


# *LGEA Presentation*

## *Allendale Board of Education*

April 25, 2023



New Jersey's  
Clean Energy Program

*Lighting the way to New Jersey's Clean Energy Future*

# INTRODUCTIONS

- *Allendale Board of Education*
  - Maria Engeleit – Business Administrator
  - Tony DeMarco – Supervisor of Buildings & Grounds
- *NJ Clean Energy Program*
  - Sarah Walters – LGEA Project Manager
  - Moussa Traore – LGEA Lead Auditor
  - Melissa Lott – LGEA Account Manager
- *Utility Energy Efficiency Programs*
  - Kyle Haddock – Orange & Rockland
  - Kimberley Byk – Orange & Rockland

# AGENDA

- The audit process overview
- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**easures (ECMs) identified & other recommendations
- Energy Savings Improvement Program (ESIP)
- Energy Efficiency Incentive Programs
- Questions regarding the draft audit report
- Next steps for Allendale Board of Education

# LGEA PROCESS

- Application Approval
- Initial Call
- Facility Interviews
- Audit
- Benchmarking & Analysis
- Draft Reports
- LGEA Presentation
- Final Reports



# SITE VISIT & UTILITY ANALYSIS

## Overview of Systems, Baseline & Existing Conditions:

- Lighting System
- HVAC and Mechanical Systems
- Plug Load Equipment
- Cooking and Refrigeration Equipment

## Utility Consumption:

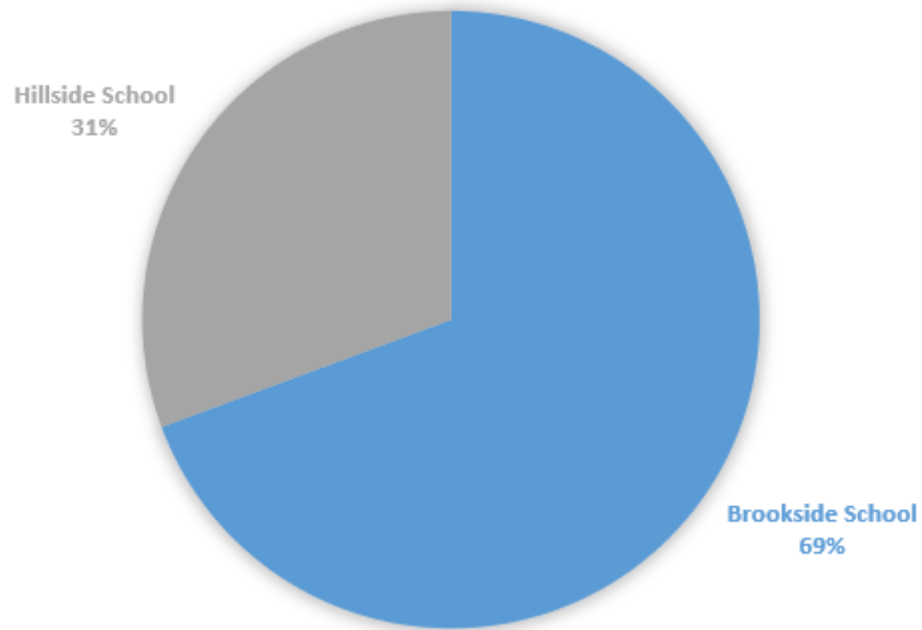
- Electric Consumption and Costs
- Natural Gas Consumption and Costs

## Sites Visited/Analyzed

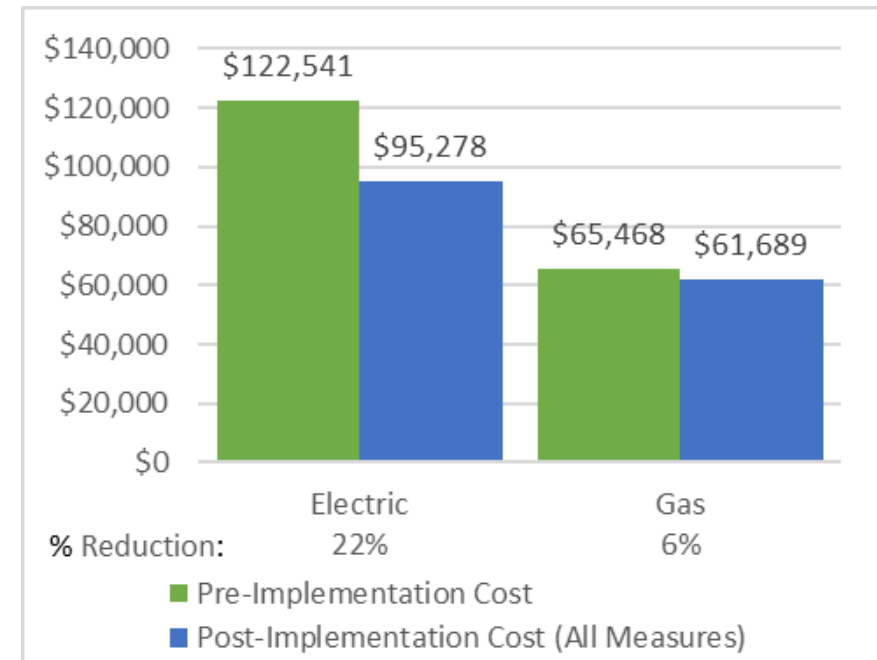
- Brookside School
- Hillside School

# UTILITY BREAKOUT

Percent of Total Annual Energy Costs



Pre & Post Implementation Cost



# BENCHMARKING

**ENERGY STAR® Statement of Energy Performance**

**65**  
ENERGY STAR® Score<sup>1</sup>

**Brookside Middle School**  
Primary Property Type: K-12 School  
Gross Floor Area (ft<sup>2</sup>): 98,416  
Built: 1928  
For Year Ending: April 30, 2022  
Date Generated: January 25, 2023

**Property & Contact Information**

Property Address	Property Owner	Primary Contact
Brookside Middle School 100 Brookside Avenue Allendale, New Jersey 07401	Allendale BOE 100 Brookside Avenue Allendale, NJ 07401 (201) 327-2020	Maria Engeleit 100 Brookside Avenue Allendale, NJ 07401 (201) 327-2020

Property ID: 23383535

**Energy Consumption and Energy Use Intensity (EUI)**

Site EUI	Annual Energy by Fuel	National Median Comparison
75.8 kBtu/ft <sup>2</sup>	Electric - Grid (kBtu) 1,974,414 (26%) Natural Gas (kBtu) 5,484,289 (74%)	National Median Site EUI (kBtu/ft <sup>2</sup> ) 88.2 National Median Source EUI (kBtu/ft <sup>2</sup> ) 133.5 % Diff from National Median Source EUI -14%
Source EUI	Annual Emissions	
114.7 kBtu/ft <sup>2</sup>	Greenhouse Gas Emissions (Metric Tons CO <sub>2</sub> e/year) 463	

**Site EUI**  
75.8 kBtu/ft<sup>2</sup>

**Source EUI**  
114.7 kBtu/ft<sup>2</sup>

**National Median Comparison**

National Median Site EUI (kBtu/ft <sup>2</sup> )	88.2
National Median Source EUI (kBtu/ft <sup>2</sup> )	133.5
% Diff from National Median Source EUI	-14%

Site Name	ENERGY STAR® Score
Brookside School	65
Hillside School	72

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.

**Signature & Stamp of Verifying Professional**

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

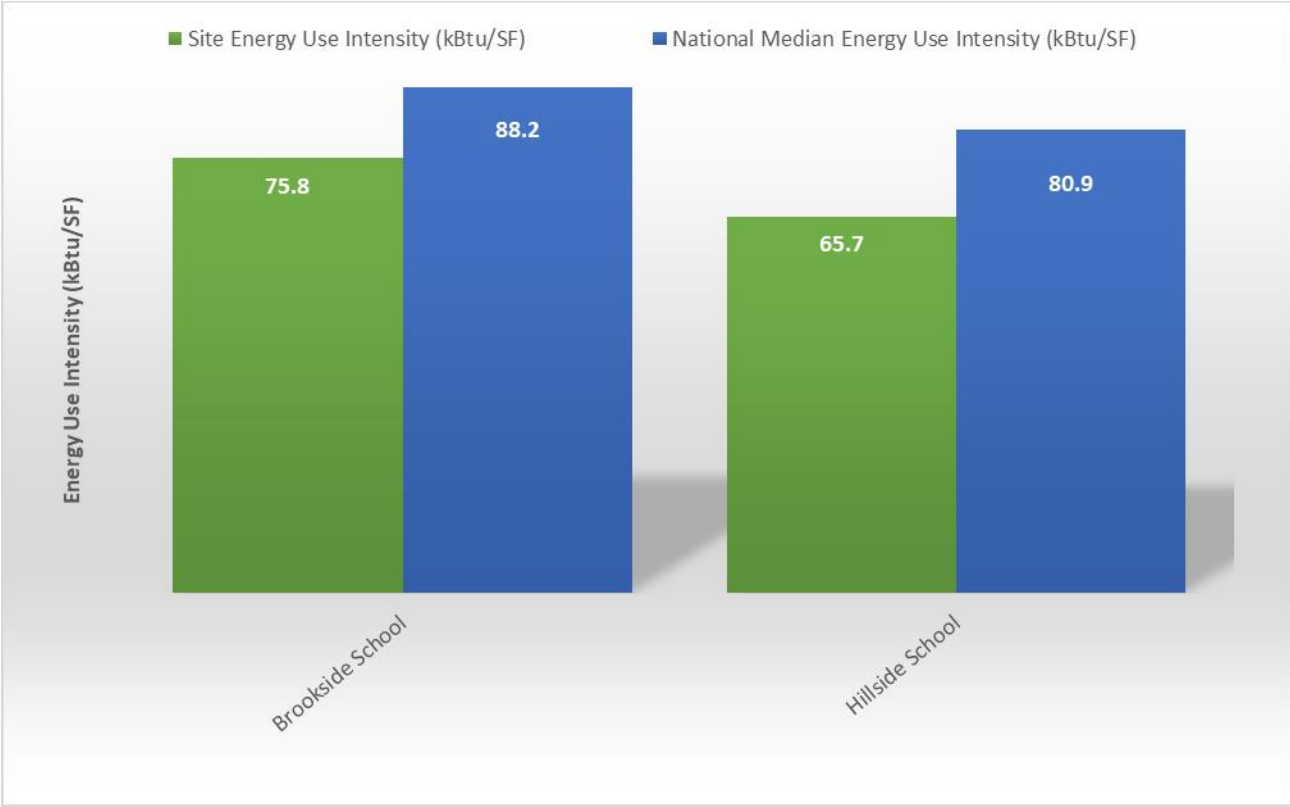
LP Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Licensed Professional**

\_\_\_\_\_  
(\_\_\_\_\_) \_\_\_\_\_

**Professional Engineer or Registered Architect Stamp (if applicable)**

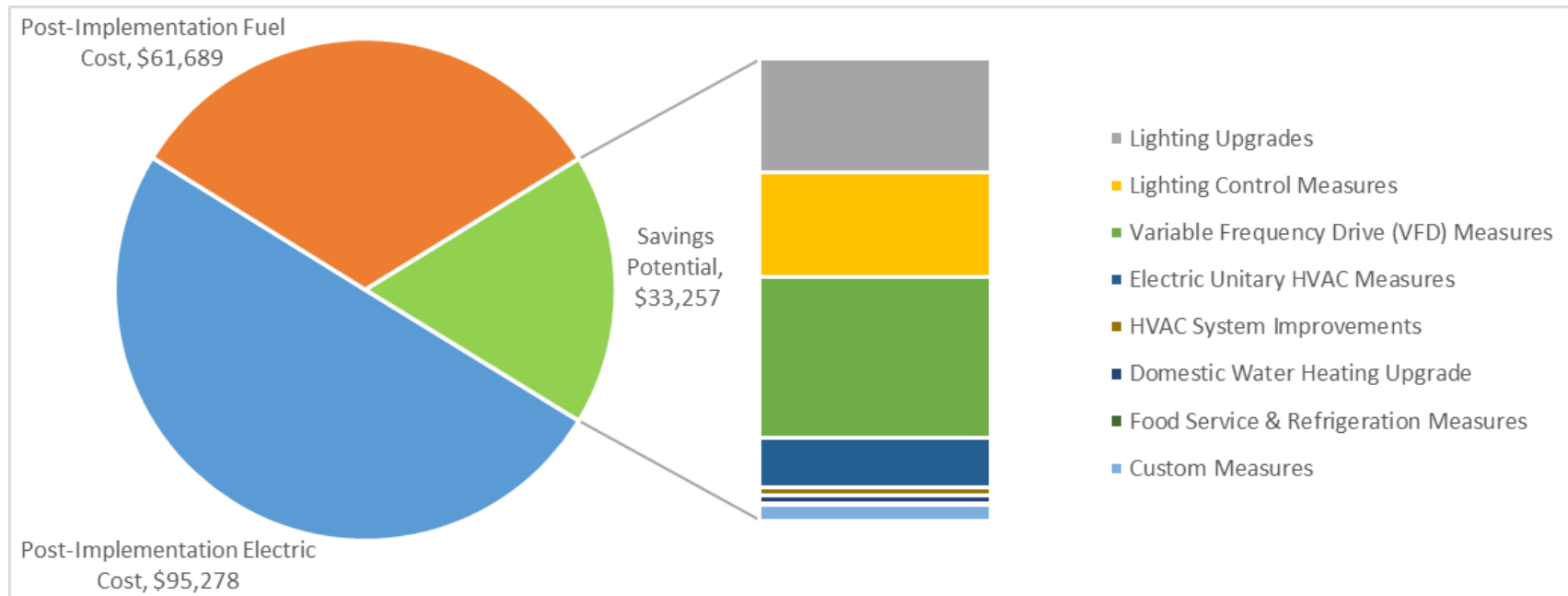
# BENCHMARKING





# ALL OPPORTUNITIES

## Savings Potential



# ALL OPPORTUNITIES

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>		<b>57,022</b>	<b>6.6</b>	<b>-6.3</b>	<b>\$8,229</b>	<b>\$18,708</b>	<b>\$2,993</b>	<b>\$15,715</b>	<b>1.9</b>	<b>56,683</b>
ECM 1	Install LED Fixtures	28,499	0.3	-0.3	\$4,138	\$12,792	\$2,165	\$10,627	2.6	28,658
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	348	0.3	-0.1	\$50	\$257	\$40	\$217	4.3	342
ECM 3	Retrofit Fixtures with LED Lamps	28,175	6.1	-5.9	\$4,041	\$5,659	\$788	\$4,871	1.2	27,682
<b>Lighting Control Measures</b>		<b>51,982</b>	<b>12.4</b>	<b>-10.6</b>	<b>\$7,450</b>	<b>\$58,515</b>	<b>\$16,790</b>	<b>\$41,725</b>	<b>5.6</b>	<b>51,100</b>
ECM 4	Install Occupancy Sensor Lighting Controls	38,503	9.9	-8.1	\$5,517	\$42,240	\$5,365	\$36,875	6.7	37,830
ECM 5	Install Daylight Dimming/Photocell Controls	1,111	0.0	0.0	\$162	\$1,200	\$0	\$1,200	7.4	1,119
ECM 6	Install High/Low Lighting Controls	12,368	2.5	-2.6	\$1,771	\$15,075	\$11,425	\$3,650	2.1	12,152
<b>Variable Frequency Drive (VFD) Measures</b>		<b>79,875</b>	<b>25.8</b>	<b>0.0</b>	<b>\$11,579</b>	<b>\$114,056</b>	<b>\$12,775</b>	<b>\$101,281</b>	<b>8.7</b>	<b>80,434</b>
ECM 7	Install VFDs on Constant Volume (CV) Fans	61,694	23.2	0.0	\$8,946	\$92,110	\$8,975	\$83,135	9.3	62,126
ECM 8	Install VFDs on Heating Water Pumps	18,181	2.7	0.0	\$2,633	\$21,946	\$3,800	\$18,146	6.9	18,308
<b>Unitary HVAC Measures</b>		<b>24,555</b>	<b>30.8</b>	<b>10.7</b>	<b>\$3,649</b>	<b>\$380,999</b>	<b>\$19,404</b>	<b>\$361,596</b>	<b>99.1</b>	<b>25,978</b>
ECM 9	Install High Efficiency Air Conditioning Units	24,555	30.8	10.7	\$3,649	\$380,999	\$19,404	\$361,596	99.1	25,978

# ALL OPPORTUNITIES

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO <sub>2</sub> e Emissions Reduction (lbs)
<b>HVAC System Improvements</b>		<b>1,651</b>	<b>0.0</b>	<b>38.5</b>	<b>\$563</b>	<b>\$2,049</b>	<b>\$312</b>	<b>\$1,737</b>	<b>3.1</b>	<b>6,170</b>
ECM 10	Install Pipe Insulation	1,651	0.0	38.5	\$563	\$2,049	\$312	\$1,737	3.1	6,170
<b>Domestic Water Heating Upgrade</b>		<b>1,668</b>	<b>0.0</b>	<b>33.2</b>	<b>\$518</b>	<b>\$294</b>	<b>\$147</b>	<b>\$147</b>	<b>0.3</b>	<b>5,569</b>
ECM 11	Install Low-Flow DHW Devices	1,668	0.0	33.2	\$518	\$294	\$147	\$147	0.3	5,569
<b>Food Service &amp; Refrigeration Measures</b>		<b>1,117</b>	<b>0.1</b>	<b>0.0</b>	<b>\$162</b>	<b>\$2,281</b>	<b>\$155</b>	<b>\$2,126</b>	<b>13.1</b>	<b>1,125</b>
ECM 12	Refrigerator/Freezer Case Electrically Commutated Motors	517	0.1	0.0	\$75	\$607	\$80	\$527	7.0	520
ECM 13	Refrigeration Controls	600	0.0	0.0	\$87	\$1,674	\$75	\$1,599	18.4	605
<b>Custom Measures</b>		<b>-29,954</b>	<b>0.0</b>	<b>385.0</b>	<b>-\$1,107</b>	<b>\$11,475</b>	<b>\$0</b>	<b>\$11,475</b>	<b>-10.4</b>	<b>14,915</b>
ECM 14	Replace Electric Water Heater with Heat Pump Water Heater	6,154	0.0	0.0	\$892	\$4,766	\$0	\$4,766	5.3	6,197
ECM 15	Replace Gas Fired Water Heater with Heat Pump Water Heater	-36,108	0.0	385.0	-\$1,999	\$6,709	\$0	\$6,709	-3.4	8,718
<b>TOTALS</b>		<b>187,917</b>	<b>75.8</b>	<b>450.5</b>	<b>\$31,043</b>	<b>\$588,377</b>	<b>\$52,575</b>	<b>\$535,801</b>	<b>17.3</b>	<b>241,973</b>

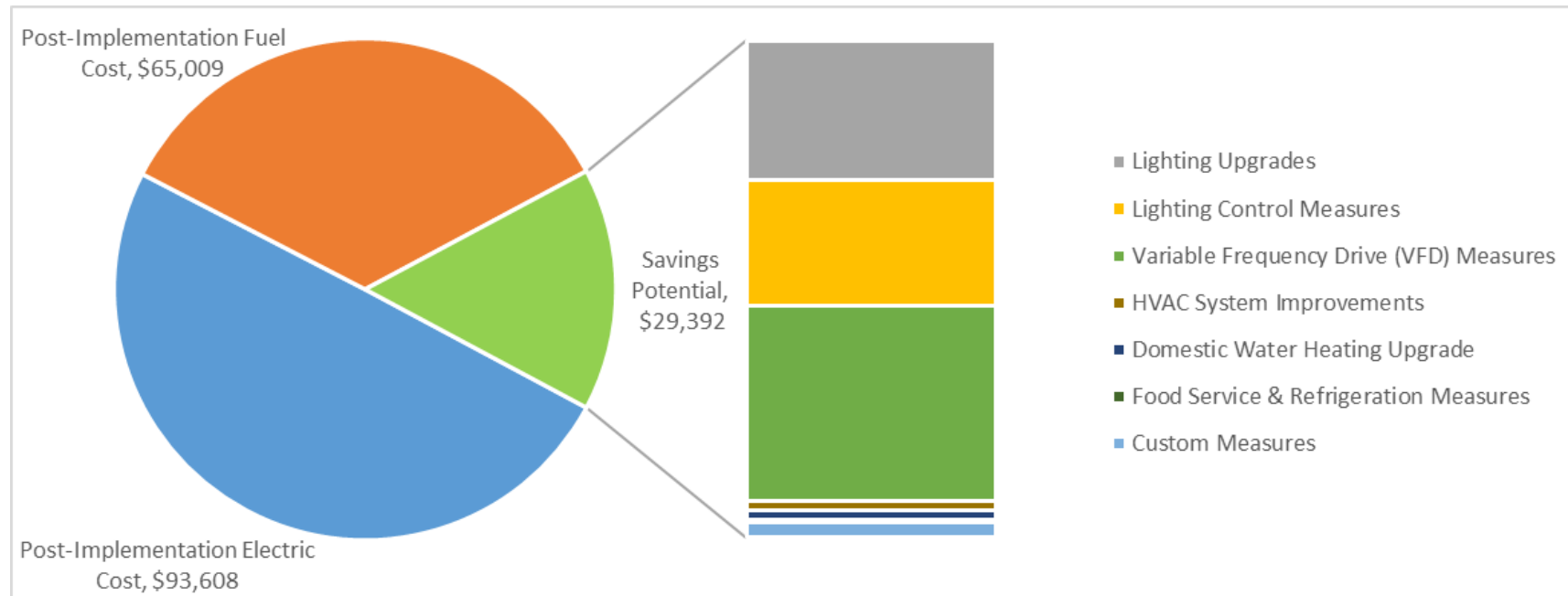
\* - All incentives presented in this table are included as placeholders and are based on previously run state rebate programs. Contact your utility provider for details on current programs

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

\*\*\*Negative payback period explained in reports.

# COST EFFECTIVE OPPORTUNITIES

## Savings Potential



# COST EFFECTIVE OPPORTUNITIES

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>		<b>57,022</b>	<b>6.6</b>	<b>-6.3</b>	<b>\$8,229</b>	<b>\$18,708</b>	<b>\$2,993</b>	<b>\$15,715</b>	<b>1.9</b>	<b>56,683</b>
ECM 1	Install LED Fixtures	28,499	0.3	-0.3	\$4,138	\$12,792	\$2,165	\$10,627	2.6	28,658
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	348	0.3	-0.1	\$50	\$257	\$40	\$217	4.3	342
ECM 3	Retrofit Fixtures with LED Lamps	28,175	6.1	-5.9	\$4,041	\$5,659	\$788	\$4,871	1.2	27,682
<b>Lighting Control Measures</b>		<b>51,982</b>	<b>12.4</b>	<b>-10.6</b>	<b>\$7,450</b>	<b>\$58,515</b>	<b>\$16,790</b>	<b>\$41,725</b>	<b>5.6</b>	<b>51,100</b>
ECM 4	Install Occupancy Sensor Lighting Controls	38,503	9.9	-8.1	\$5,517	\$42,240	\$5,365	\$36,875	6.7	37,830
ECM 5	Install Daylight Dimming/Photocell Controls	1,111	0.0	0.0	\$162	\$1,200	\$0	\$1,200	7.4	1,119
ECM 6	Install High/Low Lighting Controls	12,368	2.5	-2.6	\$1,771	\$15,075	\$11,425	\$3,650	2.1	12,152
<b>Variable Frequency Drive (VFD) Measures</b>		<b>79,875</b>	<b>25.8</b>	<b>0.0</b>	<b>\$11,579</b>	<b>\$114,056</b>	<b>\$12,775</b>	<b>\$101,281</b>	<b>8.7</b>	<b>80,434</b>
ECM 7	Install VFDs on Constant Volume (CV) Fans	61,694	23.2	0.0	\$8,946	\$92,110	\$8,975	\$83,135	9.3	62,126
ECM 8	Install VFDs on Heating Water Pumps	18,181	2.7	0.0	\$2,633	\$21,946	\$3,800	\$18,146	6.9	18,308
<b>HVAC System Improvements</b>		<b>1,651</b>	<b>0.0</b>	<b>38.5</b>	<b>\$563</b>	<b>\$2,049</b>	<b>\$312</b>	<b>\$1,737</b>	<b>3.1</b>	<b>6,170</b>
ECM 10	Install Pipe Insulation	1,651	0.0	38.5	\$563	\$2,049	\$312	\$1,737	3.1	6,170
<b>Domestic Water Heating Upgrade</b>		<b>1,668</b>	<b>0.0</b>	<b>33.2</b>	<b>\$518</b>	<b>\$294</b>	<b>\$147</b>	<b>\$147</b>	<b>0.3</b>	<b>5,569</b>
ECM 11	Install Low-Flow DHW Devices	1,668	0.0	33.2	\$518	\$294	\$147	\$147	0.3	5,569
<b>Food Service &amp; Refrigeration Measures</b>		<b>1,117</b>	<b>0.1</b>	<b>0.0</b>	<b>\$162</b>	<b>\$2,281</b>	<b>\$155</b>	<b>\$2,126</b>	<b>13.1</b>	<b>1,125</b>
ECM 12	Refrigerator/Freezer Case Electrically Commutated Motors	517	0.1	0.0	\$75	\$607	\$80	\$527	7.0	520
ECM 13	Refrigeration Controls	600	0.0	0.0	\$87	\$1,674	\$75	\$1,599	18.4	605
<b>Custom Measures</b>		<b>6,154</b>	<b>0.0</b>	<b>0.0</b>	<b>\$892</b>	<b>\$4,766</b>	<b>\$0</b>	<b>\$4,766</b>	<b>5.3</b>	<b>6,197</b>
ECM 14	Replace Electric Water Heater with Heat Pump Water Heater	6,154	0.0	0.0	\$892	\$4,766	\$0	\$4,766	5.3	6,197
<b>TOTALS</b>		<b>199,470</b>	<b>45.0</b>	<b>54.8</b>	<b>\$29,392</b>	<b>\$200,669</b>	<b>\$33,172</b>	<b>\$167,497</b>	<b>5.7</b>	<b>207,277</b>

\* - All incentives presented in this table are included as placeholders and are based on previously run state rebate programs. Contact your utility provider for details on current programs

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

# BROOKSIDE SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO <sub>2</sub> e Reduction (lbs)
<b>Lighting Upgrades</b>			<b>19,984</b>	<b>3.0</b>	<b>-3</b>	<b>\$2,870</b>	<b>\$8,082</b>	<b>\$1,032</b>	<b>\$7,050</b>	<b>2.5</b>	<b>19,779</b>
ECM 1	Install LED Fixtures	Yes	7,551	0.3	0	\$1,091	\$4,558	\$465	\$4,093	3.8	7,564
ECM 2	Retrofit Fixtures with LED Lamps	Yes	12,433	2.7	-3	\$1,779	\$3,524	\$567	\$2,957	1.7	12,215
<b>Lighting Control Measures</b>			<b>35,049</b>	<b>6.5</b>	<b>-7</b>	<b>\$5,015</b>	<b>\$31,535</b>	<b>\$9,885</b>	<b>\$21,650</b>	<b>4.3</b>	<b>34,436</b>
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	25,332	4.8	-5	\$3,625	\$21,410	\$2,640	\$18,770	5.2	24,889
ECM 4	Install High/Low Lighting Controls	Yes	9,717	1.8	-2	\$1,390	\$10,125	\$7,245	\$2,880	2.1	9,547
<b>Variable Frequency Drive (VFD) Measures</b>			<b>62,626</b>	<b>16.6</b>	<b>0</b>	<b>\$9,069</b>	<b>\$76,472</b>	<b>\$8,575</b>	<b>\$67,897</b>	<b>7.5</b>	<b>63,063</b>
ECM 5	Install VFDs on Constant Volume (CV) Fans	Yes	44,445	13.9	0	\$6,436	\$54,527	\$4,775	\$49,752	7.7	44,756
ECM 6	Install VFDs on Heating Water Pumps	Yes	18,181	2.7	0	\$2,633	\$21,946	\$3,800	\$18,146	6.9	18,308
<b>Unitary HVAC Measures</b>			<b>18,619</b>	<b>20.9</b>	<b>8</b>	<b>\$2,760</b>	<b>\$265,413</b>	<b>\$13,520</b>	<b>\$251,894</b>	<b>91.3</b>	<b>19,653</b>
ECM 7	Install High Efficiency Air Conditioning Units	No	18,619	20.9	8	\$2,760	\$265,413	\$13,520	\$251,894	91.3	19,653
<b>HVAC System Improvements</b>			<b>1,651</b>	<b>0.0</b>	<b>25</b>	<b>\$442</b>	<b>\$983</b>	<b>\$152</b>	<b>\$831</b>	<b>1.9</b>	<b>4,531</b>
ECM 8	Install Pipe Insulation	Yes	1,651	0.0	25	\$442	\$983	\$152	\$831	1.9	4,531
<b>Domestic Water Heating Upgrade</b>			<b>1,668</b>	<b>0.0</b>	<b>29</b>	<b>\$486</b>	<b>\$265</b>	<b>\$133</b>	<b>\$133</b>	<b>0.3</b>	<b>5,124</b>
ECM 9	Install Low-Flow DHW Devices	Yes	1,668	0.0	29	\$486	\$265	\$133	\$133	0.3	5,124
<b>Food Service &amp; Refrigeration Measures</b>			<b>1,117</b>	<b>0.1</b>	<b>0</b>	<b>\$162</b>	<b>\$2,281</b>	<b>\$155</b>	<b>\$2,126</b>	<b>13.1</b>	<b>1,125</b>
ECM 10	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	517	0.1	0	\$75	\$607	\$80	\$527	7.0	520
ECM 11	Refrigeration Controls	Yes	600	0.0	0	\$87	\$1,674	\$75	\$1,599	18.4	605
<b>Custom Measures</b>			<b>-16,824</b>	<b>0.0</b>	<b>245</b>	<b>-\$402</b>	<b>\$8,121</b>	<b>\$0</b>	<b>\$8,121</b>	<b>-20.2</b>	<b>11,745</b>
ECM 12	Replace Electric Water Heater with Heat Pump Water Heater	Yes	6,154	0.0	0	\$892	\$4,766	\$0	\$4,766	5.3	6,197
ECM 13	Replace Gas Fired Water Heater with Heat Pump Water Heater	No	-22,978	0.0	245	-\$1,294	\$3,354	\$0	\$3,354	-2.6	5,548
<b>TOTALS</b>			<b>123,890</b>	<b>47.1</b>	<b>296</b>	<b>\$20,402</b>	<b>\$393,152</b>	<b>\$33,451</b>	<b>\$359,701</b>	<b>17.6</b>	<b>159,456</b>

\* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

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

# HILLSIDE SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>37,039</b>	<b>3.7</b>	<b>-3</b>	<b>\$5,359</b>	<b>\$10,627</b>	<b>\$1,961</b>	<b>\$8,666</b>	<b>1.6</b>	<b>36,904</b>
ECM 1	Install LED Fixtures	Yes	20,948	0.0	0	\$3,047	\$8,234	\$1,700	\$6,534	2.1	21,095
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	348	0.3	0	\$50	\$257	\$40	\$217	4.3	342
ECM 3	Retrofit Fixtures with LED Lamps	Yes	15,742	3.4	-3	\$2,262	\$2,136	\$221	\$1,915	0.8	15,467
<b>Lighting Control Measures</b>			<b>16,933</b>	<b>5.9</b>	<b>-3</b>	<b>\$2,435</b>	<b>\$26,980</b>	<b>\$6,905</b>	<b>\$20,075</b>	<b>8.2</b>	<b>16,664</b>
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	13,171	5.1	-3	\$1,892	\$20,830	\$2,725	\$18,105	9.6	12,941
ECM 5	Install Photocell Controls	Yes	1,111	0.0	0	\$162	\$1,200	\$0	\$1,200	7.4	1,119
ECM 6	Install High/Low Lighting Controls	Yes	2,651	0.8	-1	\$381	\$4,950	\$4,180	\$770	2.0	2,605
<b>Variable Frequency Drive (VFD) Measures</b>			<b>17,250</b>	<b>9.2</b>	<b>0</b>	<b>\$2,509</b>	<b>\$37,583</b>	<b>\$4,200</b>	<b>\$33,383</b>	<b>13.3</b>	<b>17,370</b>
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	17,250	9.2	0	\$2,509	\$37,583	\$4,200	\$33,383	13.3	17,370
<b>Unitary HVAC Measures</b>			<b>5,936</b>	<b>9.9</b>	<b>3</b>	<b>\$889</b>	<b>\$115,586</b>	<b>\$5,884</b>	<b>\$109,702</b>	<b>123.4</b>	<b>6,325</b>
ECM 8	Install High Efficiency Air Conditioning Units	No	5,936	9.9	3	\$889	\$115,586	\$5,884	\$109,702	123.4	6,325
<b>HVAC System Improvements</b>			<b>0</b>	<b>0.0</b>	<b>14</b>	<b>\$121</b>	<b>\$1,066</b>	<b>\$160</b>	<b>\$906</b>	<b>7.5</b>	<b>1,639</b>
ECM 9	Install Pipe Insulation	Yes	0	0.0	14	\$121	\$1,066	\$160	\$906	7.5	1,639
<b>Domestic Water Heating Upgrade</b>			<b>0</b>	<b>0.0</b>	<b>4</b>	<b>\$33</b>	<b>\$29</b>	<b>\$14</b>	<b>\$14</b>	<b>0.4</b>	<b>444</b>
ECM 10	Install Low-Flow DHW Devices	Yes	0	0.0	4	\$33	\$29	\$14	\$14	0.4	444
<b>Custom Measures</b>			<b>-13,130</b>	<b>0.0</b>	<b>140</b>	<b>-\$705</b>	<b>\$3,354</b>	<b>\$0</b>	<b>\$3,354</b>	<b>-4.8</b>	<b>3,170</b>
ECM 11	Replace Gas Fired Water Heater with Heat Pump Water Heater	No	-13,130	0.0	140	-\$705	\$3,354	\$0	\$3,354	-4.8	3,170
<b>TOTALS</b>			<b>64,027</b>	<b>28.6</b>	<b>154</b>	<b>\$10,641</b>	<b>\$195,225</b>	<b>\$19,124</b>	<b>\$176,101</b>	<b>16.5</b>	<b>82,517</b>

\* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

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

# ENERGY EFFICIENT BEST PRACTICES

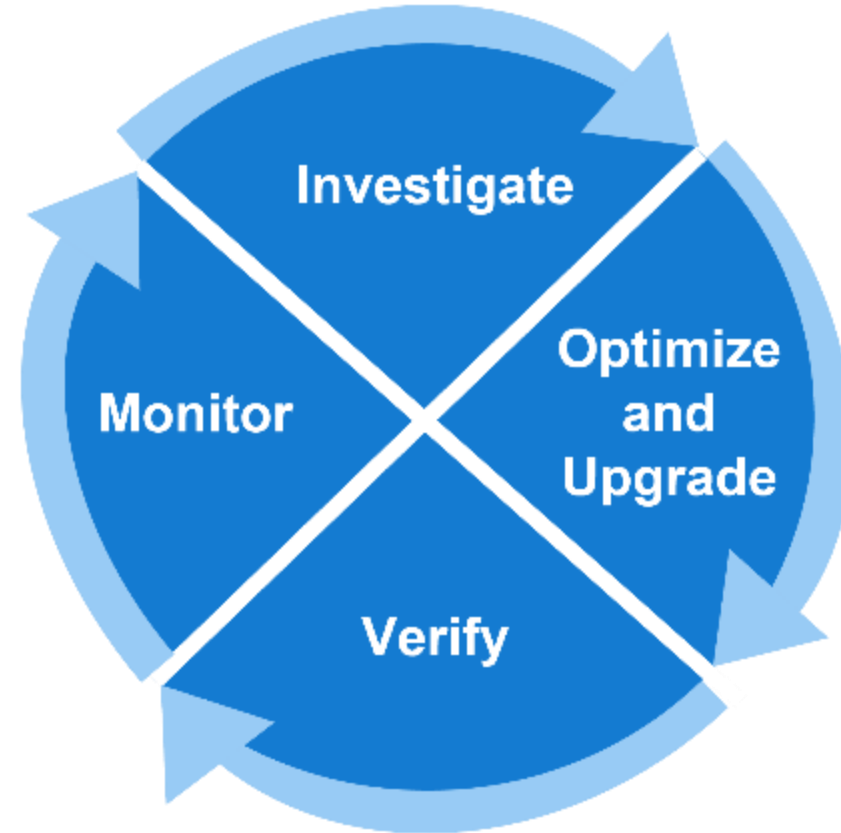
- Reduce Air Leakage
- Close Doors and Windows
- Develop a Lighting Maintenance Schedule
- Ensure Lighting Controls Are Operating Properly
- Use Fans to Reduce Cooling Load
- Use Window Treatments/Coverings
- Clean and/or Replace HVAC filters
- Check and Seal Duct Leakage
- Perform Proper Boiler Maintenance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

***See individual reports for specific EE practices by building***



# MEASURES FOR FUTURE CONSIDERATION

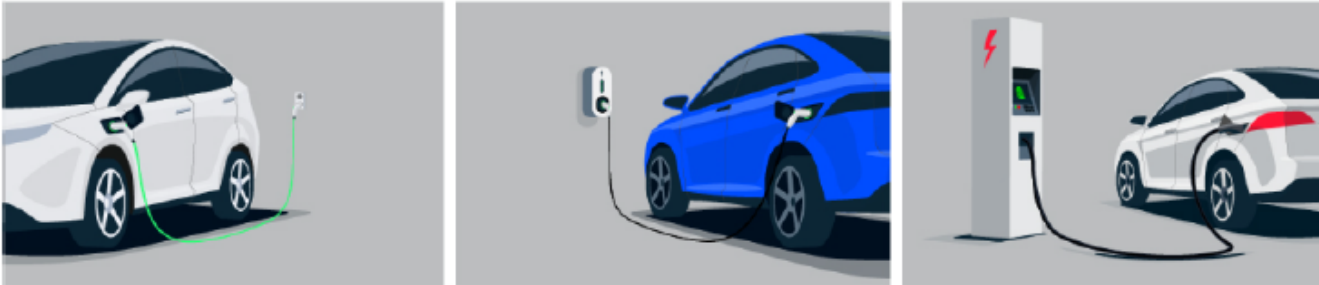
- Retro-Commissioning Study



# EV CHARGING STATION POTENTIAL

NJCleanEnergy.com/EV

## Know your EV Charging Stations



### LEVEL 1



**4-6 miles/hour**  
Replenish Rate



**7-30 hours for full charge**

Approximate time to charge a battery\*

**CHARGE**  
110/120V

### LEVEL 2



**10-20 miles/hour**  
Replenish Rate



**2-10 hours for full charge**

Approximate time to charge a battery\*

**CHARGE**  
208/240V

### DIRECT CURRENT (DC) FAST CHARGING\*



**120-200 miles/hour**  
Replenish Rate



**20-90 minutes for full charge**

Approximate time to charge a battery\*

**CHARGE**  
480V or 208V

\*dependent on the size of the battery

## Allendale Board of Education

Potential:

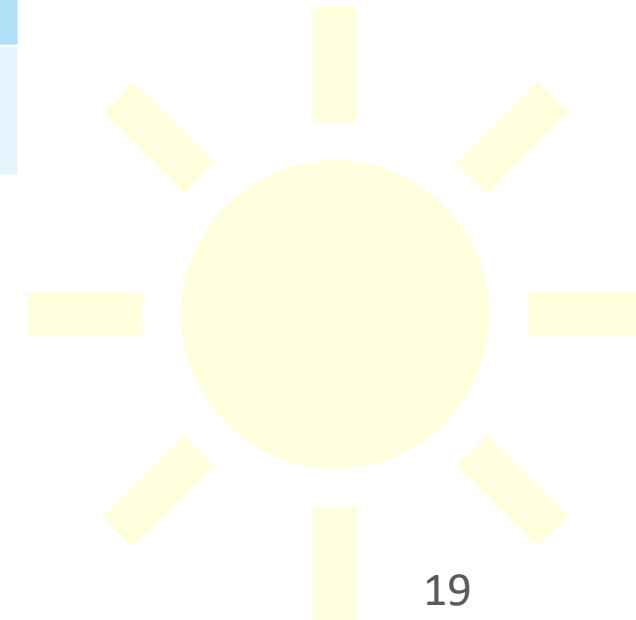
Medium



# SOLAR ENERGY GENERATION POTENTIAL

[NJCleanEnergy.com/renewable-energy](http://NJCleanEnergy.com/renewable-energy)

	Brookside	Hillside
<i>Potential:</i>	<b>MEDIUM</b>	<b>HIGH</b>
<i>System Potential: (kW)</i>	201	89
<i>Electric Generation: (kWh per year)</i>	151,241	106,032
<i>Displaced Cost: (per year)</i>	\$21,900	\$15,430

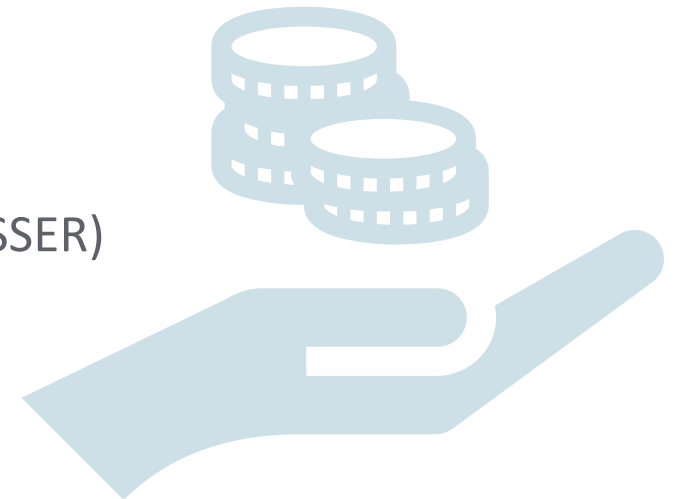


# FINANCING MECHANISM: ESIP

[NJCleanEnergy.com/ESIP](http://NJCleanEnergy.com/ESIP)

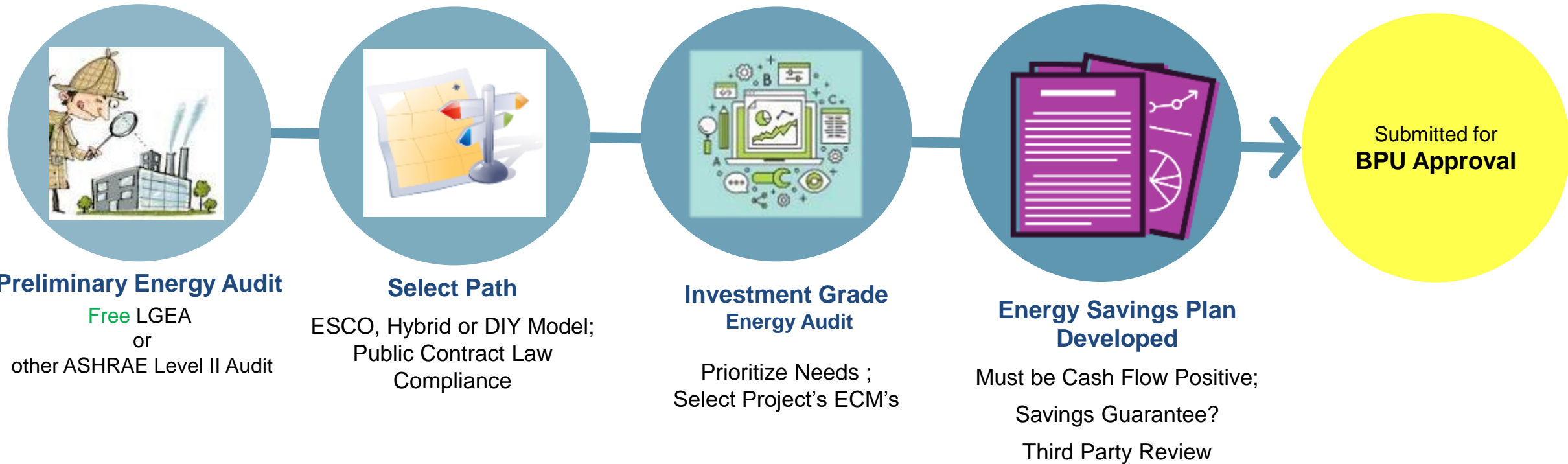
## ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- Energy Performance Contracting = NJ ESIP
- A creative tool and financing mechanism that allows public entities to make energy efficiency improvements without impacting their budgets
- Administered by the NJBPU
- Project is paid for with the value of its own energy savings
- 15 or 20 year pay back; self funding
- NJBPU Approved Incentive Programs
  - Utility or NJCEP
- Can be combined with Federal/State Pandemic Relief Funds (ESSER)
- No upfront capital expenses
- No referendum or impact to tax payers



# ENERGY SAVINGS IMPROVEMENT PROGRAM

NJCleanEnergy.com/ESIP



# ENERGY SAVINGS IMPROVEMENT PROGRAM

NJCleanEnergy.com/ESIP

## FOR MORE INFORMATION

**Michelle Rossi**

ESIP Coordinator

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# C&I ENERGY EFFICIENCY PROGRAMS

NJCleanEnergy.com

LOCAL  
GOVERNMENT  
CUSTOMERS

COMMERCIAL &  
INSTITUTIONAL  
CUSTOMERS

LARGE  
ENERGY  
CUSTOMERS

## EXISTING BUILDINGS

### MEASUREMENT & AUDITS

FREE Energy Audits



### RETROFITS

Prescriptive &  
Custom Rebates

Direct Install

Engineered Solutions

And more from  
your local utility!



Incentives up  
to \$4 million  
for eligible projects



## NEW CONSTRUCTION

Prescriptive & Custom  
Rebates for New  
Construction and  
Gut Rehabs

Pay for Performance  
incentives for  
buildings over  
50,000 sq. ft.



## DISTRIBUTED ENERGY RESOURCES

Combined Heat & Power  
and Fuel Cell Installation  
Incentives

Microgrid Development

Battery Storage

Muni EV Fleets



**Key:**  
Programs run by investor-owned utility companies



Programs run by NJCEP



# UTILITY RUN ENERGY EFFICIENCY PROGRAMS

[NJCleanEnergy.com/Transition](http://NJCleanEnergy.com/Transition)

## PRESCRIPTIVE & CUSTOM REBATES:

- Individual high efficiency equipment rebates for renovation, remodeling, and equipment replacement
- Flexibility to do a little or a lot
- No size requirement

## DIRECT INSTALL:

- Turn-key retrofit program to replace outdated and inefficient equipment including, lighting, HVAC, refrigeration, etc.
- The facility must have an average electric peak demand <200kW in the previous year to qualify

## ENGINEERED SOLUTIONS:

- Comprehensive, whole-building approach to saving energy
- The facility must have an average electric peak demand >200kW in the previous year to qualify





# UTILITY RUN ENERGY EFFICIENCY PROGRAMS

## Orange & Rockland

Kyle Haddock – [Haddockk@ORU.com](mailto:Haddockk@ORU.com)  
Kimberley Byk – [KByk@appliedenergygroup.com](mailto:KByk@appliedenergygroup.com)

## PSE&G

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Steve Barba – [Steven.T.Barba@pseg.com](mailto:Steven.T.Barba@pseg.com)

# SCHOOL & SMALL BUSINESS ENERGY EFFICIENCY STIMULUS PROGRAM

[NJCleanEnergy.com/SSBEE](http://NJCleanEnergy.com/SSBEE)

## ABOUT

Provides grants to ensure facilities have functional HVAC systems that are tested, adjusted, and, if necessary or cost effective, repaired, upgraded or replaced to improve performance. (SSB-VEEVR)

Provides grants to replace noncompliant plumbing fixtures and appliances that fail to meet water efficiency standards. (SSB-NPFA)

## REQUIREMENTS

Assessment verified by a Certified Energy Auditor or TAB Technician and proof of noncompliant equipment.

## INCENTIVE CAP

Grants shall provide no more than 75% of the approved project cost up to \$5 million.



# FOR MORE INFORMATION

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**THANK YOU**

