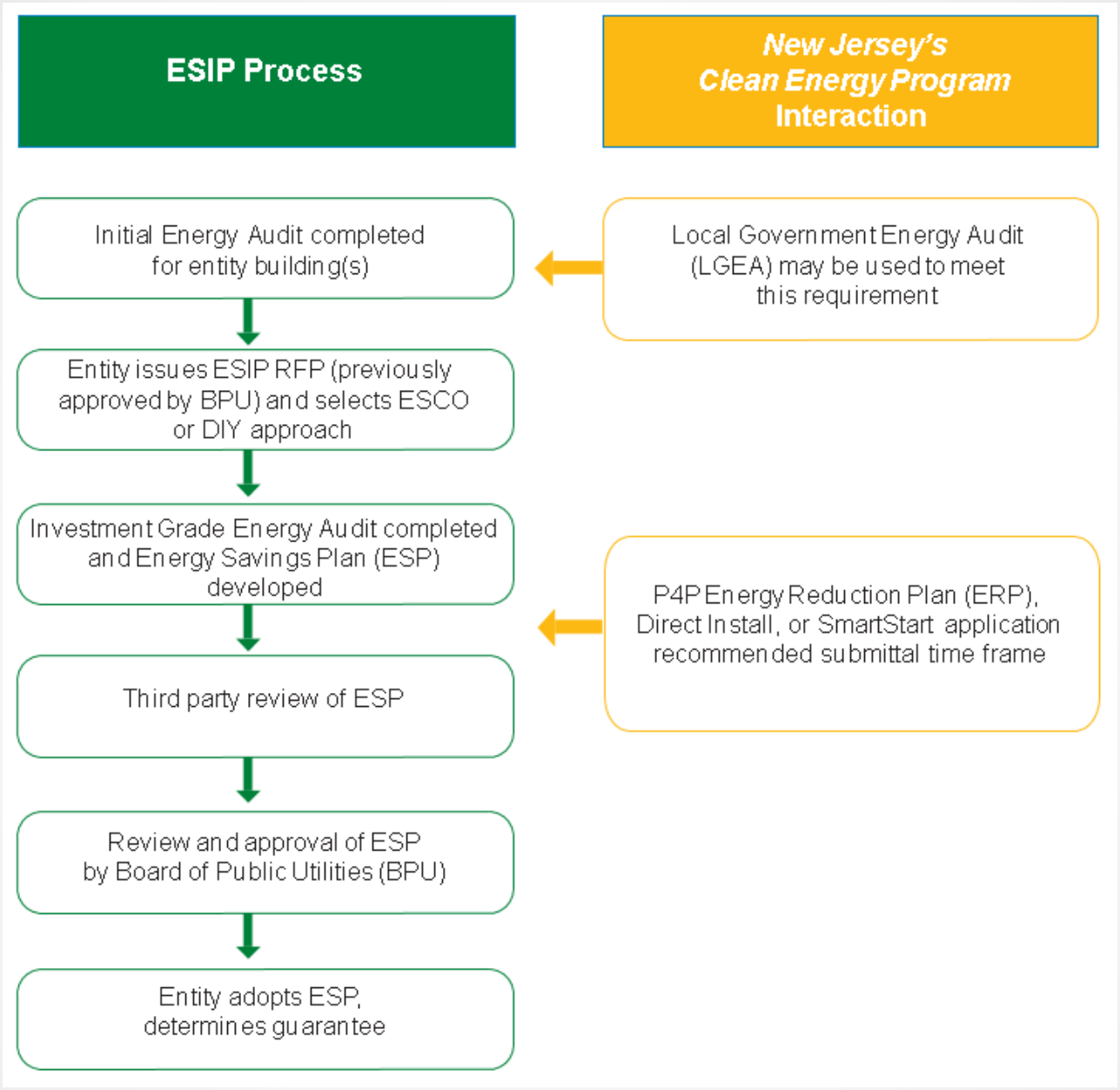
South Jersey Gas will finance:

- Remaining 30%
- 0% financing
- For 3 years
- Up to $53,571

ESIP

Energy Savings Improvement Program (ESIP)

- 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/require voter approval.
- Requires an audit as 1st step (LGEA satisfies requirement)
- ESIP participation question on LGEA application
- Program administered directly by BPU


ESIP Process
New Jersey's Clean Energy Program Interaction
Initial Energy Audit completed for entity building(s)
Local Government Energy Audit (LGEA) may be used to meet this requirement
Entity issues ESIP RFP (previously approved by BPU) and selects ESCO or DIY approach
Investment Grade Energy Audit completed and Energy Savings Plan (ESP) developed
P4P Energy Reduction Plan (ERP), Direct Install, or SmartStart application recommended submittal time frame
Third party review of ESP
Review and approval of ESP by Board of Public Utilities (BPU)
Entity adopts ESP, determines guarantee

FOR MORE INFORMATION

ESIP

Mike Thulen

ESIP Coordinator

Office: 609-777-3338

Cell: 732-330-2419

ESIP@bpu.nj.gov

Questions

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FOR MORE INFORMATION

Visit NJCleanEnergy.com

Call (866) NJSMART

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Outreach Manager

732-855-6543

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