New Jersey's Clean Energy Program

LGEA Exit Meeting for:

Harding Township School District

TRC Energy Services

December 13, 2018

Introductions

Harding Township School District

- Mark Kenney – Business Administrator
- Joe Pitcher – Buildings and Grounds Supervisor
- Richard Bruno – Board Member
- Abi Singh – Board Member

NJ Clean Energy Program

- Brian DeLuca, CEM – TRC Program Manager
- Vish Nimbalkar, PE – TRC Lead Auditor
- Elizabeth Ebinger – TRC Account Manager
- Mike Thulen – ESIP Coordinator

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 Harding Township School District

LGEA Process

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

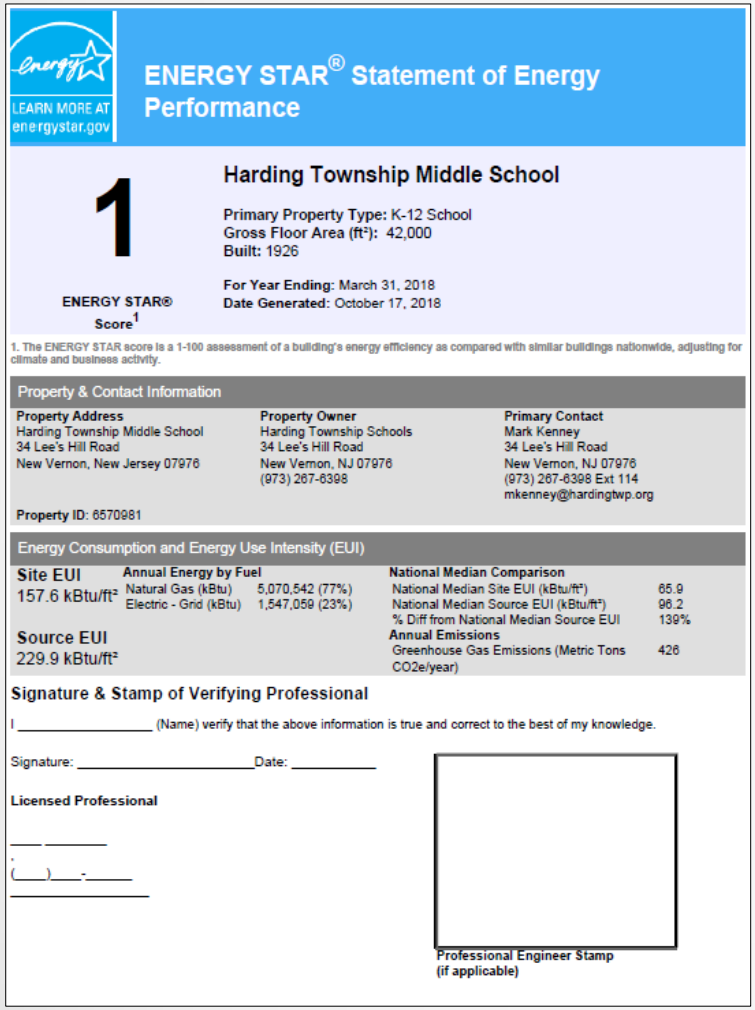
Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Benchmarking - *Harding Township MS*



ENERGY STAR® Statement of Energy Performance

LEARN MORE AT energystar.gov

1

ENERGY STAR® Score[1]

Harding Township Middle School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 42,000
Built: 1926

For Year Ending: March 31, 2018
Date Generated: October 17, 2018

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
Harding Township Middle School 34 Lee's Hill Road New Vernon, New Jersey 07976	Harding Township Schools 34 Lee's Hill Road New Vernon, NJ 07976 (973) 267-6398	Mark Kenney 34 Lee's Hill Road New Vernon, NJ 07976 (973) 267-6398 Ext 114 mkenney@hardingtwp.org

Property ID: 6570981

Energy Consumption and Energy Use Intensity (EUI)

Site EUI
157.6 kBtu/ft²

Source EUI
229.9 kBtu/ft²

Annual Energy by Fuel		
Natural Gas (kBtu)	5,070,542 (77%)
Electric - Grid (kBtu)	1,547,059 (23%)

National Median Comparison	
National Median Site EUI (kBtu/ft²)	65.9
National Median Source EUI (kBtu/ft²)	96.2
% Diff from National Median Source EUI	139%
Annual Emissions	
Greenhouse Gas Emissions (Metric Tons CO2e/year)	426

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)

ENERGY STAR Scores are percentile ranking from 1 (least efficient) to 100 (most efficient). It compares your building's energy performance to similar buildings nationwide.

All Opportunities

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Lifetime Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)*	Estimated Net Cost ($)	Simple Payback Period (yrs)**	CO_2e Emissions Reduction (lbs)
Lighting Upgrades		**49,512**	**21.9**	**-10**	**$5,549**	**$83,242**	**$37,460**	**$9,369**	**$28,091**	**5.1**	**48,656**
ECM 1	Install LED Fixtures	11,285	4.6	-2	$1,265	$18,971	$12,509	$3,000	$9,509	7.5	11,088
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	312	0.1	0	$35	$524	$206	$30	$176	5.1	306
ECM 3	Retrofit Fixtures with LED Lamps	37,915	17.2	-8	$4,250	$63,747	$24,744	$6,339	$18,405	4.3	37,262
Lighting Control Measures		**8,512**	**3.5**	**-2**	**$954**	**$7,632**	**$13,060**	**$1,330**	**$11,730**	**12.3**	**8,364**
ECM 4	Install Occupancy Sensor Lighting Controls	7,081	2.9	-1	$794	$6,348	$10,260	$1,330	$8,930	11.3	6,957
ECM 5	Install High/Low Lighting Controls	1,432	0.6	0	$160	$1,284	$2,800	$0	$2,800	17.4	1,407
Electric Unitary HVAC Measures		**18,914**	**4.5**	**0**	**$2,150**	**$32,253**	**$45,536**	**$2,400**	**$43,136**	**20.1**	**19,046**
	Install High Efficiency Air Conditioning Units	18,914	4.5	0	$2,150	$32,253	$45,536	$2,400	$43,136	20.1	19,046
Gas Heating (HVAC/Process) Replacement		**0**	**0.0**	**94**	**$721**	**$14,430**	**$11,963**	**$800**	**$11,163**	**15.5**	**10,951**
	Install High Efficiency Furnaces	0	0.0	94	$721	$14,430	$11,963	$800	$11,163	15.5	10,951
HVAC System Improvements		**2,311**	**0.0**	**14**	**$373**	**$5,589**	**$1,359**	**$0**	**$1,359**	**3.6**	**3,995**
ECM 6	Implement Demand Control Ventilation (DCV)	2,311	0.0	14	$373	$5,589	$1,359	$0	$1,359	3.6	3,995
Domestic Water Heating Upgrade		**0**	**0.0**	**54**	**$417**	**$4,173**	**$136**	**$0**	**$136**	**0.3**	**6,333**
ECM 7	Install Low-Flow DHW Devices	0	0.0	54	$417	$4,173	$136	$0	$136	0.3	6,333
Food Service & Refrigeration Measures		**1,895**	**0.1**	**0**	**$215**	**$3,321**	**$1,125**	**$50**	**$1,075**	**5.0**	**1,908**
ECM 8	Refrigerator/Freezer Case Electrically Commutated Motors	1,105	0.1	0	$126	$1,885	$607	$0	$607	4.8	1,113
ECM 9	Refrigeration Controls	790	0.0	0	$90	$1,436	$519	$50	$469	5.2	795
TOTALS		**81,144**	**30.0**	**150**	**$10,380**	**$150,639**	**$110,639**	**$13,949**	**$96,690**	**9.3**	**99,252**

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that pro

** - Simple Payback Period is based on net measure costs (i.e. after incentives).

Cost Effective Opportunities*

** Opportunities considered cost effective have a payback period less than 2/3rds of the useful life of the measure*

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ECM 9	Refrigeration Controls	790	0.0	0	$90	$1,436	$519	$50	$469	5.2	795
TOTALS		**62,230**	**25.5**	**56**	**$7,509**	**$103,956**	**$53,140**	**$10,749**	**$42,391**	**5.6**	**69,255**

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that pro

** - Simple Payback Period is based on net measure costs (i.e. after incentives).

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
- Use Window Treatments/Coverings
- 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
- CTEEP (Customer Tailored Energy Efficiency Pilot)
- Direct Install
- Large Energy Users

Whole Buildings:

- Pay for Performance

Energy Generation:

- Combined Heat and Power (CHP)

OTHER PROGRAMS

Renewable Energy Generation:

- SREC Registration Program (SRP)

* eligible programs are highlighted in yellow

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

Donnelly Energy
Justin Avallone
845-401-6253
javallone@donnellyenergy.com

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 lighting and custom measures
- 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!

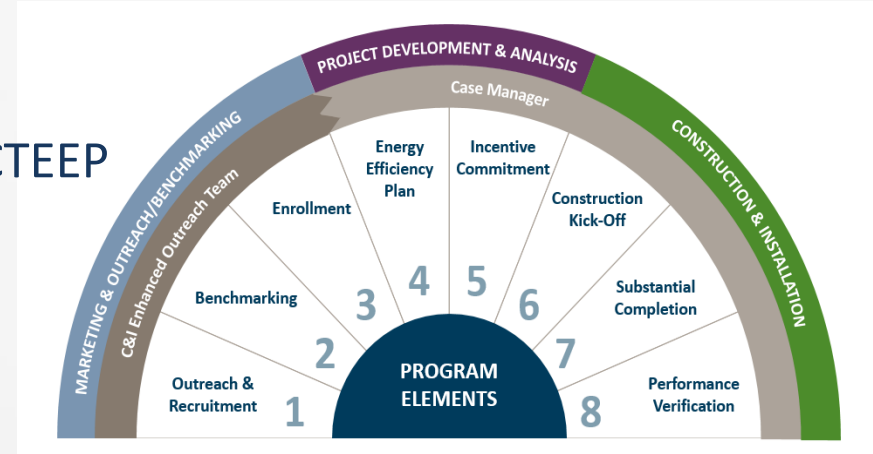
www.NJCleanEnergy/SSB

CTEEP: Overview

Customer Tailored Energy Efficiency Pilot (CTEEP)

- Provide customers with **on-site assistance** to discuss project opportunities and program incentives.
- A **single application** submission streamlines multiple prescriptive and custom measures.
- Provide **technical assistance incentives** to help offset soft costs associated with developing and planning an energy efficiency project.
- Incentives up to $250,000 entity cap.

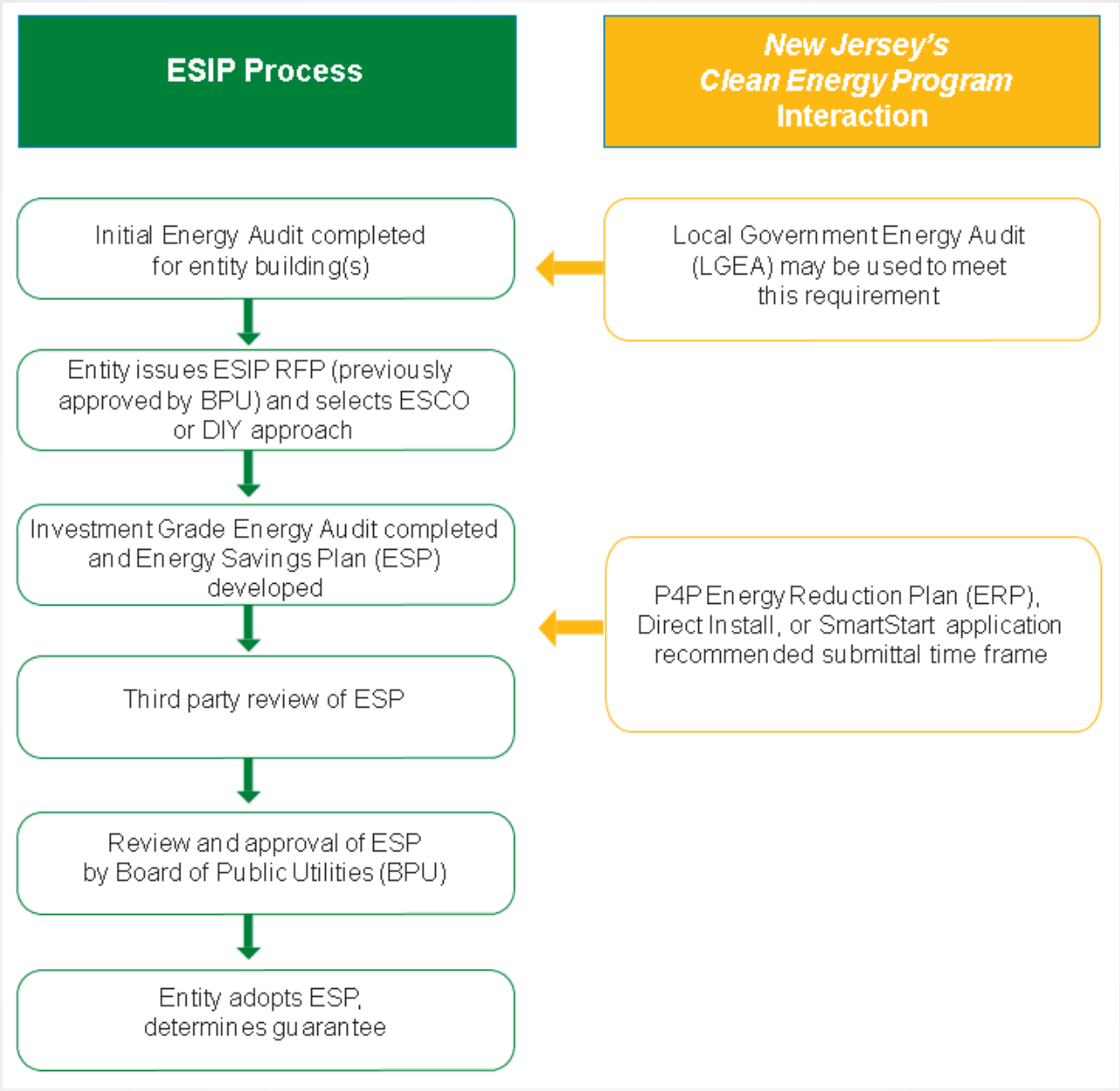
www.NJCleanEnergy/CTEEP



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

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Questions

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FOR MORE INFORMATION

Visit NJCleanEnergy.com

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