

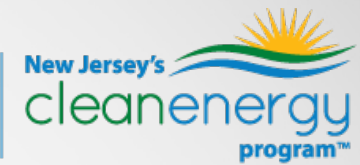
New Jersey's Clean Energy Program

LGEA Exit Meeting for:
Ramapo Indian Hills High School District

TRC Energy Services

November 28, 2018

Introductions



- *Ramapo Indian Hills HS District*
 - Frank Ceurvels – Business Administrator
 - Peter Keaney – Director of Facilities & Operations
- *NJ Clean Energy Program*
 - Moussa Traore – TRC Auditor
 - Sarah Walters – TRC Account Manager
 - Jim Friedl – TRC Outreach Manager
 - Arif Welcher – BPU Ombudsman
 - Mary-Anna Holden – BPU Commissioner

Agenda

- The audit process overview
- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**asures (ECMs) identified
- Questions or concerns regarding the draft audit report
- Overview of NJCEP equipment incentives
- Next steps for Ramapo Indian Hills HS District

LGEA Process



- 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

- Ramapo High School
- Indian Hills High School


Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Benchmarking



Indian Hills HS

**ENERGY STAR® Statement of Energy Performance**
LEARN MORE AT energystar.gov

51

ENERGY STAR® Score¹

Indian Hills High School
Primary Property Type: K-12 School
Gross Floor Area (ft²): 240,320
Built: 1964
For Year Ending: September 30, 2017
Date Generated: September 24, 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

| | | |
|--|---|---|
| Property Address Indian Hills High School 97 Yawpo Ave Oakland, New Jersey 07436 | Property Owner Ramapo Indian Hills Regional High School District 131 Yawpo Avenue Oakland, NJ 07436 () - - - - | Primary Contact Frank Ceurvels 131 Yawpo Avenue Oakland, NJ 07436 201-416-8100 fceurvels@nh.org |
|--|---|---|

Property ID: 6452426

Energy Consumption and Energy Use Intensity (EUI)

| | | | | | | | | | | | | |
|--|--|------------------------|-----------------|--------------------|-----------------|--|--|------|--|-------|--|-----|
| Site EUI 67.1 kBtu/ft ² | Annual Energy by Fuel <table><tr><td>Electric - Grid (kBtu)</td><td>7,218,023 (45%)</td></tr><tr><td>Natural Gas (kBtu)</td><td>8,015,390 (55%)</td></tr></table> | Electric - Grid (kBtu) | 7,218,023 (45%) | Natural Gas (kBtu) | 8,015,390 (55%) | National Median Comparison <table><tr><td>National Median Site EUI (kBtu/ft²)</td><td>68.1</td></tr><tr><td>National Median Source EUI (kBtu/ft²)</td><td>124.7</td></tr><tr><td>% Diff from National Median Source EUI</td><td>-1%</td></tr></table> | National Median Site EUI (kBtu/ft ²) | 68.1 | National Median Source EUI (kBtu/ft ²) | 124.7 | % Diff from National Median Source EUI | -1% |
| Electric - Grid (kBtu) | 7,218,023 (45%) | | | | | | | | | | | |
| Natural Gas (kBtu) | 8,015,390 (55%) | | | | | | | | | | | |
| National Median Site EUI (kBtu/ft ²) | 68.1 | | | | | | | | | | | |
| National Median Source EUI (kBtu/ft ²) | 124.7 | | | | | | | | | | | |
| % Diff from National Median Source EUI | -1% | | | | | | | | | | | |
| Source EUI 123.1 kBtu/ft ² | Annual Emissions Greenhouse Gas Emissions (Metric Tons CO2e/year) 1,205 | | | | | | | | | | | |


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)

| Building Name | ENERGY STAR Score |
|--------------------------|-------------------|
| Ramapo High School | 22 |
| Indian Hills High School | 51 |

ENERGY STAR Scores are percentile ranking from 1 to 100. It compares your building's energy performance to similar buildings nationwide.

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 ₂ e Emissions Reduction (lbs) |
|--|-------------------------------|--------------------------|-----------------------------|---------------------------------|-----------------------------|---------------------------|-------------------------|-------------------------------|---|
| Lighting Upgrades | 655,508 | 257.8 | 0.0 | \$80,611.25 | \$604,232.69 | \$106,155.00 | \$498,077.69 | 6.2 | 660,091 |
| Install LED Fixtures | 55,342 | 25.6 | 0.0 | \$6,809.00 | \$204,322.12 | \$28,350.00 | \$175,972.12 | 25.8 | 55,729 |
| Retrofit Fluorescent Fixtures with LED Lamps and Drivers | 3,271 | 1.1 | 0.0 | \$401.10 | \$1,844.80 | \$240.00 | \$1,604.80 | 4.0 | 3,294 |
| Retrofit Fixtures with LED Lamps | 580,595 | 230.0 | 0.0 | \$71,388.37 | \$392,683.75 | \$77,565.00 | \$315,118.75 | 4.4 | 584,654 |
| Install LED Exit Signs | 16,300 | 1.1 | 0.0 | \$2,012.78 | \$5,382.02 | \$0.00 | \$5,382.02 | 2.7 | 16,414 |
| Lighting Control Measures | 168,233 | 51.9 | 0.0 | \$20,681.02 | \$342,490.00 | \$35,735.00 | \$306,755.00 | 14.8 | 169,410 |
| Install Occupancy Sensor Lighting Controls | 134,259 | 43.4 | 0.0 | \$16,507.35 | \$301,050.00 | \$35,315.00 | \$265,735.00 | 16.1 | 135,198 |
| Install High/Low Lighting Controls | 33,974 | 8.6 | 0.0 | \$4,173.67 | \$41,440.00 | \$420.00 | \$41,020.00 | 9.8 | 34,212 |
| Variable Frequency Drive (VFD) Measures | 12,801 | 0.0 | 0.0 | \$1,581.07 | \$10,142.25 | \$2,400.00 | \$7,742.25 | 4.9 | 12,890 |
| Install VFDs on Constant Volume (CV) HVAC | 12,801 | 0.0 | 0.0 | \$1,581.07 | \$10,142.25 | \$2,400.00 | \$7,742.25 | 4.9 | 12,890 |
| Electric Unitary HVAC Measures | 55,822 | 33.5 | 0.0 | \$6,868.40 | \$1,349,030.15 | \$24,568.00 | \$1,324,462.15 | 192.8 | 56,212 |
| Install High Efficiency Electric AC | 55,822 | 33.5 | 0.0 | \$6,868.40 | \$1,349,030.15 | \$24,568.00 | \$1,324,462.15 | 192.8 | 56,212 |
| Gas Heating (HVAC/Process) Replacement | 0 | 0.0 | 1,646.0 | \$14,483.81 | \$435,478.19 | \$29,899.20 | \$405,578.99 | 28.0 | 192,728 |
| Install High Efficiency Hot Water Boilers | 0 | 0.0 | 759.6 | \$6,698.60 | \$243,298.69 | \$22,299.20 | \$220,999.49 | 33.0 | 88,945 |
| Install High Efficiency Furnaces | 0 | 0.0 | 886.4 | \$7,785.21 | \$192,179.50 | \$7,600.00 | \$184,579.50 | 23.7 | 103,783 |
| HVAC System Improvements | 82,775 | 16.6 | 86.4 | \$10,911.20 | \$23,992.86 | \$2,750.00 | \$21,242.86 | 1.9 | 93,475 |
| Install Dual Enthalpy Outside Economizer Control | 73,871 | 16.6 | 0.0 | \$9,057.18 | \$12,900.00 | \$2,750.00 | \$10,150.00 | 1.1 | 74,387 |
| Implement Demand Control Ventilation | 8,905 | 0.0 | 74.0 | \$1,744.56 | \$10,875.36 | \$0.00 | \$10,875.36 | 6.2 | 17,634 |
| Install Pipe Insulation | 0 | 0.0 | 12.4 | \$109.46 | \$217.50 | \$0.00 | \$217.50 | 2.0 | 1,453 |
| Domestic Water Heating Upgrade | 0 | 0.0 | 126.1 | \$1,108.86 | \$566.43 | \$0.00 | \$566.43 | 0.5 | 14,762 |
| Install Low-Flow Domestic Hot Water Devices | 0 | 0.0 | 126.1 | \$1,108.86 | \$566.43 | \$0.00 | \$566.43 | 0.5 | 14,762 |
| Food Service Equipment & Refrigeration Measures | 2,541 | 0.0 | 0.0 | \$312.75 | \$2,074.42 | \$200.00 | \$1,874.42 | 6.0 | 2,558 |
| Refrigeration Controls | 2,541 | 0.0 | 0.0 | \$312.75 | \$2,074.42 | \$200.00 | \$1,874.42 | 6.0 | 2,558 |
| Plug Load Equipment Control - Vending Machine | 7,132 | 0.0 | 0.0 | \$877.73 | \$1,380.00 | \$0.00 | \$1,380.00 | 1.6 | 7,182 |
| Vending Machine Control | 7,132 | 0.0 | 0.0 | \$877.73 | \$1,380.00 | \$0.00 | \$1,380.00 | 1.6 | 7,182 |
| TOTALS | 984,813 | 359.9 | 1,858.5 | \$137,436.09 | \$2,769,386.99 | \$201,707.20 | \$2,567,679.79 | 18.7 | 1,209,309 |

* - 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 ₂ e Emissions Reduction (lbs) |
|---|--|-------------------------------|--------------------------|-----------------------------|---------------------------------|-----------------------------|---------------------------|-------------------------|-------------------------------|---|
| Lighting Upgrades | | 655,508 | 257.8 | 0.0 | \$80,611.25 | \$604,232.69 | \$106,155.00 | \$498,077.69 | 6.2 | 660,091 |
| ECM 1 | Install LED Fixtures | 55,342 | 25.6 | 0.0 | \$6,809.00 | \$204,322.12 | \$28,350.00 | \$175,972.12 | 25.8 | 55,729 |
| ECM 2 | Retrofit Fluorescent Fixtures with LED Lamps and Drivers | 3,271 | 1.1 | 0.0 | \$401.10 | \$1,844.80 | \$240.00 | \$1,604.80 | 4.0 | 3,294 |
| ECM 3 | Retrofit Fixtures with LED Lamps | 580,595 | 230.0 | 0.0 | \$71,388.37 | \$392,683.75 | \$77,565.00 | \$315,118.75 | 4.4 | 584,654 |
| ECM 4 | Install LED Exit Signs | 16,300 | 1.1 | 0.0 | \$2,012.78 | \$5,382.02 | \$0.00 | \$5,382.02 | 2.7 | 16,414 |
| Lighting Control Measures | | 168,233 | 51.9 | 0.0 | \$20,681.02 | \$342,490.00 | \$35,735.00 | \$306,755.00 | 14.8 | 169,410 |
| ECM 5 | Install Occupancy Sensor Lighting Controls | 134,259 | 43.4 | 0.0 | \$16,507.35 | \$301,050.00 | \$35,315.00 | \$265,735.00 | 16.1 | 135,198 |
| ECM 6 | Install High/Low Lighting Controls | 33,974 | 8.6 | 0.0 | \$4,173.67 | \$41,440.00 | \$420.00 | \$41,020.00 | 9.8 | 34,212 |
| Variable Frequency Drive (VFD) Measures | | 12,801 | 0.0 | 0.0 | \$1,581.07 | \$10,142.25 | \$2,400.00 | \$7,742.25 | 4.9 | 12,890 |
| ECM 7 | Install VFDs on Constant Volume (CV) HVAC | 12,801 | 0.0 | 0.0 | \$1,581.07 | \$10,142.25 | \$2,400.00 | \$7,742.25 | 4.9 | 12,890 |
| HVAC System Improvements | | 82,775 | 16.6 | 86.4 | \$10,911.20 | \$23,992.86 | \$2,750.00 | \$21,242.86 | 1.9 | 93,475 |
| ECM 8 | Install Dual Enthalpy Outside Economizer Control | 73,871 | 16.6 | 0.0 | \$9,057.18 | \$12,900.00 | \$2,750.00 | \$10,150.00 | 1.1 | 74,387 |
| ECM 9 | Implement Demand Control Ventilation | 8,905 | 0.0 | 74.0 | \$1,744.56 | \$10,875.36 | \$0.00 | \$10,875.36 | 6.2 | 17,634 |
| ECM 10 | Install Pipe Insulation | 0 | 0.0 | 12.4 | \$109.46 | \$217.50 | \$0.00 | \$217.50 | 2.0 | 1,453 |
| Domestic Water Heating Upgrade | | 0 | 0.0 | 126.1 | \$1,108.86 | \$566.43 | \$0.00 | \$566.43 | 0.5 | 14,762 |
| ECM 11 | Install Low-Flow Domestic Hot Water Devices | 0 | 0.0 | 126.1 | \$1,108.86 | \$566.43 | \$0.00 | \$566.43 | 0.5 | 14,762 |
| Food Service Equipment & Refrigeration Measures | | 2,541 | 0.0 | 0.0 | \$312.75 | \$2,074.42 | \$200.00 | \$1,874.42 | 6.0 | 2,558 |
| ECM 12 | Refrigeration Controls | 2,541 | 0.0 | 0.0 | \$312.75 | \$2,074.42 | \$200.00 | \$1,874.42 | 6.0 | 2,558 |
| Plug Load Equipment Control - Vending Machine | | 7,132 | 0.0 | 0.0 | \$877.73 | \$1,380.00 | \$0.00 | \$1,380.00 | 1.6 | 7,182 |
| ECM 13 | Vending Machine Control | 7,132 | 0.0 | 0.0 | \$877.73 | \$1,380.00 | \$0.00 | \$1,380.00 | 1.6 | 7,182 |
| TOTALS | | 928,991 | 326.4 | 212.5 | \$116,083.88 | \$984,878.65 | \$147,240.00 | \$837,638.65 | 7.2 | 960,369 |

* - 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).

Ramapo 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 ₂ e Emissions Reduction (lbs) |
|--|--|------------|-------------------------------|--------------------------|-----------------------------|---------------------------------|-----------------------------|---------------------------|-------------------------|-------------------------------|---|
| Lighting Upgrades | | | 390,625 | 138.8 | 0.0 | \$47,893.98 | \$249,493.01 | \$55,235.00 | \$194,258.01 | 4.1 | 393,356 |
| ECM 1 | Install LED Fixtures | Yes | 29,391 | 7.7 | 0.0 | \$3,603.53 | \$72,950.03 | \$12,650.00 | \$60,300.03 | 16.7 | 29,596 |
| ECM 2 | Retrofit Fluorescent Fixtures with LED Lamps and Drivers | Yes | 3,271 | 1.1 | 0.0 | \$401.10 | \$1,844.80 | \$240.00 | \$1,604.80 | 4.0 | 3,294 |
| ECM 3 | Retrofit Fixtures with LED Lamps | Yes | 357,419 | 130.0 | 0.0 | \$43,822.65 | \$174,263.69 | \$42,345.00 | \$131,918.69 | 3.0 | 359,918 |
| ECM 4 | Install LED Exit Signs | Yes | 544 | 0.0 | 0.0 | \$66.70 | \$434.49 | \$0.00 | \$434.49 | 6.5 | 548 |
| Lighting Control Measures | | | 108,538 | 29.8 | 0.0 | \$13,307.73 | \$180,130.00 | \$19,215.00 | \$160,915.00 | 12.1 | 109,297 |
| ECM 5 | Install Occupancy Sensor Lighting Controls | Yes | 83,567 | 24.2 | 0.0 | \$10,245.99 | \$158,490.00 | \$18,795.00 | \$139,695.00 | 13.6 | 84,151 |
| ECM 6 | Install High/Low Lighting Controls | Yes | 24,972 | 5.6 | 0.0 | \$3,061.74 | \$21,640.00 | \$420.00 | \$21,220.00 | 6.9 | 25,146 |
| Electric Unitary HVAC Measures | | | 29,218 | 17.3 | 0.0 | \$3,582.38 | \$971,432.90 | \$10,355.50 | \$961,077.40 | 268.3 | 29,422 |
| | Install High Efficiency Electric AC | No | 29,218 | 17.3 | 0.0 | \$3,582.38 | \$971,432.90 | \$10,355.50 | \$961,077.40 | 268.3 | 29,422 |
| Gas Heating (HVAC/Process) Replacement | | | 0 | 0.0 | 1,289.8 | \$11,373.69 | \$377,010.94 | \$26,699.20 | \$350,311.74 | 30.8 | 151,021 |
| | Install High Efficiency Hot Water Boilers | No | 0 | 0.0 | 759.6 | \$6,698.60 | \$243,298.69 | \$22,299.20 | \$220,999.49 | 33.0 | 88,945 |
| | Install High Efficiency Furnaces | No | 0 | 0.0 | 530.2 | \$4,675.10 | \$133,712.25 | \$4,400.00 | \$129,312.25 | 27.7 | 62,076 |
| HVAC System Improvements | | | 82,775 | 16.6 | 86.4 | \$10,911.20 | \$23,992.86 | \$2,750.00 | \$21,242.86 | 1.9 | 93,475 |
| ECM 7 | Install Dual Enthalpy Outside Economizer Control | Yes | 73,871 | 16.6 | 0.0 | \$9,057.18 | \$12,900.00 | \$2,750.00 | \$10,150.00 | 1.1 | 74,387 |
| ECM 8 | Implement Demand Control Ventilation | Yes | 8,905 | 0.0 | 74.0 | \$1,744.56 | \$10,875.36 | \$0.00 | \$10,875.36 | 6.2 | 17,634 |
| ECM 9 | Install Pipe Insulation | Yes | 0 | 0.0 | 12.4 | \$109.46 | \$217.50 | \$0.00 | \$217.50 | 2.0 | 1,453 |
| Domestic Water Heating Upgrade | | | 0 | 0.0 | 92.4 | \$814.46 | \$415.86 | \$0.00 | \$415.86 | 0.5 | 10,815 |
| ECM 10 | Install Low-Flow Domestic Hot Water Devices | Yes | 0 | 0.0 | 92.4 | \$814.46 | \$415.86 | \$0.00 | \$415.86 | 0.5 | 10,815 |
| Food Service Equipment & Refrigeration Measures | | | 1,173 | 0.0 | 0.0 | \$143.77 | \$1,037.21 | \$100.00 | \$937.21 | 6.5 | 1,181 |
| ECM 11 | Refrigeration Controls | Yes | 1,173 | 0.0 | 0.0 | \$143.77 | \$1,037.21 | \$100.00 | \$937.21 | 6.5 | 1,181 |
| Plug Load Equipment Control - Vending Machine | | | 3,566 | 0.0 | 0.0 | \$437.25 | \$690.00 | \$0.00 | \$690.00 | 1.6 | 3,591 |
| ECM 12 | Vending Machine Control | Yes | 3,566 | 0.0 | 0.0 | \$437.25 | \$690.00 | \$0.00 | \$690.00 | 1.6 | 3,591 |
| TOTALS FOR HIGH PRIORITY MEASURES | | | 586,677 | 185.3 | 178.8 | \$73,508.40 | \$455,758.94 | \$77,300.00 | \$378,458.94 | 5.1 | 611,715 |
| TOTALS FOR ALL EVALUATED MEASURES | | | 615,895 | 202.6 | 1,468.6 | \$88,464.48 | \$1,804,202.78 | \$114,354.70 | \$1,689,848.08 | 19.1 | 792,158 |

* - 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).

Indian Hills 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 ₂ e Emissions Reduction (lbs) |
|---|---|------------|-------------------------------|--------------------------|-----------------------------|---------------------------------|-----------------------------|---------------------------|-------------------------|-------------------------------|---|
| Lighting Upgrades | | | 264,883 | 118.9 | 0.0 | \$32,717.26 | \$354,739.68 | \$50,920.00 | \$303,819.68 | 9.3 | 266,735 |
| ECM 1 | Install LED Fixtures | Yes | 25,952 | 17.9 | 0.0 | \$3,205.47 | \$131,372.09 | \$15,700.00 | \$115,672.09 | 36.1 | 26,133 |
| ECM 2 | Retrofit Fixtures with LED Lamps | Yes | 223,176 | 100.0 | 0.0 | \$27,565.72 | \$218,420.06 | \$35,220.00 | \$183,200.06 | 6.6 | 224,736 |
| ECM 3 | Install LED Exit Signs | Yes | 15,756 | 1.0 | 0.0 | \$1,946.08 | \$4,947.53 | \$0.00 | \$4,947.53 | 2.5 | 15,866 |
| Lighting Control Measures | | | 59,695 | 22.2 | 0.0 | \$7,373.30 | \$162,360.00 | \$16,520.00 | \$145,840.00 | 19.8 | 60,113 |
| ECM 4 | Install Occupancy Sensor Lighting Controls | Yes | 50,693 | 19.2 | 0.0 | \$6,261.36 | \$142,560.00 | \$16,520.00 | \$126,040.00 | 20.1 | 51,047 |
| ECM 5 | Install High/Low Lighting Controls | Yes | 9,002 | 3.0 | 0.0 | \$1,111.93 | \$19,800.00 | \$0.00 | \$19,800.00 | 17.8 | 9,065 |
| Variable Frequency Drive (VFD) Measures | | | 12,801 | 0.0 | 0.0 | \$1,581.07 | \$10,142.25 | \$2,400.00 | \$7,742.25 | 4.9 | 12,890 |
| ECM 6 | Install VFDs on Constant Volume (CV) HVAC | Yes | 12,801 | 0.0 | 0.0 | \$1,581.07 | \$10,142.25 | \$2,400.00 | \$7,742.25 | 4.9 | 12,890 |
| Electric Unitary HVAC Measures | | | 26,604 | 16.2 | 0.0 | \$3,286.02 | \$377,597.25 | \$14,212.50 | \$363,384.75 | 110.6 | 26,790 |
| | Install High Efficiency Electric AC | No | 26,604 | 16.2 | 0.0 | \$3,286.02 | \$377,597.25 | \$14,212.50 | \$363,384.75 | 110.6 | 26,790 |
| Gas Heating (HVAC/Process) Replacement | | | 0 | 0.0 | 356.2 | \$3,110.11 | \$58,467.25 | \$3,200.00 | \$55,267.25 | 17.8 | 41,707 |
| | Install High Efficiency Furnaces | No | 0 | 0.0 | 356.2 | \$3,110.11 | \$58,467.25 | \$3,200.00 | \$55,267.25 | 17.8 | 41,707 |
| Domestic Water Heating Upgrade | | | 0 | 0.0 | 33.7 | \$294.40 | \$150.57 | \$0.00 | \$150.57 | 0.5 | 3,948 |
| ECM 7 | Install Low-Flow Domestic Hot Water Devices | Yes | 0 | 0.0 | 33.7 | \$294.40 | \$150.57 | \$0.00 | \$150.57 | 0.5 | 3,948 |
| Food Service Equipment & Refrigeration Measures | | | 1,368 | 0.0 | 0.0 | \$168.98 | \$1,037.21 | \$100.00 | \$937.21 | 5.5 | 1,378 |
| ECM 8 | Refrigeration Controls | Yes | 1,368 | 0.0 | 0.0 | \$168.98 | \$1,037.21 | \$100.00 | \$937.21 | 5.5 | 1,378 |
| Plug Load Equipment Control - Vending Machine | | | 3,566 | 0.0 | 0.0 | \$440.48 | \$690.00 | \$0.00 | \$690.00 | 1.6 | 3,591 |
| ECM 9 | Vending Machine Control | Yes | 3,566 | 0.0 | 0.0 | \$440.48 | \$690.00 | \$0.00 | \$690.00 | 1.6 | 3,591 |
| TOTALS FOR HIGH PRIORITY MEASURES | | | 342,313 | 141.1 | 33.7 | \$42,575.49 | \$529,119.70 | \$69,940.00 | \$459,179.70 | 10.8 | 348,655 |
| TOTALS FOR ALL EVALUATED MEASURES | | | 368,918 | 157.3 | 389.9 | \$48,971.62 | \$965,184.20 | \$87,352.50 | \$877,831.70 | 17.9 | 417,151 |

* - 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).

Solar Energy Generation Potential

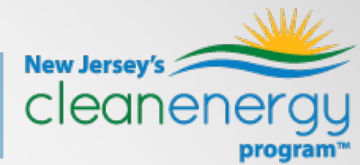


| | Ramapo HS | Indian Hills HS |
|--|---------------|-----------------|
| <i>Potential:</i> | MEDIUM | MEDIUM |
| <i>System Potential: (kW)</i> | 581 | 635 |
| <i>Electric Generation: (kWh per year)</i> | 692,186 | 756,520 |
| <i>Displaced Cost: (per year)</i> | \$60,220 | \$65,820 |

For more information on the SREC Registration Program (SRP) please visit:

<http://www.njcleanenergy.com/renewable-energy/programs/solar-renewable-energy-certificates-srec/new-jersey-solar-renewable-energy>

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
- CTEEP

(Customer Tailored Energy Efficiency Pilot)

- Direct Install
- Large Energy Users

Whole Buildings:

- Pay for Performance

Energy Generation:

- Combined Heat and Power (CHP)

OTHER PROGRAMS

Renewable Energy Generation:

- SREC Registration Program (SRP)

* eligible programs are highlighted in yellow

SmartStart: Overview

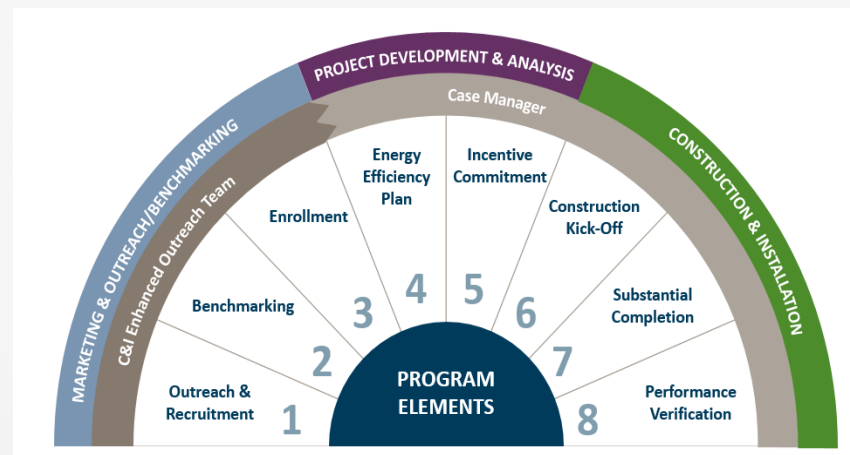
- Two types of incentives for high efficiency equipment installation:
 - Prescriptive
 - Custom
- Project Categories:
 - New Construction
 - Renovation
 - Remodeling
 - Equipment Replacement
- Project pre-approval required for lighting and custom measures
- Incentives up to \$500,000 per electric account & \$500,000 per natural gas account
- Specific incentives and individual applications for Lighting, HVAC, VFDs, Refrigeration, Controls and more!

www.NJCleanEnergy/SSB

CTEEP: Overview

Customer Tailored Energy Efficiency Pilot (CTEEP)

- Provide customers with **on-site assistance** to discuss project opportunities and program incentives.
- A **single application** submission streamlines multiple prescriptive and custom measures.
- Provide **technical assistance incentives** to help offset soft costs associated with developing and planning an energy efficiency project.
- Incentives up to \$250,000 entity cap. Ability to exceed is possible.



Recommended NJCEP Incentives per Building



| Ramapo Indian Hills HS District | SmartStart | CTEEP |
|---------------------------------|------------|-------|
| Ramapo High School | X | X |
| Indian Hills High School | X | X |

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 1st 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

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Questions



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FOR MORE INFORMATION

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