

*LGEA Presentation*  
*Folsom Board of Education*

June 27, 2022



New Jersey's  
Clean Energy Program

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

# INTRODUCTIONS

- *Folsom Board of Education*

- Christopher Veneziani – Business Administrator
- Ron Losse – Building and Grounds Supervisor

- *NJ Clean Energy Program*

- Sarah Walters – LGEA Project Manager
- Moussa Traore – LGEA Lead Auditor

- *Utility Energy Efficiency Programs*

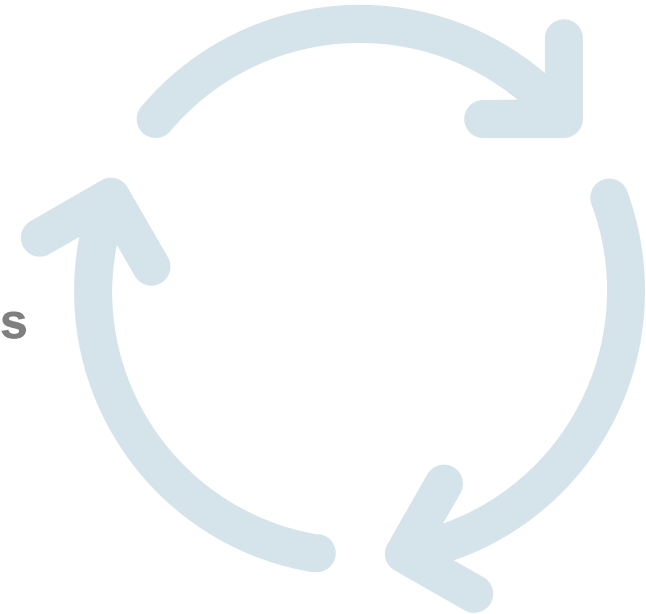
- Nicholas Jackson – ACE

# 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)
- C&I Transition of EE Programs
- Questions regarding the draft audit report
- Next steps for Folsom Board of Education

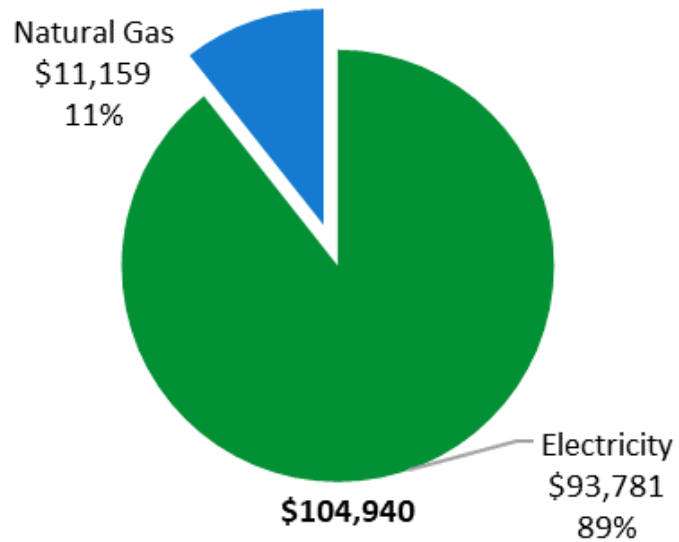
# LGEA PROCESS

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

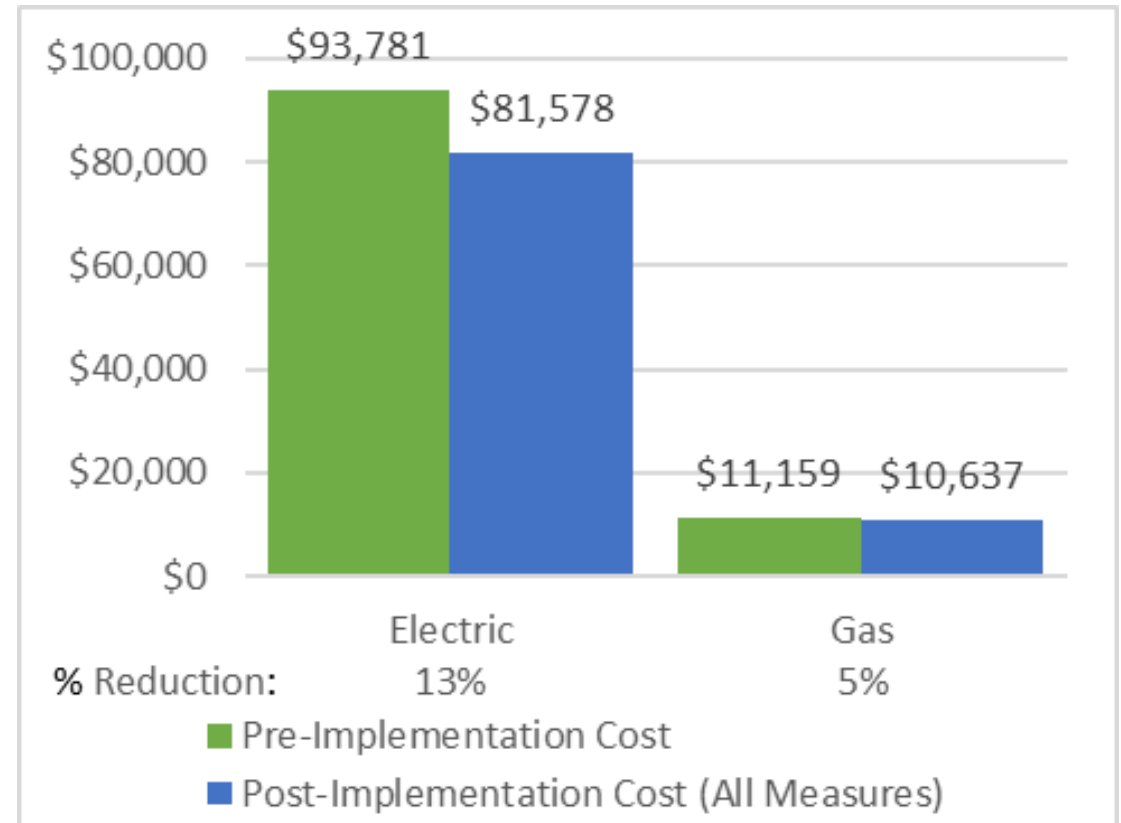


# UTILITY BREAKOUT

## Annual Utilities



## Pre & Post Implementation Cost



# FOLSOM ELEMENTARY SCHOOL

## Overview of Systems, Baseline & Existing Conditions:

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

## Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

# BENCHMARKING

**ENERGY STAR® Statement of Energy Performance**

**64**  
ENERGY STAR® Score<sup>1</sup>

**Folsom Elementary School**

Primary Property Type: K-12 School  
Gross Floor Area (ft<sup>2</sup>): 55,000  
Built: 1967

For Year Ending: October 31, 2021  
Date Generated: April 06, 2022

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**

<b>Property Address</b> Folsom Elementary School 1357 Mays Landing Road Folsom, New Jersey 08037	<b>Property Owner</b> Folsom Board of Education 1357 Mays Landing Road Folsom, NJ 08037	<b>Primary Contact</b> Christopher Veneziani 1357 Mays Landing Road Folsom, NJ 08037 609-561-8666 ext 113 cveneziani@folsomschool.org
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Property ID: 4682738

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

<b>Site EUI</b> 48.8 kBtu/ft <sup>2</sup>	<b>Annual Energy by Fuel</b>	<b>National Median Comparison</b>
	Electricity (kBtu) 1,923,489 (72%)	National Median Site EUI (kBtu/ft <sup>2</sup> ) 56.1
	Natural Gas (kBtu) 759,270 (28%)	National Median Source EUI (kBtu/ft <sup>2</sup> ) 129.3
		% Diff from National Median Source EUI -13%
<b>Source EUI</b> 112.4 kBtu/ft <sup>2</sup>		<b>Annual Emissions</b>
		Greenhouse Gas Emissions (Metric Tons CO <sub>2</sub> e/year) 19

**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**

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

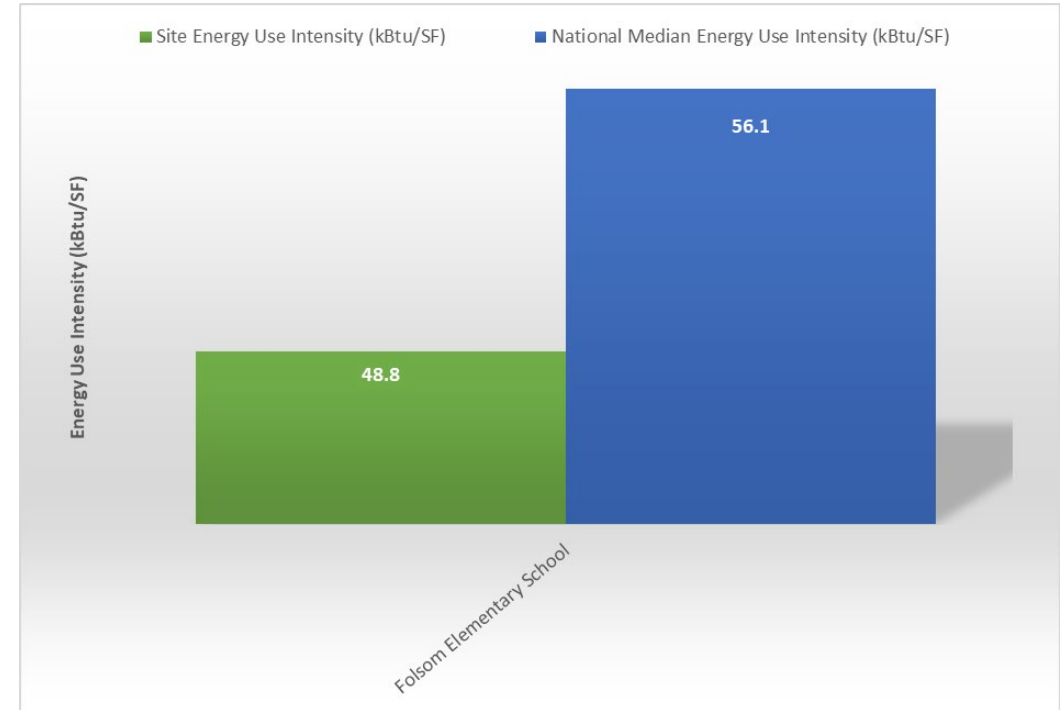
Professional Engineer or Registered Architect Stamp (if applicable)

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

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

**National Median Comparison**

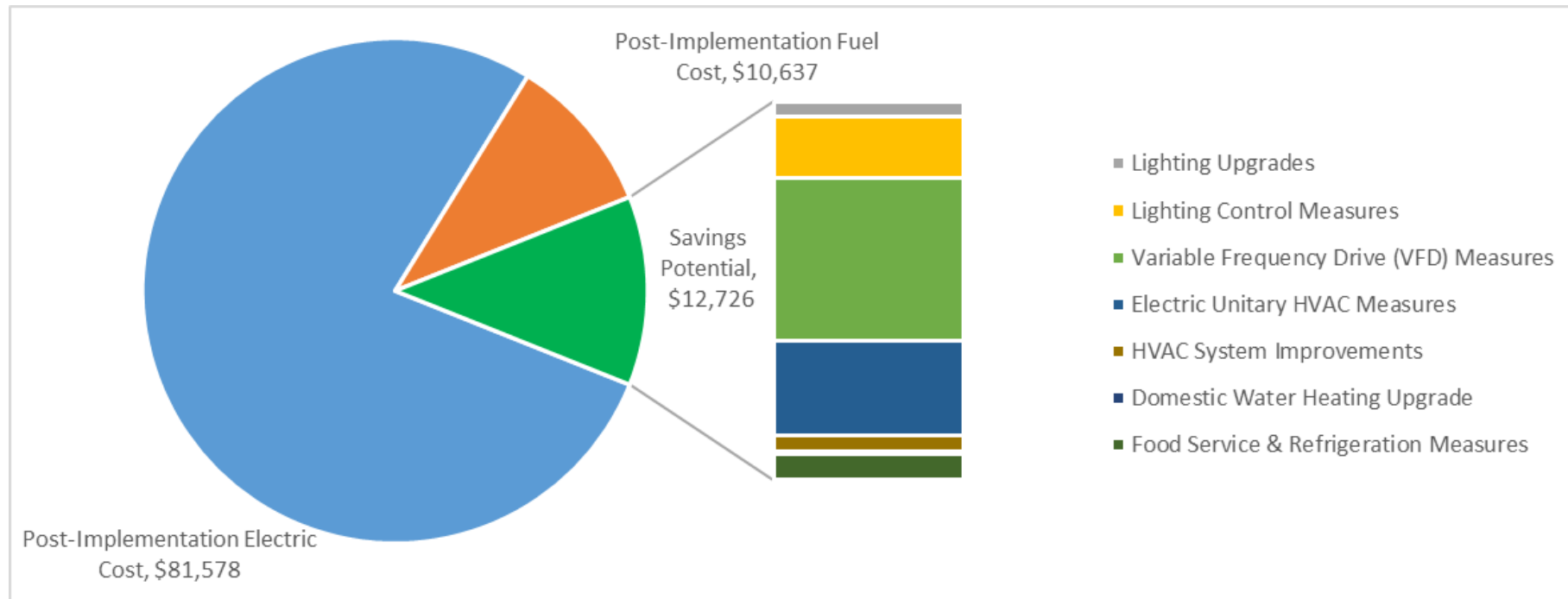
National Median Site EUI (kBtu/ft <sup>2</sup> )	56.1
National Median Source EUI (kBtu/ft <sup>2</sup> )	129.3
% Diff from National Median Source EUI	-13%



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





# FOLSOM ELEMENTARY SCHOOL

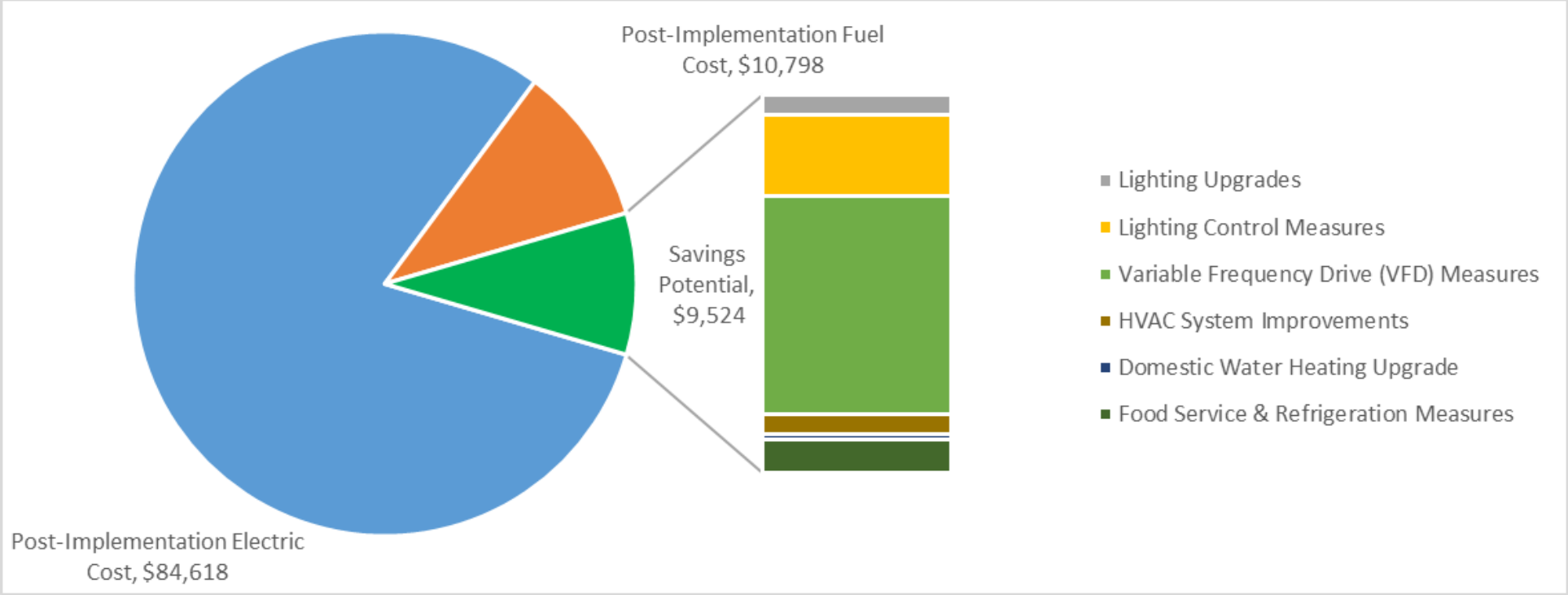
#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>3,066</b>	<b>0.0</b>	<b>0</b>	<b>\$522</b>	<b>\$2,088</b>	<b>\$608</b>	<b>\$1,480</b>	<b>2.8</b>	<b>3,086</b>
ECM 1	Install LED Fixtures	Yes	2,996	0.0	0	\$510	\$1,988	\$600	\$1,388	2.7	3,017
ECM 2	Retrofit Fixtures with LED Lamps	Yes	70	0.0	0	\$12	\$101	\$8	\$93	7.9	69
<b>Lighting Control Measures</b>			<b>12,236</b>	<b>3.4</b>	<b>-3</b>	<b>\$2,045</b>	<b>\$11,842</b>	<b>\$1,545</b>	<b>\$10,297</b>	<b>5.0</b>	<b>12,022</b>
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	12,236	3.4	-3	\$2,045	\$11,842	\$1,545	\$10,297	5.0	12,022
<b>Variable Frequency Drive (VFD) Measures</b>			<b>32,152</b>	<b>10.2</b>	<b>0</b>	<b>\$5,471</b>	<b>\$46,032</b>	<b>\$3,300</b>	<b>\$42,732</b>	<b>7.8</b>	<b>32,377</b>
ECM 4	Install VFDs on Constant Volume (CV) Fans	Yes	32,152	10.2	0	\$5,471	\$46,032	\$3,300	\$42,732	7.8	32,377
<b>Unitary HVAC Measures</b>			<b>17,867</b>	<b>20.6</b>	<b>11</b>	<b>\$3,202</b>	<b>\$171,559</b>	<b>\$8,657</b>	<b>\$162,902</b>	<b>50.9</b>	<b>19,288</b>
ECM 5	Install High Efficiency Air Conditioning Units	No	9,863	10.3	11	\$1,840	\$125,905	\$5,957	\$119,948	65.2	11,228
ECM 6	Install High Efficiency Heat Pumps	No	8,004	10.3	0	\$1,362	\$45,654	\$2,700	\$42,954	31.5	8,060
<b>HVAC System Improvements</b>			<b>642</b>	<b>0.0</b>	<b>27</b>	<b>\$508</b>	<b>\$8,157</b>	<b>\$0</b>	<b>\$8,157</b>	<b>16.1</b>	<b>3,849</b>
ECM 7	Implement Demand Control Ventilation (DCV)	Yes	642	0.0	27	\$508	\$8,157	\$0	\$8,157	16.1	3,849
<b>Domestic Water Heating Upgrade</b>			<b>736</b>	<b>0.0</b>	<b>0</b>	<b>\$125</b>	<b>\$43</b>	<b>\$22</b>	<b>\$22</b>	<b>0.2</b>	<b>741</b>
ECM 8	Install Low-Flow DHW Devices	Yes	736	0.0	0	\$125	\$43	\$22	\$22	0.2	741
<b>Food Service &amp; Refrigeration Measures</b>			<b>5,015</b>	<b>0.5</b>	<b>0</b>	<b>\$853</b>	<b>\$3,213</b>	<b>\$160</b>	<b>\$3,053</b>	<b>3.6</b>	<b>5,050</b>
ECM 9	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	1,639	0.1	0	\$279	\$1,213	\$160	\$1,053	3.8	1,651
ECM 10	Replace Refrigeration Equipment	Yes	3,376	0.4	0	\$575	\$2,000	\$0	\$2,000	3.5	3,400
<b>TOTALS (COST EFFECTIVE MEASURES)</b>			<b>53,848</b>	<b>14.1</b>	<b>25</b>	<b>\$9,524</b>	<b>\$71,375</b>	<b>\$5,635</b>	<b>\$65,741</b>	<b>6.9</b>	<b>57,126</b>
<b>TOTALS (ALL MEASURES)</b>			<b>71,715</b>	<b>34.7</b>	<b>36</b>	<b>\$12,726</b>	<b>\$242,935</b>	<b>\$14,292</b>	<b>\$228,643</b>	<b>18.0</b>	<b>76,413</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***

# SOLAR ENERGY GENERATION POTENTIAL

	Folsom ES
<i>Potential:</i>	<b>HIGH</b>
<i>System Potential: (kW)</i>	128
<i>Electric Generation: (kWh per year)</i>	152,495
<i>Displaced Cost: (per year)</i>	\$25,950

## Successor Solar Incentive Program

<https://www.njcleanenergy.com/renewable-energy/programs/susi-program>

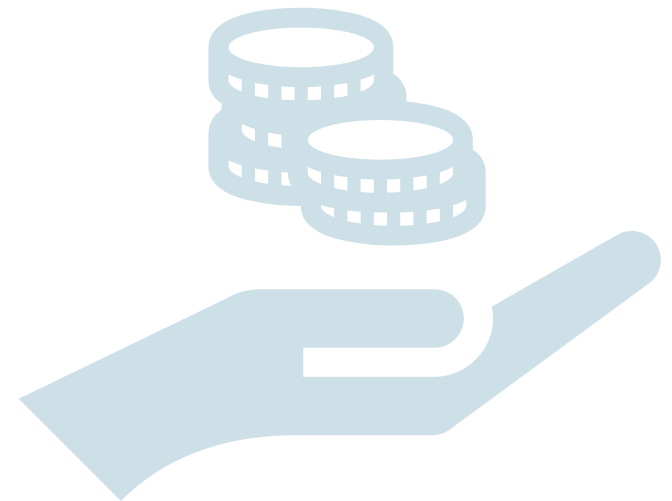
## Community Solar Energy Pilot Program

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

# FINANCING MECHANISM: 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



# ENERGY SAVINGS IMPROVEMENT PROGRAM

## 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

<https://www.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

## **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

## ACE

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)

## South Jersey Gas

Kim Bodine – [KBodine@sjindustries.com](mailto:KBodine@sjindustries.com)  
Kim Byk – [KByk@appliedenergygroup.com](mailto:KByk@appliedenergygroup.com)  
Ben Adams – [BenAdams@magrann.com](mailto:BenAdams@magrann.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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**Moussa Traore – LGEA Lead Energy Auditor**

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(732) 902-1797

**Meredith Coley – LGEA Account Manager**

[MColey@trccompanies.com](mailto:MColey@trccompanies.com)

(252) 459-4664



THANK YOU

