

# New Jersey's Clean Energy Program

LGEA Exit Meeting for:  
*Eastern Camden County Regional  
School District*

October 8<sup>th</sup>, 2019



# INTRODUCTIONS

- *Eastern Camden County RSD*
  - Diana Schiraldi – Business Administrator
  - Jeff Judge – Director of Buildings & Grounds
  - Don Hobbs – Ass. Director of Buildings & Grounds
  - Robert DeCicco – Board of Education President
  - Robert Garrison – Garrison Architects
- *NJ Clean Energy Program*
  - Yagna Otia, CEM – TRC Auditor
  - Sarah Walters – TRC Account Manager
  - Gary Finger – TRC Outreach Manager
  - Arif Welcher – Government/Business Manager (BPU)



# 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 Eastern Camden County RSD



# LGEA PROCESS

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

# *EASTERN CAMDEN COUNTY REGIONAL HIGH 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 Generation and Costs



# BENCHMARKING


ENERGY STAR® Statement of Energy Performance

62  
ENERGY STAR® Score<sup>1</sup>

**Eastern Camden Regional High School**

**Primary Property Type:** K-12 School  
**Gross Floor Area (ft<sup>2</sup>):** 448,296  
**Built:** 1965

**For Year Ending:** September 30, 2018  
**Date Generated:** July 16, 2019

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> Eastern Camden Regional High School 1401 Laurel Oak Road Voorhees, New Jersey 08043	<b>Property Owner</b> East Camden County Regional School District Box 2500 1202 Laurel Oak Road Voorhees, NJ 08043	<b>Primary Contact</b> Diana Schiraldi Box 2500 1202 Laurel Oak Road Voorhees, NJ 08043 8563466728 dschiraldi@eccrsd.us
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**Property ID:** 7380492

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

<b>Site EUI</b> 70 kBtu/ft <sup>2</sup>	<b>Annual Energy by Fuel</b> Electric - Solar (kBtu) 2,662,924 (8%) Natural Gas (kBtu) 23,126,445 (74%) Electric - Grid (kBtu) 5,575,145 (18%)	<b>National Median Comparison</b> National Median Site EUI (kBtu/ft <sup>2</sup> ) 79.4 National Median Source EUI (kBtu/ft <sup>2</sup> ) 107.8 % Diff from National Median Source EUI -12% <b>Annual Emissions</b> Greenhouse Gas Emissions (Metric Tons CO2e/year) 1,793
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**Source EUI**  
94.9 kBtu/ft<sup>2</sup>

**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**

Diana Schiraldi  
 Box 2500 1202 Laurel Oak Road  
 Voorhees, NJ 08043  
 8563466728  
 dschiraldi@eccrsd.us

Professional Engineer Stamp  
 (if applicable)

Energy Consum

Site EUI  
70 kBtu/ft<sup>2</sup>

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.

# EASTERN CAMDEN COUNTY REGIONAL HIGH 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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>514,181</b>	<b>158.7</b>	<b>-103</b>	<b>\$52,197</b>	<b>\$230,839</b>	<b>\$42,243</b>	<b>\$188,596</b>	<b>3.6</b>	<b>505,754</b>
ECM 1	Install LED Fixtures	No	23,033	55.4	0	\$2,381	\$73,480	\$7,100	\$66,380	27.9	23,194
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	422	0.1	0	\$43	\$138	\$20	\$118	2.7	414
ECM 3	Retrofit Fixtures with LED Lamps	Yes	490,726	103.2	-103	\$49,773	\$157,221	\$35,123	\$122,098	2.5	482,145
<b>Lighting Control Measures</b>			<b>155,617</b>	<b>31.3</b>	<b>-33</b>	<b>\$15,784</b>	<b>\$115,940</b>	<b>\$13,595</b>	<b>\$102,345</b>	<b>6.5</b>	<b>152,895</b>
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	153,962	31.0	-32	\$15,616	\$113,690	\$13,595	\$100,095	6.4	151,269
ECM 5	Install High/Low Lighting Controls	Yes	1,655	0.3	0	\$168	\$2,250	\$0	\$2,250	13.4	1,626
<b>Variable Frequency Drive (VFD) Measures</b>			<b>231,332</b>	<b>37.5</b>	<b>0</b>	<b>\$23,918</b>	<b>\$113,594</b>	<b>\$7,560</b>	<b>\$106,034</b>	<b>4.4</b>	<b>232,949</b>
ECM 6	Install VFDs on Constant Volume (CV) Fans	Yes	114,031	24.6	0	\$11,790	\$60,434	\$6,360	\$54,074	4.6	114,828
ECM 7	Install VFDs on Heating Water Pumps	Yes	94,930	7.9	0	\$9,815	\$40,120	\$0	\$40,120	4.1	95,594
ECM 8	Install Boiler Draft Fan VFDs	Yes	22,371	5.0	0	\$2,313	\$13,041	\$1,200	\$11,841	5.1	22,527
<b>Electric Unitary HVAC Measures</b>			<b>55,223</b>	<b>36.8</b>	<b>0</b>	<b>\$5,710</b>	<b>\$346,054</b>	<b>\$2,086</b>	<b>\$343,968</b>	<b>60.2</b>	<b>55,609</b>
ECM 9	Install High Efficiency Air Conditioning Units	No	55,223	36.8	0	\$5,710	\$346,054	\$2,086	\$343,968	60.2	55,609
<b>Gas Heating (HVAC/Process) Replacement</b>			<b>0</b>	<b>0.0</b>	<b>1,660</b>	<b>\$15,604</b>	<b>\$529,824</b>	<b>\$0</b>	<b>\$529,824</b>	<b>34.0</b>	<b>194,354</b>
ECM 10	Install High Efficiency Hot Water Boilers	No	0	0.0	1,660	\$15,604	\$529,824	\$0	\$529,824	34.0	194,354
<b>Domestic Water Heating Upgrade</b>			<b>0</b>	<b>0.0</b>	<b>293</b>	<b>\$2,756</b>	<b>\$739</b>	<b>\$0</b>	<b>\$739</b>	<b>0.3</b>	<b>34,332</b>
ECM 11	Install Low-Flow DHW Devices	Yes	0	0.0	293	\$2,756	\$739	\$0	\$739	0.3	34,332
<b>Food Service &amp; Refrigeration Measures</b>			<b>20,118</b>	<b>2.2</b>	<b>0</b>	<b>\$2,080</b>	<b>\$15,508</b>	<b>\$680</b>	<b>\$14,828</b>	<b>7.1</b>	<b>20,259</b>
ECM 12	Refrigerator/Freezer Case Electrically Commutated Motors	No	1,180	0.1	0	\$122	\$1,820	\$80	\$1,740	14.3	1,188
ECM 13	Refrigeration Controls	No	1,262	0.0	0	\$130	\$3,348	\$150	\$3,198	24.5	1,271
ECM 14	Replace Refrigeration Equipment	No	4,037	0.5	0	\$417	\$8,040	\$0	\$8,040	19.3	4,065
ECM 15	Vending Machine Control	Yes	13,640	1.6	0	\$1,410	\$2,300	\$450	\$1,850	1.3	13,736
<b>Custom Measures</b>			<b>74,991</b>	<b>0.0</b>	<b>623</b>	<b>\$13,615</b>	<b>\$437,089</b>	<b>\$0</b>	<b>\$437,089</b>	<b>32.1</b>	<b>148,519</b>
ECM 16	Expand Existing Energy Management System	No	74,991	0.0	623	\$13,615	\$437,089	\$0	\$437,089	32.1	148,519
<b>TOTALS (COST EFFECTIVE MEASURES)</b>			<b>891,736</b>	<b>173.8</b>	<b>158</b>	<b>\$93,685</b>	<b>\$389,931</b>	<b>\$56,748</b>	<b>\$333,183</b>	<b>3.6</b>	<b>916,472</b>
<b>TOTALS (ALL MEASURES)</b>			<b>1,051,461</b>	<b>266.6</b>	<b>2,441</b>	<b>\$131,665</b>	<b>\$1,789,586</b>	<b>\$66,164</b>	<b>\$1,723,422</b>	<b>13.1</b>	<b>1,344,672</b>

# SOLAR ENERGY GENERATION POTENTIAL

	High School
<i>Potential:</i>	<b>HIGH</b>
<i>System Potential: (kW)</i>	380
<i>Electric Generation: (kWh per year)</i>	452,721
<i>Displaced Cost: (per year)</i>	\$46,810

SREC Registration Program (SRP):

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

Community Solar Energy Pilot Program:

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



# 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

## 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

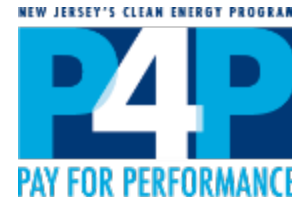
### Renewable Energy Generation:

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



# 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

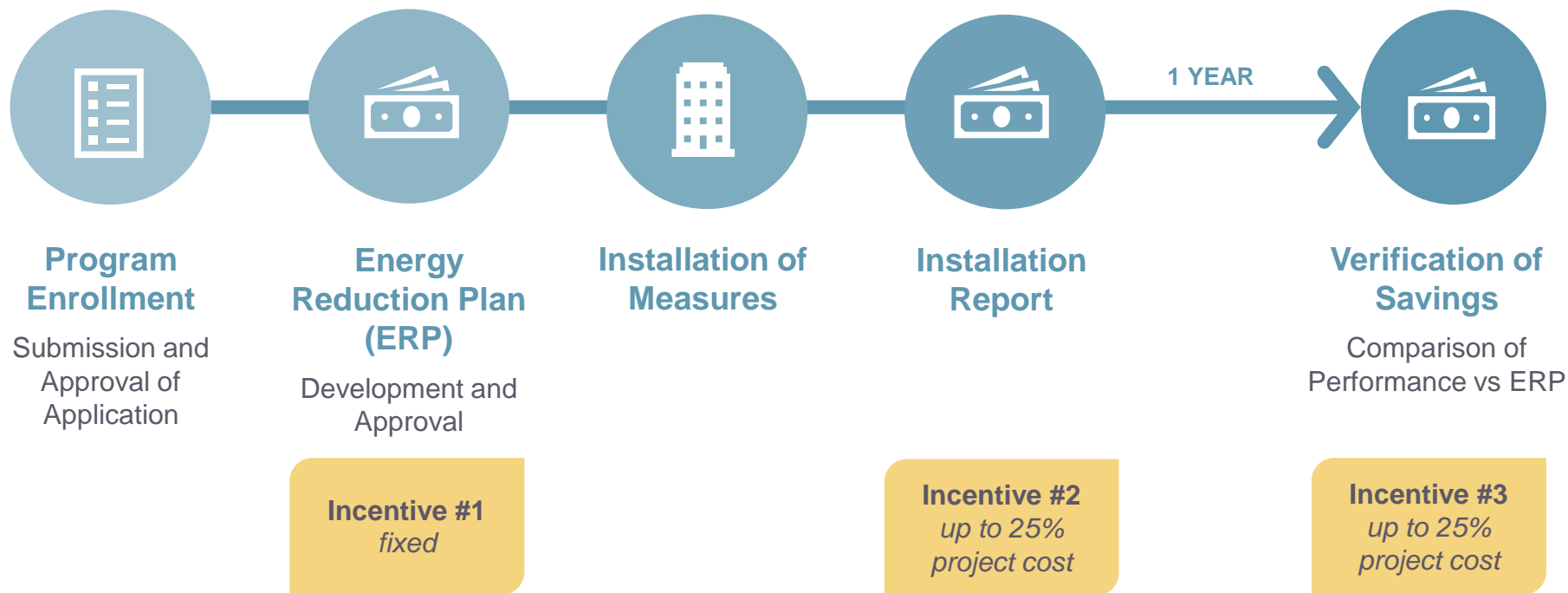
**About:** Customer choose from a network of pre-approved *Participating Partners*

**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/ MUNI/**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/ MUNI/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](http://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](mailto:wdruckenmiller@sjindustries.com)

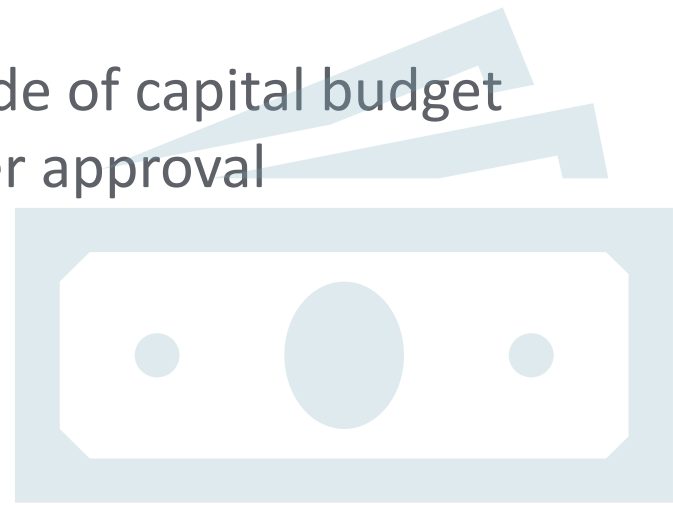




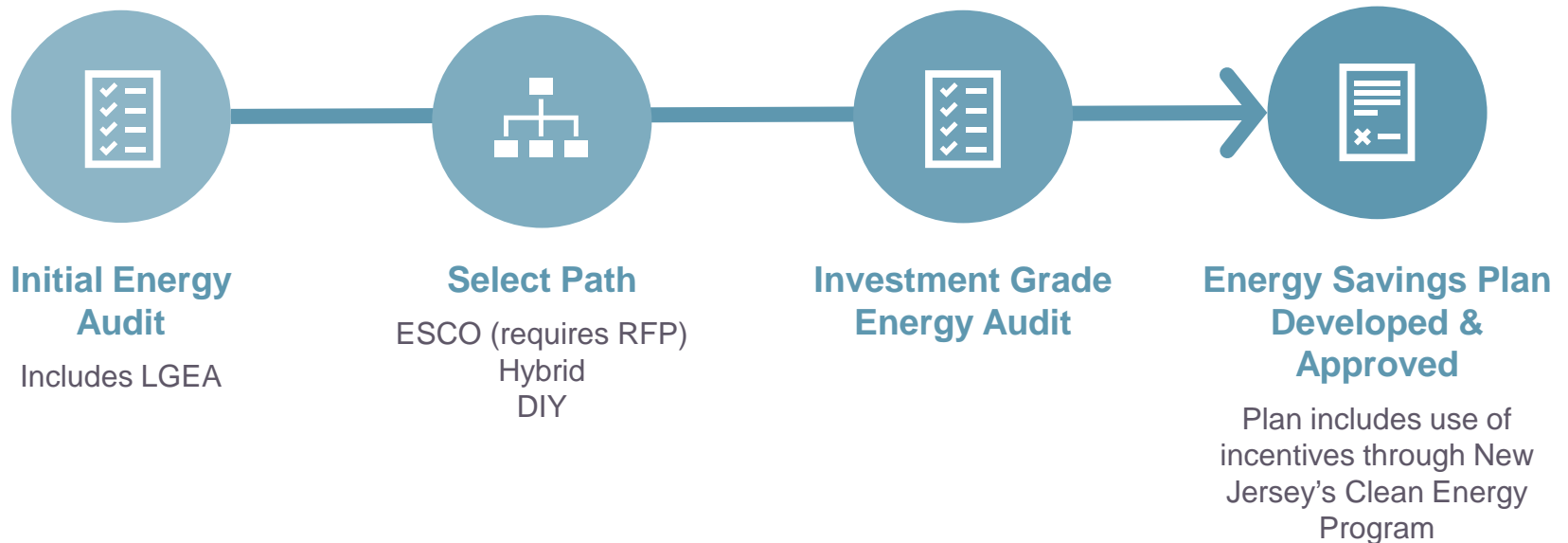
# FINANCING MECHANISM: ESIP

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



New Jersey's  
**cleanenergy**  
program™

# FOR MORE INFORMATION

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

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# QUESTIONS

