

# New Jersey's Clean Energy Program

LGEA Exit Meeting for:  
*Woodstown-Piles Grove Regional Schools*

TRC Energy Services

August 8, 2018



# Introductions

- Woodstown-Pilesgrove School District
  - Virginia Grossman – Superintendent
  - Rose Wang Chin – Business Administrator
  - Joe Biluck – Director of Facilities
- Schneider-Electric
  - Bryan McGair – Account Executive
  - Sam Ringelburg – Account Executive
- NJ Clean Energy Program
  - Brian DeLuca – Program Manager
  - Moussa Traore – Auditor
  - Elizabeth Ebinger – Account Manager
  - Mike Thulen – ESIP Coordinator

# Agenda

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- 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 Woodstown-Pilesgrove Regional School District

# LGEA Process

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

# Site Visit and Utility Analysis

## Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems

## Sites Visited/Analyzed

- William Roper EELC
- Mary Shoemaker Elementary School
- Woodstown Middle/High School
- Administration Building

## Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

# All Opportunities



Energy Conservation Measure	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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>	<b>267,246</b>	<b>61.0</b>	<b>0.0</b>	<b>\$43,315.60</b>	<b>\$191,474.21</b>	<b>\$29,400.00</b>	<b>\$162,074.21</b>	<b>3.7</b>	<b>269,115</b>
Install LED Fixtures	36,639	7.5	0.0	\$7,743.30	\$50,932.91	\$6,110.00	\$44,822.91	5.8	36,896
Retrofit Fluorescent Fixtures with LED Lamps and Drivers	298	0.1	0.0	\$44.69	\$404.00	\$0.00	\$404.00	9.0	300
Retrofit Fixtures with LED Lamps	229,538	53.4	0.0	\$35,411.40	\$138,846.64	\$23,290.00	\$115,556.64	3.3	231,143
Install LED Exit Signs	771	0.1	0.0	\$116.21	\$1,290.66	\$0.00	\$1,290.66	11.1	776
<b>Lighting Control Measures</b>	<b>47,899</b>	<b>10.1</b>	<b>0.0</b>	<b>\$7,211.69</b>	<b>\$75,610.00</b>	<b>\$6,890.00</b>	<b>\$68,720.00</b>	<b>9.5</b>	<b>48,234</b>
Install Occupancy Sensor Lighting Controls	40,371	8.5	0.0	\$6,079.60	\$54,610.00	\$6,890.00	\$47,720.00	7.8	40,654
Install High/Low Lighting Controls	7,528	1.6	0.0	\$1,132.09	\$21,000.00	\$0.00	\$21,000.00	18.5	7,580
<b>Motor Upgrades</b>	<b>3,789</b>	<b>0.9</b>	<b>0.0</b>	<b>\$573.30</b>	<b>\$11,079.54</b>	<b>\$0.00</b>	<b>\$11,079.54</b>	<b>19.3</b>	<b>3,816</b>
Premium Efficiency Motors	3,789	0.9	0.0	\$573.30	\$11,079.54	\$0.00	\$11,079.54	19.3	3,816
<b>Variable Frequency Drive (VFD) Measures</b>	<b>24,000</b>	<b>2.5</b>	<b>0.0</b>	<b>\$3,630.97</b>	<b>\$6,334.30</b>	<b>\$0.00</b>	<b>\$6,334.30</b>	<b>1.7</b>	<b>24,168</b>
Install VFDs on Hot Water Pumps	24,000	2.5	0.0	\$3,630.97	\$6,334.30	\$0.00	\$6,334.30	1.7	24,168
<b>Electric Unitary HVAC Measures</b>	<b>4,272</b>	<b>2.5</b>	<b>0.0</b>	<b>\$646.26</b>	<b>\$26,516.69</b>	<b>\$1,642.00</b>	<b>\$24,874.69</b>	<b>38.5</b>	<b>4,302</b>
Install High Efficiency Electric AC	4,272	2.5	0.0	\$646.26	\$26,516.69	\$1,642.00	\$24,874.69	38.5	4,302
<b>Gas Heating (HVAC/Process) Replacement</b>	<b>0</b>	<b>0.0</b>	<b>18.1</b>	<b>\$263.90</b>	<b>\$7,045.20</b>	<b>\$1,000.00</b>	<b>\$6,045.20</b>	<b>22.9</b>	<b>2,968</b>
Install High Efficiency Hot Water Boilers	0	0.0	18.1	\$263.90	\$7,045.20	\$1,000.00	\$6,045.20	22.9	2,968
<b>Domestic Water Heating Upgrade</b>	<b>0</b>	<b>0.0</b>	<b>39.9</b>	<b>\$447.63</b>	<b>\$157.74</b>	<b>\$0.00</b>	<b>\$157.74</b>	<b>0.4</b>	<b>4,671</b>
Install Low-Flow Domestic Hot Water Devices	0	0.0	39.9	\$447.63	\$157.74	\$0.00	\$157.74	0.4	4,671
<b>Plug Load Equipment Control - Vending Machine</b>	<b>11,283</b>	<b>0.0</b>	<b>0.0</b>	<b>\$1,829.43</b>	<b>\$1,840.00</b>	<b>\$0.00</b>	<b>\$1,840.00</b>	<b>1.0</b>	<b>11,362</b>
Vending Machine Control	11,283	0.0	0.0	\$1,829.43	\$1,840.00	\$0.00	\$1,840.00	1.0	11,362
<b>TOTALS</b>	<b>358,490</b>	<b>77.0</b>	<b>58.0</b>	<b>\$57,918.78</b>	<b>\$320,057.68</b>	<b>\$38,932.00</b>	<b>\$281,125.68</b>	<b>4.9</b>	<b>368,635</b>

\* - All incentives presented in this table are based on NJ Smart Start Building equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

\*\* - 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 the expedited life of the measure

Energy Conservation Measure		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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>		<b>267,246</b>	<b>61.0</b>	<b>0.0</b>	<b>\$43,315.60</b>	<b>\$191,474.21</b>	<b>\$29,400.00</b>	<b>\$162,074.21</b>	<b>3.7</b>	<b>269,115</b>
ECM 1	Install LED Fixtures	36,639	7.5	0.0	\$7,743.30	\$50,932.91	\$6,110.00	\$44,822.91	5.8	36,896
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	298	0.1	0.0	\$44.69	\$404.00	\$0.00	\$404.00	9.0	300
ECM 3	Retrofit Fixtures with LED Lamps	229,538	53.4	0.0	\$35,411.40	\$138,846.64	\$23,290.00	\$115,556.64	3.3	231,143
ECM 4	Install LED Exit Signs	771	0.1	0.0	\$116.21	\$1,290.66	\$0.00	\$1,290.66	11.1	776
<b>Lighting Control Measures</b>		<b>47,899</b>	<b>10.1</b>	<b>0.0</b>	<b>\$7,211.69</b>	<b>\$75,610.00</b>	<b>\$6,890.00</b>	<b>\$68,720.00</b>	<b>9.5</b>	<b>48,234</b>
ECM 5	Install Occupancy Sensor Lighting Controls	40,371	8.5	0.0	\$6,079.60	\$54,610.00	\$6,890.00	\$47,720.00	7.8	40,654
ECM 6	Install High/Low Lighting Controls	7,528	1.6	0.0	\$1,132.09	\$21,000.00	\$0.00	\$21,000.00	18.5	7,580
<b>Motor Upgrades</b>		<b>3,789</b>	<b>0.9</b>	<b>0.0</b>	<b>\$573.30</b>	<b>\$11,079.54</b>	<b>\$0.00</b>	<b>\$11,079.54</b>	<b>19.3</b>	<b>3,816</b>
ECM 7	Premium Efficiency Motors	3,789	0.9	0.0	\$573.30	\$11,079.54	\$0.00	\$11,079.54	19.3	3,816
<b>Variable Frequency Drive (VFD) Measures</b>		<b>24,000</b>	<b>2.5</b>	<b>0.0</b>	<b>\$3,630.97</b>	<b>\$6,334.30</b>	<b>\$0.00</b>	<b>\$6,334.30</b>	<b>1.7</b>	<b>24,168</b>
ECM 8	Install VFDs on Hot Water Pumps	24,000	2.5	0.0	\$3,630.97	\$6,334.30	\$0.00	\$6,334.30	1.7	24,168
<b>Domestic Water Heating Upgrade</b>		<b>0</b>	<b>0.0</b>	<b>39.9</b>	<b>\$447.63</b>	<b>\$157.74</b>	<b>\$0.00</b>	<b>\$157.74</b>	<b>0.4</b>	<b>4,671</b>
ECM 9	Install Low-Flow Domestic Hot Water Devices	0	0.0	39.9	\$447.63	\$157.74	\$0.00	\$157.74	0.4	4,671
<b>Plug Load Equipment Control - Vending Machine</b>		<b>11,283</b>	<b>0.0</b>	<b>0.0</b>	<b>\$1,829.43</b>	<b>\$1,840.00</b>	<b>\$0.00</b>	<b>\$1,840.00</b>	<b>1.0</b>	<b>11,362</b>
ECM 10	Vending Machine Control	11,283	0.0	0.0	\$1,829.43	\$1,840.00	\$0.00	\$1,840.00	1.0	11,362
<b>TOTALS</b>		<b>354,218</b>	<b>74.4</b>	<b>39.9</b>	<b>\$57,008.62</b>	<b>\$286,495.79</b>	<b>\$36,290.00</b>	<b>\$250,205.79</b>	<b>4.4</b>	<b>361,366</b>

\* - All incentives presented in this table are based on NJ Smart Start Building equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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





## Benchmarking

**ENERGY STAR® Statement of Energy Performance**

90

**ENERGY STAR® Score<sup>1</sup>**

**William Roper Early Education Learning Center**

Primary Property Type: K-12 School  
 Gross Floor Area (ft<sup>2</sup>): 16,856  
 Built: 2013

For Year Ending: June 30, 2017  
 Date Generated: May 02, 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		
<b>Property Address</b> William Roper Early Education Learning Center 211 E Lake Rd Pilesgrove, New Jersey 08098	<b>Property Owner</b> Woodstown-Pilesgrove Regional SD E Lake Road Woodstown, NJ 08098 ( ) -	<b>Primary Contact</b> Rose Chin E Lake Road Woodstown, NJ 08098 856-769-0144 x22251 chin.r@woodstown.org
Property ID: 6264438		

Energy Consumption and Energy Use Intensity (EUI)			
<b>Site EUI</b>	<b>Annual Energy by Fuel</b>	<b>National Median Comparison</b>	
30.4 kBtu/ft <sup>2</sup>	Electric - Grid (kBtu) 511,912 (100%)	National Median Site EUI (kBtu/ft <sup>2</sup> )	47.7
		National Median Source EUI (kBtu/ft <sup>2</sup> )	149.8
		% Diff from National Median Source EUI	-36%
<b>Source EUI</b>		<b>Annual Emissions</b>	
95.4 kBtu/ft <sup>2</sup>		Greenhouse Gas Emissions (Metric Tons CO <sub>2</sub> e/year)	57

**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)



# William Roper EELC



Energy Conservation Measure		Recommend?	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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>36,629</b>	<b>8.9</b>	<b>0.0</b>	<b>\$8,494.62</b>	<b>\$48,393.47</b>	<b>\$5,505.00</b>	<b>\$42,888.47</b>	<b>5.0</b>	<b>36,885</b>
ECM 1	Install LED Fixtures	Yes	26,806	3.7	0.0	\$6,216.57	\$34,373.70	\$2,800.00	\$31,573.70	5.1	26,993
ECM 2	Retrofit Fixtures with LED Lamps	Yes	9,823	5.1	0.0	\$2,278.06	\$14,019.78	\$2,705.00	\$11,314.78	5.0	9,892
<b>Plug Load Equipment Control - Vending Machine</b>			<b>1,612</b>	<b>0.0</b>	<b>0.0</b>	<b>\$373.80</b>	<b>\$230.00</b>	<b>\$0.00</b>	<b>\$230.00</b>	<b>0.6</b>	<b>1,623</b>
ECM 3	Vending Machine Control	Yes	1,612	0.0	0.0	\$373.80	\$230.00	\$0.00	\$230.00	0.6	1,623
<b>TOTALS</b>			<b>38,241</b>	<b>8.9</b>	<b>0.0</b>	<b>\$8,868.43</b>	<b>\$48,623.47</b>	<b>\$5,505.00</b>	<b>\$43,118.47</b>	<b>4.9</b>	<b>38,508</b>

\* - All incentives presented in this table are based on NJ Smart Start Building equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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



## Benchmarking

**ENERGY STAR® Statement of Energy Performance**

# 84

**ENERGY STAR® Score<sup>1</sup>**

### Mary Shoemaker Elementary School

Primary Property Type: K-12 School  
 Gross Floor Area (ft<sup>2</sup>): 59,071  
 Built: 1958

For Year Ending: June 30, 2017  
 Date Generated: May 02, 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			
<b>Property Address</b> Mary Shoemaker Elementary School 201 E Millbrooke Ave Woodstown, New Jersey 08098	<b>Property Owner</b> Woodstown-Pilesgrove Regional SD E Lake Road Woodstown, NJ 08098 ( ) - -	<b>Primary Contact</b> Rose Chin E Lake Road Woodstown, NJ 08098 856-769-0144 x22251 chin.r@woodstown.org	
Property ID: 6264439			

Energy Consumption and Energy Use Intensity (EUI)			
<b>Site EUI</b>	<b>Annual Energy by Fuel</b>	<b>National Median Comparison</b>	
48.5 kBtu/ft <sup>2</sup>	Natural Gas (kBtu) 1,441,025 (50%)	National Median Site EUI (kBtu/ft <sup>2</sup> )	69.6
	Electric - Grid (kBtu) 1,426,034 (50%)	National Median Source EUI (kBtu/ft <sup>2</sup> )	145.4
		% Diff from National Median Source EUI	-30%
<b>Source EUI</b>		<b>Annual Emissions</b>	
101.4 kBtu/ft <sup>2</sup>		Greenhouse Gas Emissions (Metric Tons CO <sub>2</sub> e/year)	235

**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)

# Mary Shoemaker School



Energy Conservation Measure		Recommend?	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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>62,334</b>	<b>15.3</b>	<b>0.0</b>	<b>\$9,430.47</b>	<b>\$50,379.75</b>	<b>\$8,585.00</b>	<b>\$41,794.75</b>	<b>4.4</b>	<b>62,770</b>
ECM 1	Install LED Fixtures	Yes	7,068	3.1	0.0	\$1,069.37	\$13,824.47	\$2,610.00	\$11,214.47	10.5	7,118
ECM 2	Retrofit Fixtures with LED Lamps	Yes	54,845	12.2	0.0	\$8,297.48	\$35,694.84	\$5,975.00	\$29,719.84	3.6	55,229
ECM 3	Install LED Exit Signs	Yes	420	0.0	0.0	\$63.61	\$860.44	\$0.00	\$860.44	13.5	423
<b>Lighting Control Measures</b>			<b>11,633</b>	<b>2.5</b>	<b>0.0</b>	<b>\$1,760.00</b>	<b>\$14,550.00</b>	<b>\$1,805.00</b>	<b>\$12,745.00</b>	<b>7.2</b>	<b>11,715</b>
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	9,936	2.2	0.0	\$1,503.19	\$13,350.00	\$1,805.00	\$11,545.00	7.7	10,005
ECM 5	Install High/Low Lighting Controls	Yes	1,697	0.4	0.0	\$256.81	\$1,200.00	\$0.00	\$1,200.00	4.7	1,709
<b>Motor Upgrades</b>			<b>3,789</b>	<b>0</b>	<b>0</b>	<b>\$573.30</b>	<b>\$11,079.54</b>	<b>\$0.00</b>	<b>\$11,079.54</b>	<b>19.3</b>	<b>3,816</b>
ECM 6	Premium Efficiency Motors (for Heating Hot Water Pumps)	Yes	2,239	0.5	0.0	\$338.71	\$2,687.10	\$0.00	\$2,687.10	7.9	2,254
	Premium Efficiency Motors (for Univents)	No	1,551	0.4	0.0	\$234.59	\$8,392.44	\$0.00	\$8,392.44	35.8	1,561
<b>Variable Frequency Drive (VFD) Measures</b>			<b>24,000</b>	<b>2.5</b>	<b>0.0</b>	<b>\$3,630.97</b>	<b>\$6,334.30</b>	<b>\$0.00</b>	<b>\$6,334.30</b>	<b>1.7</b>	<b>24,168</b>
ECM 7	Install VFDs on Hot Water Pumps	Yes	24,000	2.5	0.0	\$3,630.97	\$6,334.30	\$0.00	\$6,334.30	1.7	24,168
<b>Electric Unitary HVAC Measures</b>			<b>4,272</b>	<b>2.5</b>	<b>0.0</b>	<b>\$646.26</b>	<b>\$26,516.69</b>	<b>\$1,642.00</b>	<b>\$24,874.69</b>	<b>38.5</b>	<b>4,302</b>
	Install High Efficiency Electric AC	No	4,272	2.5	0.0	\$646.26	\$26,516.69	\$1,642.00	\$24,874.69	38.5	4,302
<b>Plug Load Equipment Control - Vending Machine</b>			<b>3,224</b>	<b>0.0</b>	<b>0.0</b>	<b>\$487.71</b>	<b>\$690.00</b>	<b>\$0.00</b>	<b>\$690.00</b>	<b>1.4</b>	<b>3,246</b>
ECM 8	Vending Machine Control	Yes	3,224	0.0	0.0	\$487.71	\$690.00	\$0.00	\$690.00	1.4	3,246
<b>TOTAL FOR ALL RECOMMENDED MEASURES</b>			<b>103,430</b>	<b>20.8</b>	<b>0.0</b>	<b>\$15,647.85</b>	<b>\$74,641.15</b>	<b>\$10,390.00</b>	<b>\$64,251.15</b>	<b>4.1</b>	<b>104,154</b>
<b>TOTALS FOR ALL EVALUATED MEASURES</b>			<b>109,253</b>	<b>23.3</b>	<b>0.0</b>	<b>\$16,528.71</b>	<b>\$109,550.28</b>	<b>\$12,032.00</b>	<b>\$97,518.28</b>	<b>5.9</b>	<b>110,017</b>


\* - All incentives presented in this table are based on NJ Smart Start Building equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

# Woodstown Middle/High School



## Benchmarking



**ENERGY STAR® Statement of Energy Performance**

94

**ENERGY STAR® Score<sup>1</sup>**

**Woodstown Middle/High School**

**Primary Property Type:** K-12 School  
**Gross Floor Area (ft<sup>2</sup>):** 212,000  
**Built:** 1915

**For Year Ending:** June 30, 2017  
**Date Generated:** May 02, 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		
<b>Property Address</b> Woodstown Middle/High School 15 Lincoln Ave Woodstown, New Jersey 08098	<b>Property Owner</b> Woodstown-Pilesgrove Regional SD E Lake Road Woodstown, NJ 08098 ( ) -	<b>Primary Contact</b> Rose Chin E Lake Road Woodstown, NJ 08098 856-769-0144 x22251 chin.r@woodstown.org
<b>Property ID:</b> 6264440		

Energy Consumption and Energy Use Intensity (EUI)		
<b>Site EUI</b> 43.6 kBtu/ft <sup>2</sup>	<b>Annual Energy by Fuel</b> Natural Gas (kBtu) 4,888,116 (53%) Electric - Grid (kBtu) 4,361,789 (47%)	<b>National Median Comparison</b> National Median Site EUI (kBtu/ft <sup>2</sup> ) 78.3 National Median Source EUI (kBtu/ft <sup>2</sup> ) 159.3 % Diff from National Median Source EUI -44%
<b>Source EUI</b> 88.8 kBtu/ft <sup>2</sup>	<b>Annual Emissions</b> Greenhouse Gas Emissions (Metric Tons CO <sub>2</sub> e/year) 744	

**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)

# Woodstown Middle/High School



Energy Conservation Measure		Recommend?	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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>163,114</b>	<b>34.4</b>	<b>0.0</b>	<b>\$24,487.68</b>	<b>\$87,672.91</b>	<b>\$14,455.00</b>	<b>\$73,217.91</b>	<b>3.0</b>	<b>164,255</b>
ECM 1	Install LED Fixtures	Yes	1,043	0.3	0.0	\$156.60	\$1,172.03	\$300.00	\$872.03	5.6	1,050
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	298	0.1	0.0	\$44.69	\$404.00	\$0.00	\$404.00	9.0	300
ECM 3	Retrofit Fixtures with LED Lamps	Yes	161,423	33.9	0.0	\$24,233.79	\$85,666.66	\$14,155.00	\$71,511.66	3.0	162,552
ECM 4	Install LED Exit Signs	Yes	350	0.0	0.0	\$52.60	\$430.22	\$0.00	\$430.22	8.2	353
<b>Lighting Control Measures</b>			<b>35,971</b>	<b>7.4</b>	<b>0.0</b>	<b>\$5,400.16</b>	<b>\$59,862.00</b>	<b>\$4,890.00</b>	<b>\$54,972.00</b>	<b>10.2</b>	<b>36,222</b>
ECM 5	Install Occupancy Sensor Lighting Controls	Yes	30,141	6.2	0.0	\$4,524.89	\$40,062.00	\$4,890.00	\$35,172.00	7.8	30,351
ECM 6	Install High/Low Lighting Controls	Yes	5,830	1.2	0.0	\$875.28	\$19,800.00	\$0.00	\$19,800.00	22.6	5,871
<b>Domestic Water Heating Upgrade</b>			<b>0</b>	<b>0.0</b>	<b>39.9</b>	<b>\$447.63</b>	<b>\$157.74</b>	<b>\$0.00</b>	<b>\$157.74</b>	<b>0.4</b>	<b>4,671</b>
ECM 7	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	39.9	\$447.63	\$157.74	\$0.00	\$157.74	0.4	4,671
<b>Plug Load Equipment Control - Vending Machine</b>			<b>6,447</b>	<b>0.0</b>	<b>0.0</b>	<b>\$967.92</b>	<b>\$920.00</b>	<b>\$0.00</b>	<b>\$920.00</b>	<b>1.0</b>	<b>6,492</b>
ECM 8	Vending Machine Control	Yes	6,447	0.0	0.0	\$967.92	\$920.00	\$0.00	\$920.00	1.0	6,492
<b>TOTALS FOR ALL EVALUATED MEASURES</b>			<b>205,532</b>	<b>41.8</b>	<b>39.9</b>	<b>\$31,303.40</b>	<b>\$148,612.65</b>	<b>\$19,345.00</b>	<b>\$129,267.65</b>	<b>4.1</b>	<b>211,640</b>

\* - All incentives presented in this table are based on NJ Smart Start Building equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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





## Benchmarking

**ENERGY STAR® Statement of Energy Performance**

LEARN MORE AT [energystar.gov](http://energystar.gov)

# N/A

**Administration Building**

Primary Property Type: Office  
Gross Floor Area (ft<sup>2</sup>): 2,784  
Built: 1938

For Year Ending: July 31, 2017  
Date Generated: May 02, 2018

**ENERGY STAR® Score<sup>1</sup>**

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> Administration Building 135 East Avenue Woodstown, New Jersey 08098	<b>Property Owner</b> Woodstown-Pilesgrove Regional SD E Lake Road Woodstown, NJ 08098 ( ) -	<b>Primary Contact</b> Rose Chin E Lake Road Woodstown, NJ 08098 856-769-0144 x22251 chin.r@woodstown.org
Property ID: 6264441		

Energy Consumption and Energy Use Intensity (EUI)			
<b>Site EUI</b> 80.9 kBtu/ft <sup>2</sup>	<b>Annual Energy by Fuel</b>	<b>National Median Comparison</b>	
	Electric - Grid (kBtu) 63,794 (28%) Fuel Oil (No. 2) (kBtu) 161,432 (72%)	National Median Site EUI (kBtu/ft <sup>2</sup> ) 91.8 National Median Source EUI (kBtu/ft <sup>2</sup> ) 148.1 % Diff from National Median Source EUI -12%	
<b>Source EUI</b> 130.5 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.

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

Licensed Professional

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

Professional Engineer Stamp  
(if applicable)

# Administration Building



Energy Conservation Measure		Recommend?	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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			5,169	2.4	0.0	\$902.83	\$5,028.07	\$855.00	\$4,173.07	4.6	5,205
ECM 1	Install LED Fixtures	Yes	1,722	0.3	0.0	\$300.76	\$1,562.71	\$400.00	\$1,162.71	3.9	1,734
ECM 2	Retrofit Fixtures with LED Lamps	Yes	3,447	2.1	0.0	\$602.07	\$3,465.36	\$455.00	\$3,010.36	5.0	3,471
<b>Lighting Control Measures</b>			295	0.1	0.0	\$51.52	\$1,198.00	\$195.00	\$1,003.00	19.5	297
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	295	0.1	0.0	\$51.52	\$1,198.00	\$195.00	\$1,003.00	19.5	297
<b>Gas Heating (HVAC/Process) Replacement</b>			0	0.0	18.1	\$263.90	\$7,045.20	\$1,000.00	\$6,045.20	22.9	2,968
	Install High Efficiency Hot Water Boilers	No	0	0.0	18.1	\$263.90	\$7,045.20	\$1,000.00	\$6,045.20	22.9	2,968
<b>TOTAL FOR ALL RECOMMENDED MEASURES</b>			5,464	2.5	0.0	\$954.35	\$6,226.07	\$1,050.00	\$5,176.07	5.4	5,502
<b>TOTALS FOR ALL EVALUATED MEASURES</b>			5,464	2.5	18.1	\$1,218.25	\$13,271.27	\$2,050.00	\$11,221.27	9.2	8,470

\* - All incentives presented in this table are based on NJ Smart Start Building equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

\*\* - 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

### Equipment Rebates:

- SmartStart Retrofit
- SmartStart New Construction
- Direct Install
- Large Energy Users

## INCENTIVE PROGRAMS

### Whole Buildings:

- Pay for Performance Existing Buildings
- Pay for Performance New Construction

### Energy Generation:

- Combined Heat and Power (CHP)

## OTHER PROGRAMS

### Renewable Energy Generation:

- SREC Registration Program (SRP)

\* eligible programs are highlighted in yellow

# SmartStart: Overview

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- Two types of incentives for high efficiency equipment installation:
  - Prescriptive
  - Custom
- Project Categories:
  - New Construction
  - Renovation
  - Remodeling
  - Equipment Replacement
- Project pre-approval required for certain equipment
- 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!

# Financing Options – SmartStart



- 0% Financing
- Up to \$100,000 for 5 years
- SJG can help guide you through the process

## Contact:

Bruce Grossman – Program Manager

South Jersey Gas

#1 South Jersey Plaza

Folsom, NJ 08037

Phone: 609-561-9000, ext. 4271



# 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  $\leq 200$  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:

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## Participating Contractor

**Tri-State Light & Energy, Inc.**

Alan Rhode or Greg Shields

610-789-1900

[asr@tsle.com](mailto:asr@tsle.com)

# Direct Install: Financing Option



The State of NJ pays:

- 70% of all qualified upgrades
- Up to \$125,000

South Jersey Gas will finance:

- Remaining 30%
- 0% financing
- For 3 years
- Up to \$53,571





# Recommended NJCEP Incentives per Building



Entity Name	SmartStart	Direct Install	SREC Registration Program (SRP) for potential Solar Projects*
William Roper EELC	X	X	
Mary Shoemaker Elementary	X	X	X
Woodstown Middle/HS	X	X**	X
Administration Building	X	X	

\* These sites have a *high potential* for the implementation of a PV system. The SREC registration program is provided to register produced SRECs and is not an incentive or rebate program.

\*\* Site is eligible as of July 1, 2018 for Direct Install due to FY 19 updates. Draft Report does not indicate this eligibility because delivered prior in FY18.

The sites below require a waiver to be in Direct Install because only lighting upgrades have been identified. They are eligible for a full free assessment with the DI Participating Contractor to submit the waiver or to identify other measure/s to enable participation.

- William Roper EELC, Woodstown Middle/HA, Administration Building

## 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 1<sup>st</sup> 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

**Mike Thulen**

ESIP Coordinator

Office: 609-777-3338

Cell: 732-330-2419

[ESIP@bpu.nj.gov](mailto:ESIP@bpu.nj.gov)

# Questions

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# FOR MORE INFORMATION

**Visit** [NJCleanEnergy.com](http://NJCleanEnergy.com)

**Call** (866) NJSMART

**Jim Friedl**

Outreach Manager

732-855-6543

[jfriedl@trcsolutions.com](mailto:jfriedl@trcsolutions.com)