



*LGEA Presentation*  
*Clementon Board of Education*

October 5, 2022

New Jersey's  
Clean Energy Program

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

# INTRODUCTIONS

- *Clementon Board of Education*
  - Jose Cruz – Facility Manager
  - Donna Phillips – Business Administrator

- *NJ Clean Energy Program*
  - Sarah Walters – LGEA Project Manager
  - Moussa Traore – LGEA Lead Auditor
  - Melissa Lott – LGEA Account Manager

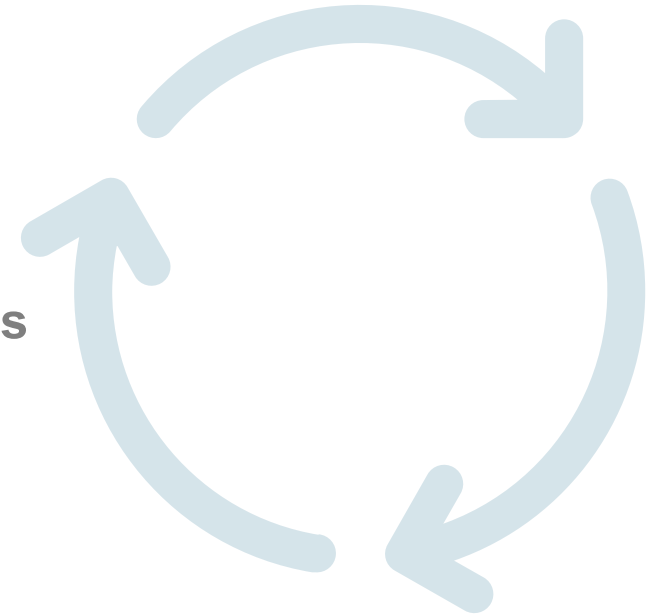
- *Utility Energy Efficiency Programs*
  - Nicholas Jackson – Atlantic City Electric

# 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 Clementon Board of Education

# LGEA PROCESS

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



# CLEMENTON ELEMENTARY SCHOOL

## Overview of Systems, Baseline & Existing Conditions:

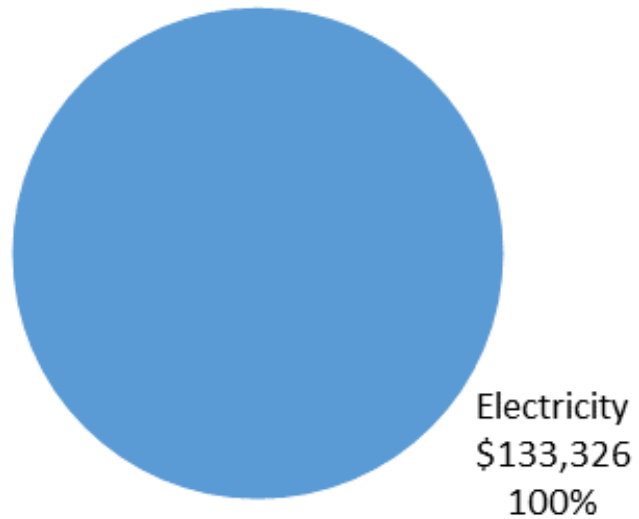
- Lighting System
- HVAC and Mechanical Systems
- Plug Load Equipment
- Cooking and Refrigeration Equipment

## Utility Consumption:

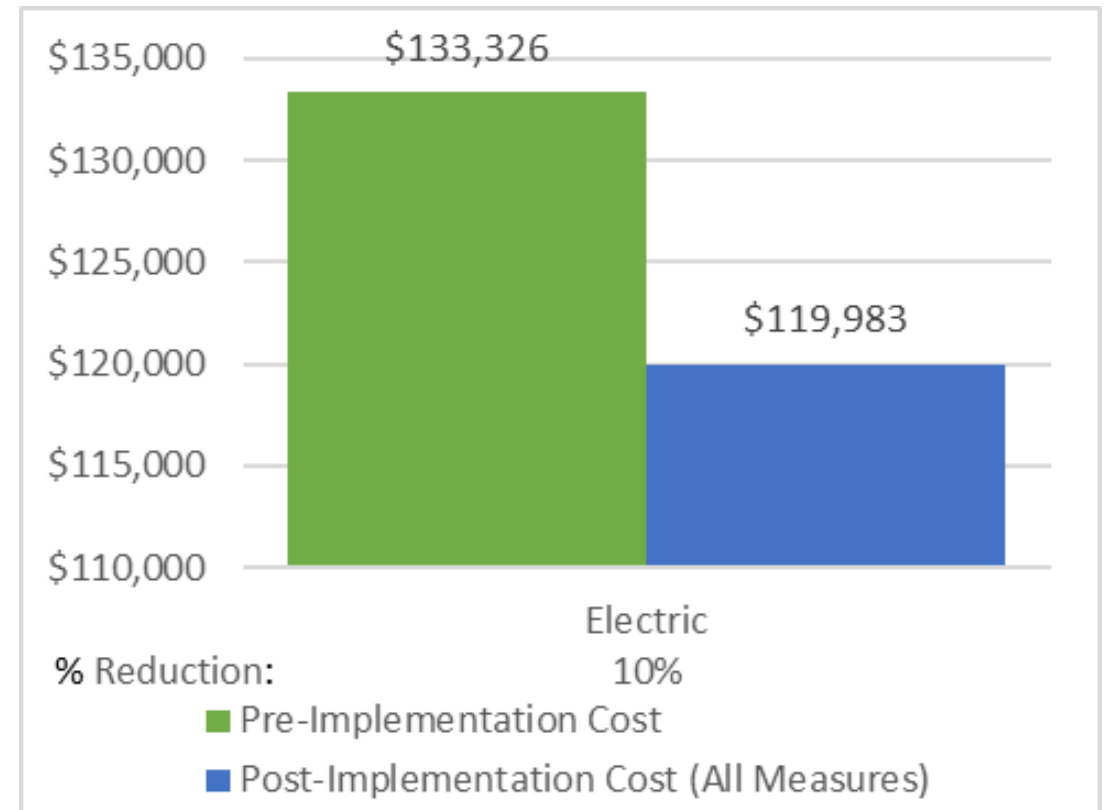
- Electric Consumption and Costs
- Solar Consumption and Costs

# UTILITY BREAKOUT


Percent of Total Annual Energy Costs



Pre & Post Implementation Cost



# BENCHMARKING



**ENERGY STAR® Statement of Energy Performance**

**61**  
ENERGY STAR® Score<sup>1</sup>

**Clementon Elementary School**  
Primary Property Type: K-12 School  
Gross Floor Area (ft<sup>2</sup>): 80,120  
Built: 1980  
For Year Ending: February 28, 2022  
Date Generated: September 06, 2022

**Property & Contact Information**

<b>Property Address</b> Clementon Elementary School 4 Audubon Avenue Clementon, New Jersey 08021	<b>Property Owner</b> Clementon Elementary School 4 Audubon Avenue Clementon, NJ 08021 (856) 783-2300	<b>Primary Contact</b> Jose Cruz 4 Audubon Avenue Clementon, NJ 08021 (856) 783-2300 cruzj@clementon.k12.nj.us
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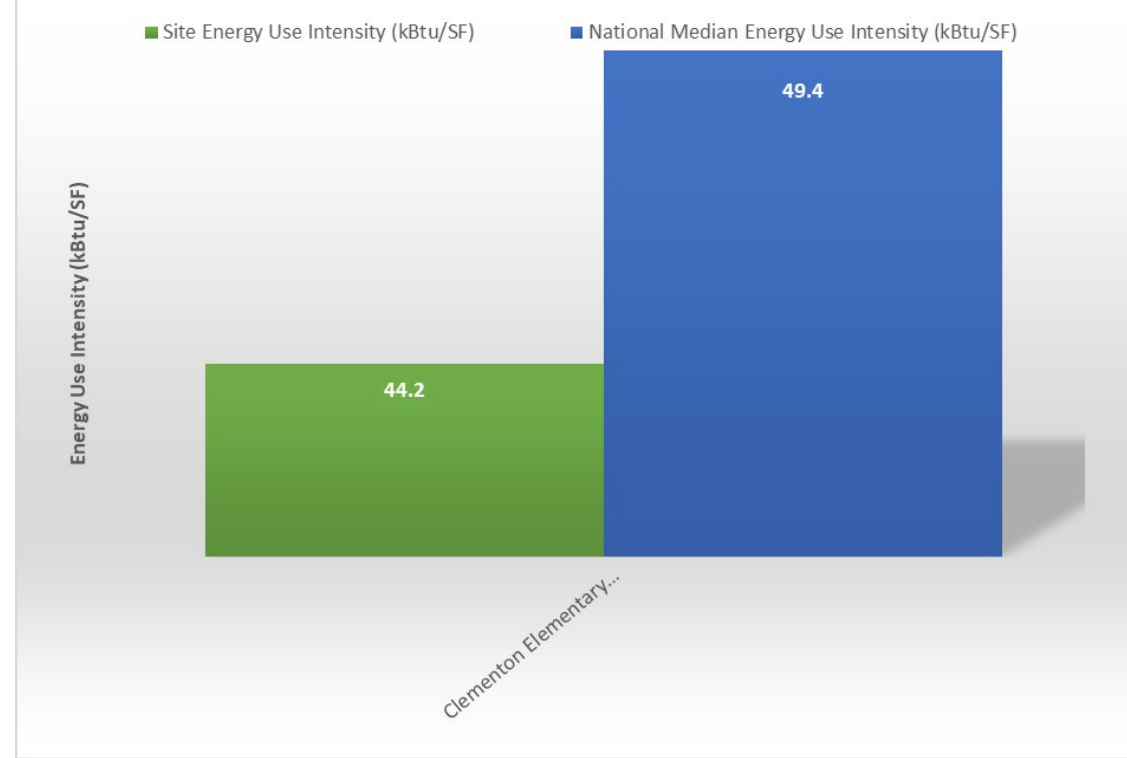
Property ID: 21739355

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

<b>Site EUI</b> 44.2 kBtu/ft <sup>2</sup>	<b>Annual Energy by Fuel</b> Electric - Grid (kBtu) 2,879,271 (81%) Electric - Solar (kBtu) 664,664 (19%)	<b>National Median Comparison</b> National Median Site EUI (kBtu/ft <sup>2</sup> ) 49.4 National Median Source EUI (kBtu/ft <sup>2</sup> ) 121.5 % Diff from National Median Source EUI -10%
<b>Source EUI</b> 108.9 kBtu/ft <sup>2</sup>	<b>Annual Emissions</b> Greenhouse Gas Emissions (Metric Tons CO2e/year) 251	

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

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



**National Median Comparison**

National Median Site EUI (kBtu/ft <sup>2</sup> )	49.4
National Median Source EUI (kBtu/ft <sup>2</sup> )	121.5
% Diff from National Median Source EUI	-10%

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

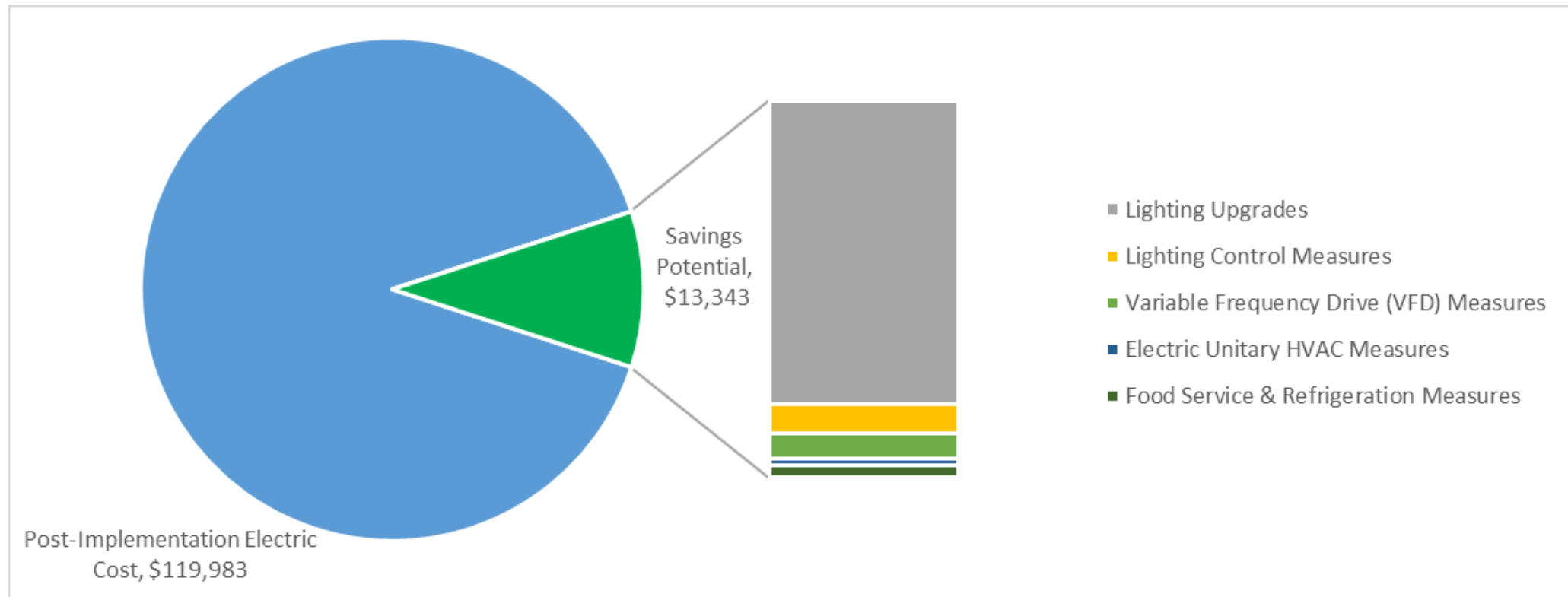


Professional Engineer or Registered Architect Stamp (if applicable)

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





# CLEMENTON ELEMENTARY SCHOOL

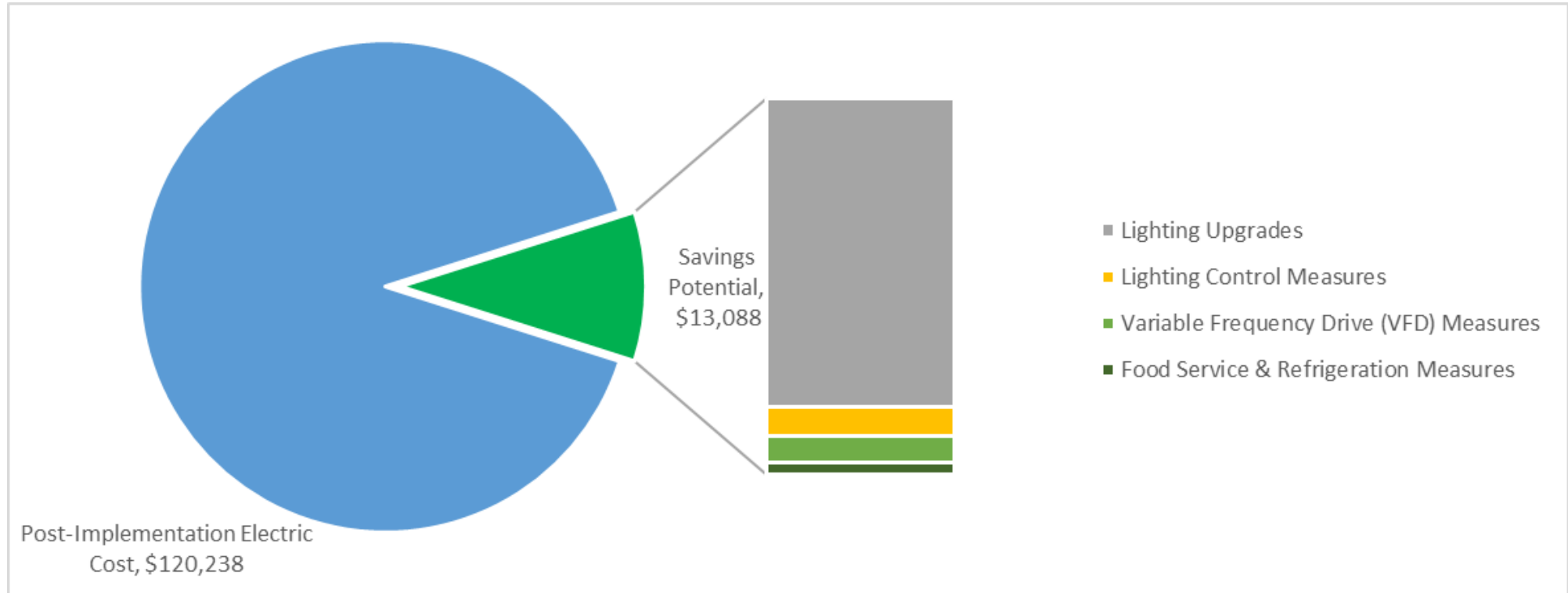
#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>83,396</b>	<b>27.9</b>	<b>0</b>	<b>\$10,730</b>	<b>\$48,209</b>	<b>\$11,530</b>	<b>\$36,679</b>	<b>3.4</b>	<b>83,979</b>
ECM 1	Install LED Fixtures	Yes	4,359	0.0	0	\$561	\$2,148	\$140	\$2,008	3.6	4,389
ECM 2	Retrofit Fixtures with LED Lamps	Yes	79,037	27.9	0	\$10,170	\$46,061	\$11,390	\$34,671	3.4	79,590
<b>Lighting Control Measures</b>			<b>8,096</b>	<b>2.3</b>	<b>0</b>	<b>\$1,042</b>	<b>\$15,422</b>	<b>\$6,040</b>	<b>\$9,382</b>	<b>9.0</b>	<b>8,152</b>
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	4,635	1.4	0	\$596	\$9,572	\$1,350	\$8,222	13.8	4,668
ECM 4	Install High/Low Lighting Controls	Yes	3,460	0.9	0	\$445	\$5,850	\$4,690	\$1,160	2.6	3,485
<b>Variable Frequency Drive (VFD) Measures</b>			<b>6,846</b>	<b>0.0</b>	<b>0</b>	<b>\$881</b>	<b>\$3,391</b>	<b>\$75</b>	<b>\$3,316</b>	<b>3.8</b>	<b>6,894</b>
ECM 5	Install VFDs on Kitchen Hood Fan Motors	Yes	6,846	0.0	0	\$881	\$3,391	\$75	\$3,316	3.8	6,894
<b>Unitary HVAC Measures</b>			<b>1,982</b>	<b>1.5</b>	<b>0</b>	<b>\$255</b>	<b>\$23,172</b>	<b>\$1,540</b>	<b>\$21,632</b>	<b>84.8</b>	<b>1,996</b>
ECM 6	Install High Efficiency Heat Pumps	No	1,982	1.5	0	\$255	\$23,172	\$1,540	\$21,632	84.8	1,996
<b>Food Service &amp; Refrigeration Measures</b>			<b>3,380</b>	<b>0.2</b>	<b>0</b>	<b>\$435</b>	<b>\$5,310</b>	<b>\$360</b>	<b>\$4,950</b>	<b>11.4</b>	<b>3,404</b>
ECM 7	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	1,048	0.1	0	\$135	\$1,213	\$160	\$1,053	7.8	1,055
ECM 8	Refrigeration Controls	Yes	1,990	0.0	0	\$256	\$3,867	\$200	\$3,667	14.3	2,004
ECM 9	Vending Machine Control	Yes	343	0.0	0	\$44	\$230	\$0	\$230	5.2	345
<b>TOTALS (COST EFFECTIVE MEASURES)</b>			<b>101,718</b>	<b>30.5</b>	<b>0</b>	<b>\$13,088</b>	<b>\$72,331</b>	<b>\$18,005</b>	<b>\$54,326</b>	<b>4.2</b>	<b>102,429</b>
<b>TOTALS (ALL MEASURES)</b>			<b>103,700</b>	<b>32.0</b>	<b>0</b>	<b>\$13,343</b>	<b>\$95,503</b>	<b>\$19,545</b>	<b>\$75,958</b>	<b>5.7</b>	<b>104,425</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).

# COST EFFECTIVE OPPORTUNITIES

## Savings Potential



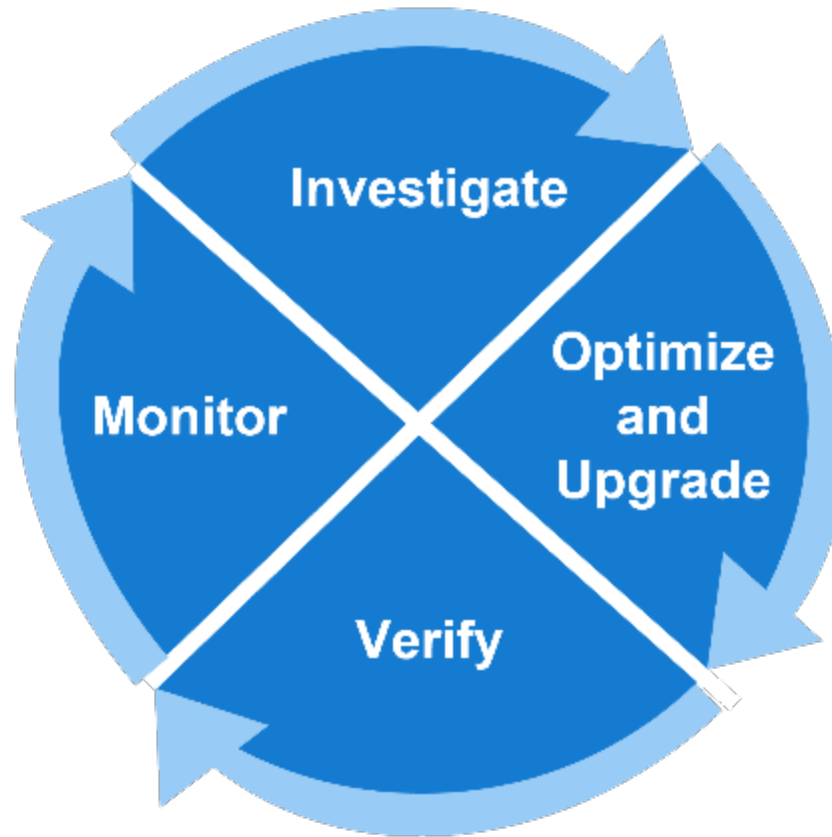
# ENERGY EFFICIENT BEST PRACTICES

- 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

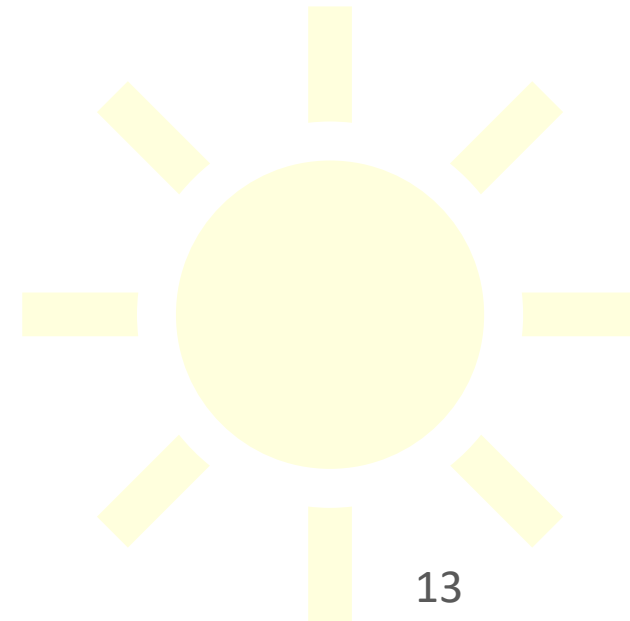
- Retro-Commissioning Study



# SOLAR ENERGY GENERATION POTENTIAL

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

	Clementon Elementary School
<i>Potential:</i>	<b>HIGH</b>
<i>System Potential: (kW)</i>	215
<i>Electric Generation: (kWh per year)</i>	256,145
<i>Displaced Cost: (per year)</i>	\$32,960

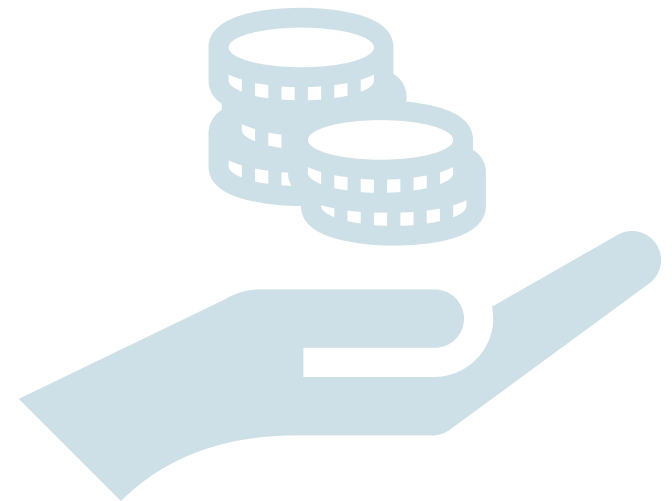


# FINANCING MECHANISM: ESIP

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

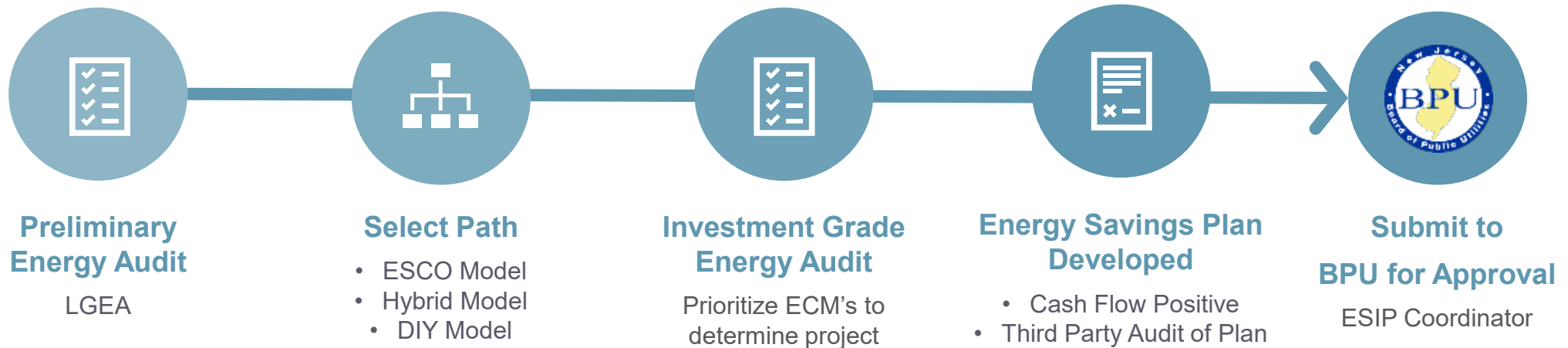
## ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- Energy Performance Contracting – NJ ESIP
- Financing Mechanism that allows state entities to make energy efficiency improvements without impacting their budgets
- Administered by the NJBPU
- NJBPU Approved EE Incentive Programs: NJCEP or Utility
- Project is paid for with the value of its own energy savings
- 15 or 20 year self-funding loan
- Can be combined with Federal/State Pandemic Relief Funds
- No upfront capital expenses
- No referendum is required
- No impact to taxpayers



# FINANCING MECHANISM: ESIP

NJCleanEnergy.com/EV



# ENERGY SAVINGS IMPROVEMENT PROGRAM

NJCleanEnergy.com/ESIP

## FOR MORE INFORMATION

**Michelle Rossi**

ESIP Coordinator

ESIP@bpu.nj.gov

o: 609.913.6295

c: 609.915.0903



# C&I TRANSITION OF ENERGY EFFICIENCY PROGRAMS

NJCleanEnergy.com/Transition

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



# 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

## **Atlantic City Electric**

Paul Miles - [Paul.Miles@exeloncorp.com](mailto:Paul.Miles@exeloncorp.com)

Greg Reinert - [GReinert@trccompanies.com](mailto:GReinert@trccompanies.com)

Nicholas Jackson – [NJackson@trccompanies.com](mailto:NJackson@trccompanies.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

**Sarah Walters – LGEA Project Manager**

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**Melissa Lott – LGEA Account Manager**

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(732) 589-7397



THANK YOU

