

New Jersey's Clean Energy Program

LGEA Presentation

Hopewell Township Board of Education

April 1, 2020



INTRODUCTIONS

- *Hopewell Township Board of Education*
 - Stephanie Kuntz – Business Administrator
- *NJ Clean Energy Program*
 - Aimee Lalonde – TRC Program Manager
 - Yagna Otia – TRC Auditor
 - Amanda Muench – TRC Account Manager
 - Gary Finger – TRC Outreach Manager
 - Michelle Rossi – BPU ESIP Coordinator

AGENDA

- The audit process overview
- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**easures (ECMs) identified
- Questions regarding the draft audit report
- Overview of NJCEP equipment incentives
- Next steps for Hopewell Township BOE



LGEA PROCESS

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

HOPEWELL CREST SCHOOL

Overview of Systems, Baseline & Existing Conditions:


- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Plug Load Equipment
- Kitchen Equipment

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs
- Solar Consumption and Costs



BENCHMARKING

 **ENERGY STAR® Statement of Energy Performance**
LEARN MORE AT energystar.gov

15 **Hopewell Crest Elementary School**
Primary Property Type: K-12 School
Gross Floor Area (ft²): 87,337
Built: 1960
For Year Ending: September 30, 2019
Date Generated: January 23, 2020

ENERGY STAR® Score¹

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 Hopewell Crest Elementary School 122 Sewall Road Bridgeton, New Jersey 08302	Property Owner Hopewell Township BOE 122 Sewall Road Bridgeton, NJ 08302 (856) 451-0210	Primary Contact Stephanie Kuntz 122 Sewall Road Bridgeton, NJ 08302 (856) 451-0210 skuntz@hopewellcrest.org
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Property ID: 3538554

Energy Consumption and Energy Use Intensity (EUI)

Site EUI 82.6 kBtu/ft²	Annual Energy by Fuel	National Median Comparison
	Electric - Grid (kBtu) 3,730,792 (52%)	National Median Site EUI (kBtu/ft²) 57.2
	Natural Gas (kBtu) 2,363,451 (33%)	National Median Source EUI (kBtu/ft²) 111.5
	Electric - Solar (kBtu) 1,116,164 (16%)	% Diff from National Median Source EUI 44%
Source EUI 160.8 kBtu/ft²	Annual Emissions	
	Greenhouse Gas Emissions (Metric Tons CO2e/year) 617	

Signature & Stamp of Verifying Professional

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

LP Signature: _____ Date: _____

Licensed Professional

()

Professional Engineer or Registered Architect Stamp (if applicable)

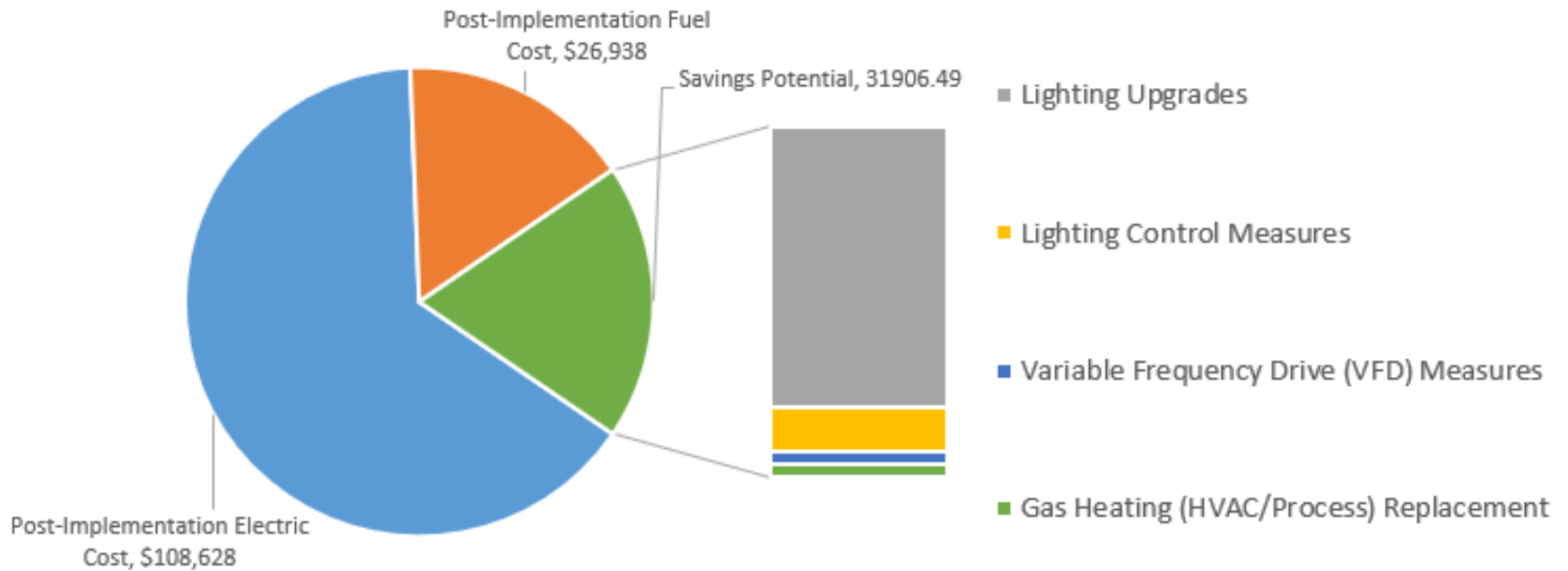
Site EUI
82.6 kBtu/ft²

National Median Comparison	
National Median Site EUI (kBtu/ft²)	57.2
National Median Source EUI (kBtu/ft²)	111.5
% Diff from National Median Source EUI	44%

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

Savings Potential



HOPEWELL CREST SCHOOL

#	Energy Conservation Measure	Cost Effective?	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			264,379	46.4	-52	\$25,451	\$122,450	\$45,790	\$76,660	3.0	260,121
ECM 1	Install LED Fixtures	Yes	105,893	16.7	-19	\$10,216	\$72,089	\$26,080	\$46,009	4.5	104,404
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	78,395	14.4	-16	\$7,536	\$23,420	\$6,780	\$16,640	2.2	77,024
ECM 3	Retrofit Fixtures with LED Lamps	Yes	80,091	15.2	-17	\$7,699	\$26,941	\$12,930	\$14,011	1.8	78,693
Lighting Control Measures			42,571	7.9	-9	\$4,092	\$38,295	\$13,450	\$24,845	6.1	41,827
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	37,535	7.0	-8	\$3,608	\$31,770	\$7,140	\$24,630	6.8	36,878
ECM 5	Install High/Low Lighting Controls	Yes	5,037	0.9	-1	\$484	\$6,525	\$6,310	\$215	0.4	4,949
Motor Upgrades			3,137	0.7	0	\$309	\$3,417	\$0	\$3,417	11.0	3,159
ECM 6	Premium Efficiency Motors	Yes	3,137	0.7	0	\$309	\$3,417	\$0	\$3,417	11.0	3,159
Variable Frequency Drive (VFD) Measures			11,253	2.9	0	\$1,109	\$8,394	\$3,600	\$4,794	4.3	11,331
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	11,253	2.9	0	\$1,109	\$8,394	\$3,600	\$4,794	4.3	11,331
Gas Heating (HVAC/Process) Replacement			0	0.0	107	\$1,254	\$46,087	\$8,448	\$37,639	30.0	12,568
ECM 8	Install High Efficiency Hot Water Boilers	No	0	0.0	107	\$1,254	\$46,087	\$8,448	\$37,639	30.0	12,568
Domestic Water Heating Upgrade			0	0.0	12	\$144	\$186	\$186	\$0	0.0	1,444
ECM 9	Install Low-Flow DHW Devices	Yes	0	0.0	12	\$144	\$186	\$186	\$0	0.0	1,444
Food Service & Refrigeration Measures			590	0.1	0	\$58	\$910	\$240	\$670	11.5	594
ECM 10	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	590	0.1	0	\$58	\$910	\$240	\$670	11.5	594
TOTALS (COST EFFECTIVE MEASURES)			321,930	57.9	-49	\$31,164	\$173,652	\$63,266	\$110,385	3.5	318,476
TOTALS (ALL MEASURES)			321,930	57.9	59	\$32,418	\$219,738	\$71,714	\$148,024	4.6	331,044

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
- Retrocommissioning

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**
- Customer Tailored Energy Efficiency Pilot (CTEEP)
- Direct Install
- Large Energy Users

Whole Buildings:

- **Pay for Performance**

Energy Generation:

- Combined Heat and Power – Fuel Cells

OTHER PROGRAMS

Renewable Energy Generation:

- SREC Registration Program (SRP)
- **Community Solar**

SOLAR ENERGY GENERATION POTENTIAL

	Hopewell Crest School
<i>Potential:</i>	MEDIUM
<i>System Potential: (kW)</i>	273
<i>Electric Generation: (kWh per year)</i>	325,244
<i>Displaced Cost: (per year)</i>	\$32,060

SREC Registration Program (SRP):

<http://www.NJCleanEnergy.com/SREC>

Community Solar Energy Pilot Program:

<http://www.NJCleanEnergy.com/CommunitySolar>

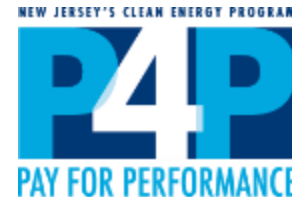
RECOMMENDED NJCEP INCENTIVES PER BUILDING

Hopewell Township BOE	Pay For Performance	SmartStart	CTEEP
Hopewell Crest School	X	X	X

**Conditional text: Buildings marked with a lighter X do not quite meet the requirements of the current P4P program. P4P should be evaluated again once project planning is underway.*

PAY FOR PERFORMANCE

NJCleanEnergy.com/P4P



What is P4P: Comprehensive, whole-building approach to saving energy in existing or new facilities.

Qualifications: Annual peak demand 200 kW+ in the previous year for existing buildings

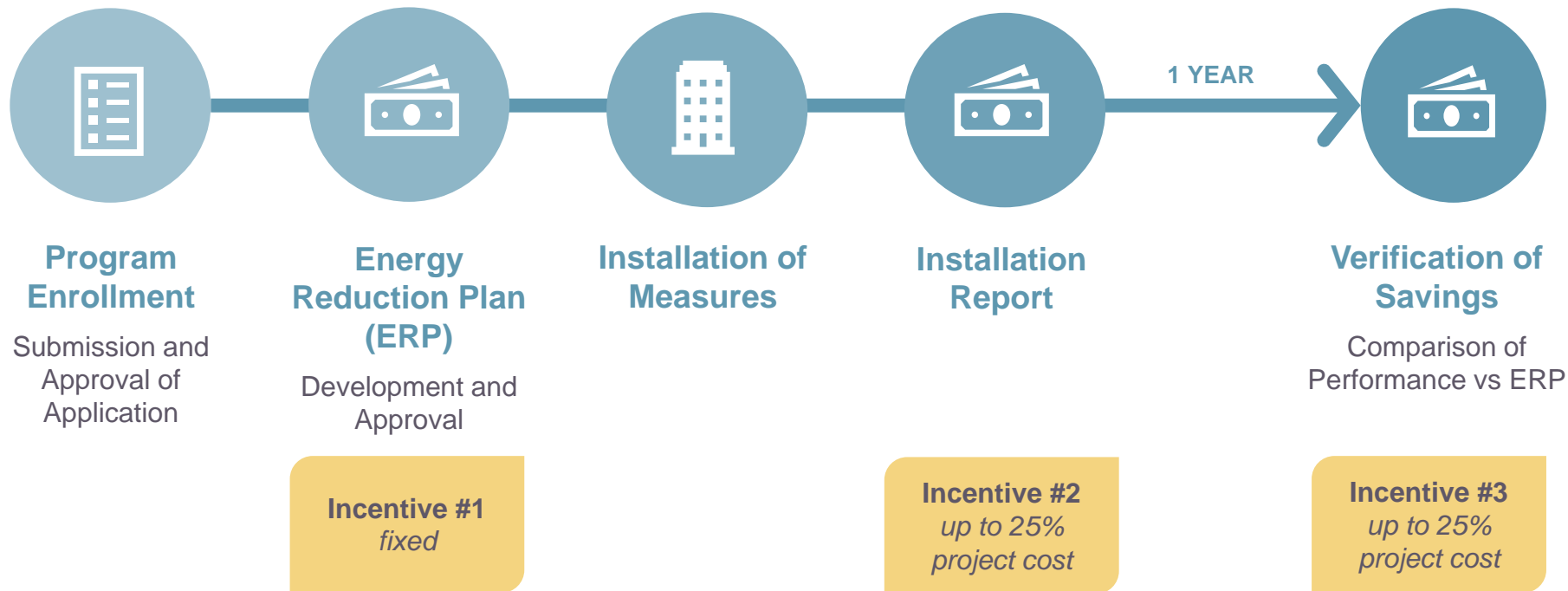
About: Customer choose from a network of pre-approved *Participating Partners*

Incentives:

- Incentives paid in *three* installments
 - Up to \$2MM per project((\$4MM entity cap/year)
 - \$1 million for electric measures
 - \$1 million for gas measures
 - Up to 50% of project cost (or 80% for UEZ/OZ/Local Govt./ K-12 Public Schools) up to \$2MM per project / \$4MM per entity annually

PAY FOR PERFORMANCE

NJCleanEnergy.com/P4P



SMARTSTART

NJCleanEnergy.com/SSB

What is SSB: Individual high efficiency equipment rebates for new construction, renovation, remodeling, equipment replacement

Qualifications:

- All C&I customer types contributing into the Societal Benefits Charge (SBC)

About:

- Prescriptive and custom designed measures
- Pre-approval required only for lighting projects with incentives >\$100,000 and all custom projects
- For measures not requiring pre-approval, applications must be submitted to the program within one year of purchase.

Incentives:

- Prescriptive: \$500,000 cap for each electric or gas account
- Custom, lesser of the following:
 - \$0.16/kWh and/or \$1.60/Therm saved annually
 - 50% of incremental installed cost
 - Buy-down to 1 year payback based on incremental cost and savings



SMARTSTART

NJCleanEnergy.com/SSB

Prescriptive Incentives

- Lighting & Lighting Controls
- Packaged HVAC
- Boilers & Water Heaters
- Chillers
- VFD's
- Food Service
- Refrigeration

Prescriptive Only:

**DOUBLE
INCENTIVES FOR
OZ/UEZ/ LOCAL
GOVT./K-12 PUBLIC
SCHOOLS**

Custom Incentives

- New or innovative technologies proven to be cost-effective and not listed as prescriptive
- Projects must have a minimum first year energy savings of 75,000 kWh or 1,500 therms
- Project pre and post inspection required



CUSTOMER TAILORED ENERGY EFFICIENCY PILOT

NJCleanEnergy.com/CTEEP

What is CTEEP: A streamlined/single application process for participants submitting multiple different technology types.

Qualifications:

- All C&I customer types contributing into the Societal Benefits Charge (SBC)

About:

- On site assistance available
- Additional technical incentive available to offset soft costs associated with developing and planning custom projects

Incentives:

- \$250,000 fiscal year entity cap
- Technical assistance incentives for custom project evaluation (up to \$10K)

**SAME INCENTIVE
VALUES AS
SMARTSTART**

SMARTSTART, CTEEP, & P4P: FINANCING OPTION

- NJNG provides 0% financing options that will cover up to \$130,000 per year.
- 10 year term-repayments made on regular monthly gas bill
- Need to review project with NJNG to confirm project qualifies.
- The SAVEGREEN program can help with a consultation to discuss your Commercial Energy Efficiency Project.

- Questions? Contact:

Peter Druckenmiller
Program Manager
South Jersey Gas
609-572-4271

wdruckenmiller@sjindustries.com

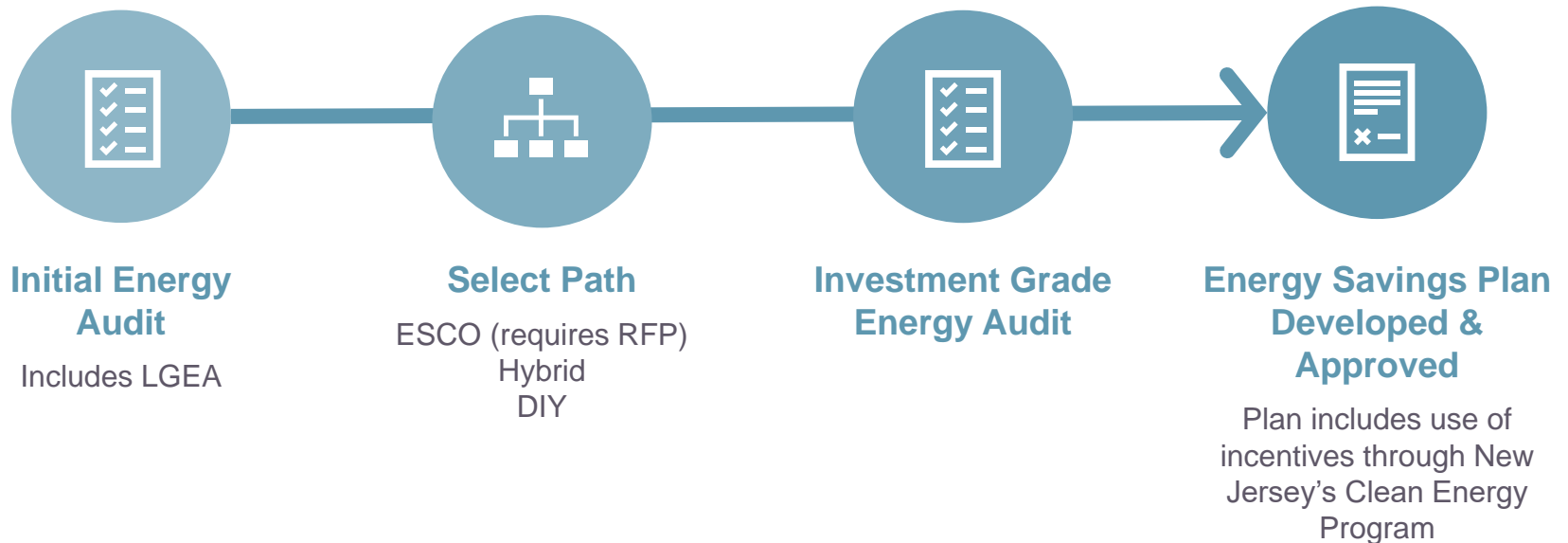


FINANCING MECHANISM: ESIP

ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- Provides alternative financing for energy savings projects at public institutions
- Administered directly by the BPU
- Value of energy savings leveraged to pay for cost of EE projects over a 15 year contract
- Requires NO new bonding and is outside of capital budget
- Does not count as debt or require voter approval

FINANCING MECHANISM: ESIP



ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

FOR MORE INFORMATION

Michelle Rossi

ESIP Coordinator

Office: 609-633-9641

ESIP@bpu.nj.gov



FOR MORE INFORMATION

Visit NJCleanEnergy.com

Call (732) 855-0033

Gary Finger

Regional Outreach Manager

856.780.8553

gfinger@trccompanies.com



LGEA Team Contacts

Amanda Muench

LGEA Account Manager

732-855-2894

AMuench@trccompanies.com

Yagna Otia

LGEA Energy Auditor

848-235-4169

Yotia@trccompanies.com

Aimee Lalonde

LGEA Program Manager

347-913-2422

Alalonde@trccompanies.com



QUESTIONS

