New Jersey's Clean Energy Program

LGEA Presentation

Union Beach Public School District

December 3, 2020

INTRODUCTIONS

- *Union Beach Public School District*
  - Jamison Lauer – Building & Grounds Supervisor
- *NJ Clean Energy Program*
  - Aimee Lalonde – TRC Program Manager
  - Aditya Saxena – TRC Auditor
  - Sarah Walters – TRC Account Manager
  - Tony O'Donnell – TRC Outreach Manager
  - Michelle Rossi – ESIP Coordinator (BPU)

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)
- Overview of NJCEP equipment incentives
- Questions regarding the draft audit report
- Next steps for Union Beach Public Schools

LGEA Process

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

Site Visit & Utility Analysis

Overview of Systems, Baseline & Existing Conditions:

- Lighting System
- HVAC and Mechanical Systems
- Plug Load Equipment
- Energy Management System

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs
- Solar Consumption and Costs

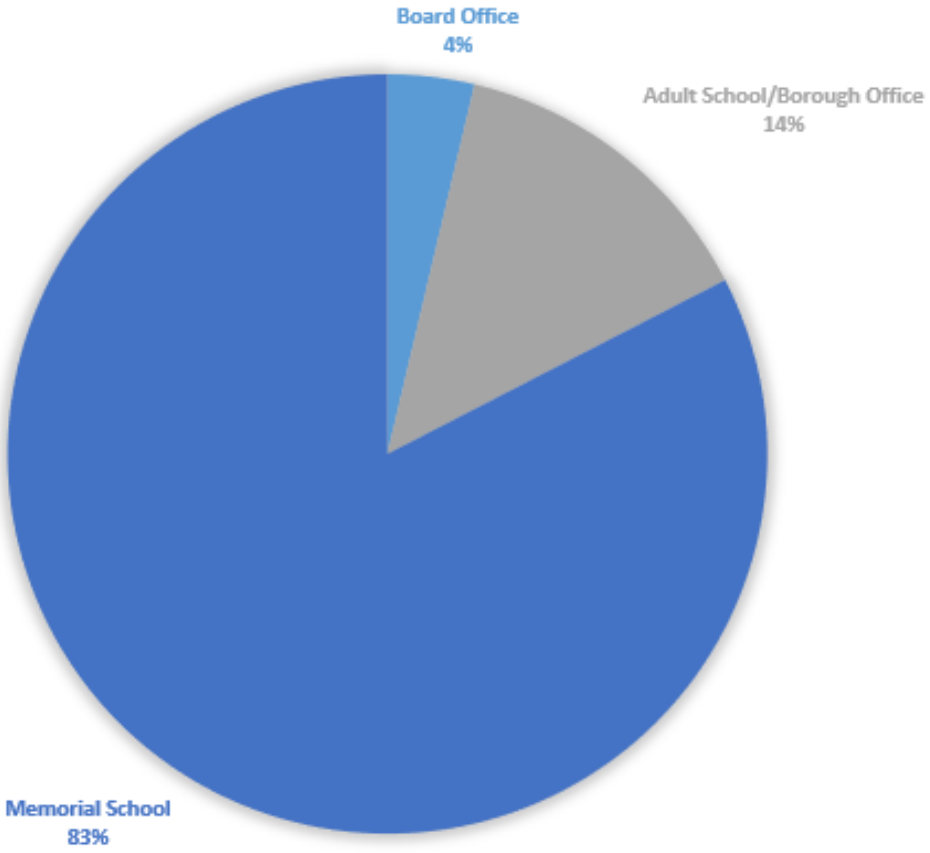
Sites Visited/Analyzed

- Memorial School
- Adult School/Borough Office
- Board Office

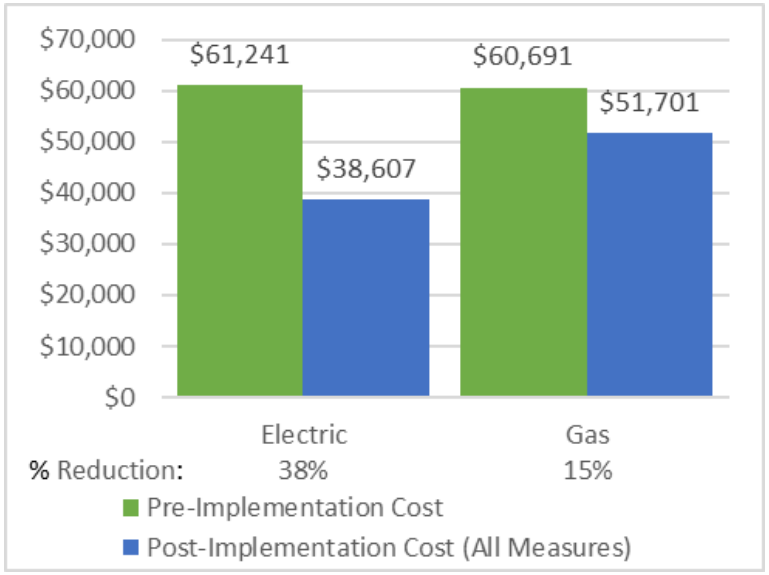
BPU | New Jersey's cleanenergy program™

Utility Breakout

Percent of Total Annual Energy Costs

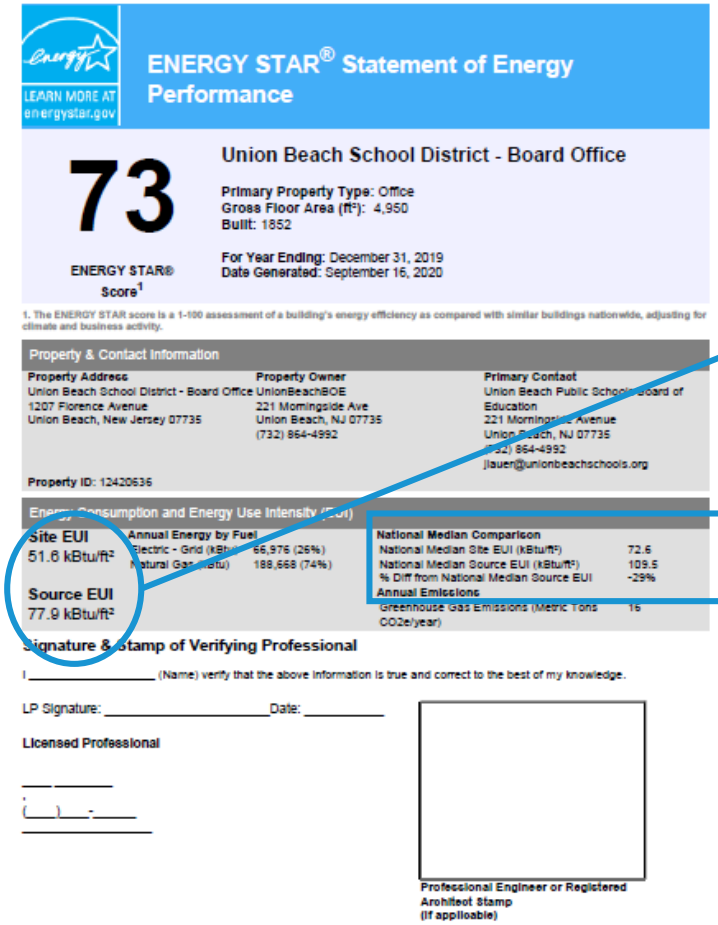


Pre & Post Implementation Cost



New Jersey's cleanenergy program™

BENCHMARKING



ENERGY STAR® Statement of Energy Performance

LEARN MORE AT energystar.gov

73

ENERGY STAR® Score[1]

Union Beach School District - Board Office

Primary Property Type: Office
Gross Floor Area (ft²): 4,950
Built: 1852

For Year Ending: December 31, 2019
Date Generated: September 16, 2020

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	Property Owner	Primary Contact
Union Beach School District - Board Office 1207 Florence Avenue Union Beach, New Jersey 07735	UnionBeachBOE 221 Morningside Ave Union Beach, NJ 07735 (732) 864-4992	Union Beach Public Schools Board of Education 221 Morningside Avenue Union Beach, NJ 07735 (732) 864-4992 jlauer@unionbeachschools.org

Property ID: 12420636

Energy Consumption and Energy Use Intensity (EUI)

Site EUI
51.6 kBtu/ft²

Source EUI
77.9 kBtu/ft²

Annual Energy by Fuel	
Electric - Grid (kBtu)	66,976 (26%)
Natural Gas (kBtu)	188,668 (74%)

National Median Comparison	
National Median Site EUI (kBtu/ft²)	72.6
National Median Source EUI (kBtu/ft²)	109.5
% Diff from National Median Source EUI	-29%
Annual Emissions	
Greenhouse Gas Emissions (Metric Tons CO2e/year)	16

Signature & Stamp of Verifying Professional

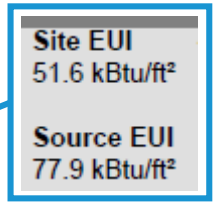
I _____ (Name) verify that the above information is true and correct to the best of my knowledge.

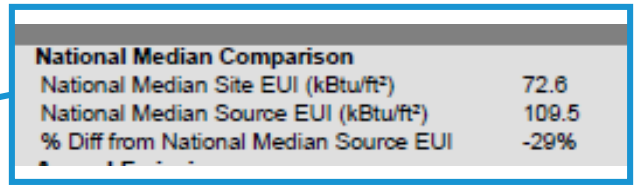
LP Signature: _____ Date: _____

Licensed Professional

___ _____
,
(___)___-____
_____

Professional Engineer or Registered Architect Stamp (if applicable)

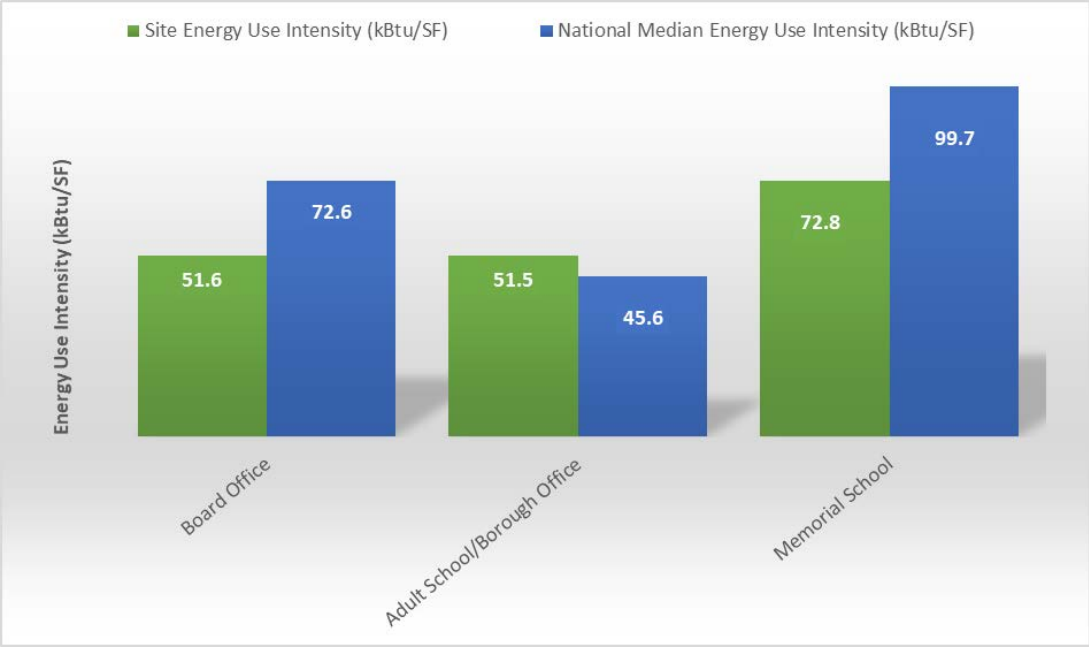




ENERGY STAR® scores are percentile ranking from 1 (least efficient) to 100 (most efficient). It compares your building's energy performance to similar buildings nationwide.

New Jersey's cleanenergy program™

BENCHMARKING



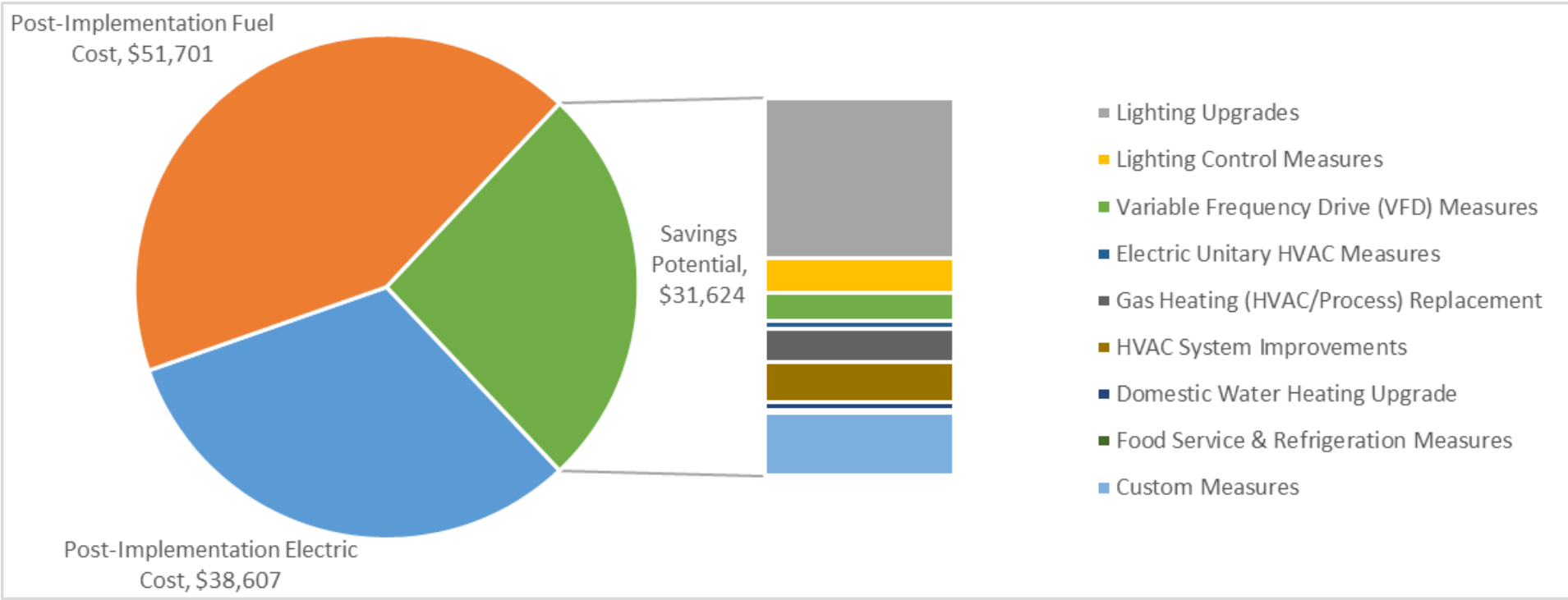
Site Name	ENERGY STAR® Score
Memorial School	77
Adult School / Borough Office	40
Board Office	73

Name	% energy from Grid Electricity	% energy from Natural Gas	Total Greenhouse Gas Emissions
Adult School /Borough Office	60%	40%	36 Metric Tons
Board Office	26%	74%	16 Metric Tons

New Jersey's cleanenergy program™

ALL OPPORTUNITIES

Savings Potential



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_2e Emissions Reduction (lbs)
Lighting Upgrades		**185,687**	**55.9**	**-38.1**	**$13,435**	**$124,207**	**$32,424**	**$91,783**	**6.8**	**182,519**
ECM 1	Install LED Fixtures	10,619	2.4	-1.6	$656	$11,296	$2,200	$9,096	13.9	10,507
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	95,112	31.7	-19.9	$5,958	$80,657	$14,260	$66,397	11.1	93,449
ECM 3	Retrofit Fixtures with LED Lamps	79,956	21.8	-16.7	$6,821	$32,253	$15,964	$16,289	2.4	78,563
Lighting Control Measures		**38,904**	**10.4**	**-8.1**	**$2,898**	**$36,778**	**$14,490**	**$22,288**	**7.7**	**38,224**
ECM 4	Install Occupancy Sensor Lighting Controls	32,431	9.0	-6.8	$2,276	$28,771	$7,240	$21,531	9.5	31,863
ECM 5	Install Daylight Dimming/Photocell Controls	430	0.2	-0.1	$54	$1,250	$970	$280	5.2	422
ECM 6	Install High/Low Lighting Controls	6,044	1.2	-1.3	$568	$6,757	$6,280	$477	0.8	5,938
Variable Frequency Drive (VFD) Measures		**31,854**	**5.7**	**23.5**	**$2,271**	**$127,072**	**$9,500**	**$117,572**	**51.8**	**34,824**
ECM 7	Install VFDs on Constant Volume (CV) Fans	6,301	2.9	0.0	$399	$8,152	$3,600	$4,552	11.4	6,345
ECM 8	Install VFDs on Heating Water Pumps	24,271	2.8	0.0	$1,538	$115,910	$5,750	$110,160	71.6	24,441
ECM 9	Install VFDs on Kitchen Hood Fan Motors	1,282	0.0	23.5	$334	$3,010	$150	$2,860	8.6	4,038
Electric Unitary HVAC Measures		**8,485**	**9.5**	**0.0**	**$726**	**$188,913**	**$17,696**	**$171,217**	**235.9**	**8,544**
ECM 10	Install High Efficiency Air Conditioning Units	8,485	9.5	0.0	$726	$188,913	$17,696	$171,217	235.9	8,544

ALL OPPORTUNITIES

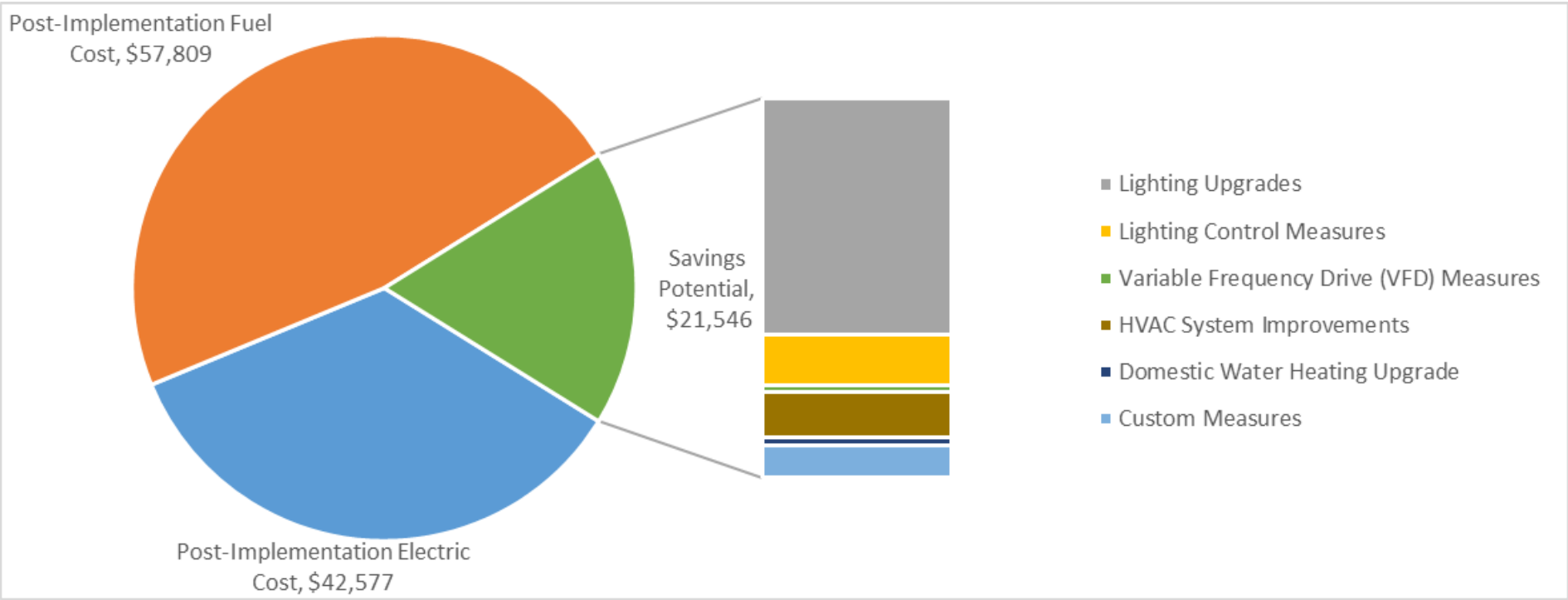
#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)*	Estimated Net Cost ($)	Simple Payback Period (yrs)**	CO_2e Emissions Reduction (lbs)
Gas Heating (HVAC/Process) Replacement		**0**	**0.0**	**258.6**	**$2,787**	**$72,240**	**$11,301**	**$60,939**	**21.9**	**30,279**
ECM 11	Install High Efficiency Hot Water Boilers	0	0.0	245.0	$2,641	$57,111	$10,469	$46,642	17.7	28,692
ECM 12	Install High Efficiency Steam Boilers	0	0.0	13.6	$146	$15,129	$832	$14,297	97.9	1,587
HVAC System Improvements		**1,710**	**0.0**	**297.2**	**$3,322**	**$20,426**	**$7,722**	**$12,704**	**3.8**	**36,517**
ECM 13	Install Occupancy-Controlled Thermostats	0	0.0	237.2	$2,556	$12,166	$7,650	$4,516	1.8	27,773
ECM 14	Implement Demand Control Ventilation (DCV)	1,536	0.0	60.0	$744	$8,157	$0	$8,157	11.0	8,568
ECM 15	Install Pipe Insulation	174	0.0	0.0	$22	$104	$72	$32	1.4	175
Domestic Water Heating Upgrade		**1,104**	**0.0**	**54.8**	**$730**	**$18,199**	**$2,721**	**$15,478**	**21.2**	**7,529**
ECM 16	Install High Efficiency Gas-Fired Water Heater	0	0.0	20.5	$221	$17,568	$2,128	$15,440	70.0	2,398
ECM 17	Install Low-Flow DHW Devices	1,104	0.0	34.3	$509	$631	$593	$38	0.1	5,131
Food Service & Refrigeration Measures		**2,543**	**0.1**	**0.0**	**$161**	**$4,561**	**$620**	**$3,941**	**24.5**	**2,561**
ECM 18	Refrigerator/Freezer Case Electrically Commutated Motors	885	0.1	0.0	$56	$1,213	$320	$893	15.9	891
ECM 19	Refrigeration Controls	1,658	0.0	0.0	$105	$3,348	$300	$3,048	29.0	1,670
Custom Measures		**32,835**	**0.0**	**276.4**	**$5,294**	**$91,459**	**$0**	**$91,459**	**17.3**	**65,422**
ECM 20	Installation of an Energy Management System	12,610	0.0	251.0	$3,503	$87,547	$0	$87,547	25.0	42,082
ECM 21	Install Heat Pump Water Heater	1,899	0.0	0.0	$357	$2,970	$0	$2,970	8.3	1,912
ECM 22	Optimize Boiler Controls	0	0.0	25.4	$273	$27	$0	$27	0.1	2,973
ECM 23	Timer Controls for Window ACs	18,326	0.0	0.0	$1,161	$915	$0	$915	0.8	18,454
TOTALS		**303,122**	**81.6**	**864.1**	**$31,624**	**$683,855**	**$96,474**	**$587,382**	**18.6**	**406,418**

* - 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

Savings Potential



Cost Effective 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_2e Emissions Reduction (lbs)
Lighting Upgrades		**185,687**	**55.9**	**-38.1**	**$13,435**	**$124,207**	**$32,424**	**$91,783**	**6.8**	**182,519**
ECM 1	Install LED Fixtures	10,619	2.4	-1.6	$656	$11,296	$2,200	$9,096	13.9	10,507
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	95,112	31.7	-19.9	$5,958	$80,657	$14,260	$66,397	11.1	93,449
ECM 3	Retrofit Fixtures with LED Lamps	79,956	21.8	-16.7	$6,821	$32,253	$15,964	$16,289	2.4	78,563
Lighting Control Measures		**38,904**	**10.4**	**-8.1**	**$2,898**	**$36,778**	**$14,490**	**$22,288**	**7.7**	**38,224**
ECM 4	Install Occupancy Sensor Lighting Controls	32,431	9.0	-6.8	$2,276	$28,771	$7,240	$21,531	9.5	31,863
ECM 5	Install Daylight Dimming/Photocell Controls	430	0.2	-0.1	$54	$1,250	$970	$280	5.2	422
ECM 6	Install High/Low Lighting Controls	6,044	1.2	-1.3	$568	$6,757	$6,280	$477	0.8	5,938
HVAC System Improvements		**174**	**0.0**	**237.2**	**$2,578**	**$12,269**	**$7,722**	**$4,547**	**1.8**	**27,949**
ECM 13	Install Occupancy-Controlled Thermostats	0	0.0	237.2	$2,556	$12,166	$7,650	$4,516	1.8	27,773
ECM 15	Install Pipe Insulation	174	0.0	0.0	$22	$104	$72	$32	1.4	175
Domestic Water Heating Upgrade		**1,104**	**0.0**	**34.3**	**$509**	**$631**	**$593**	**$38**	**0.1**	**5,131**
ECM 17	Install Low-Flow DHW Devices	1,104	0.0	34.3	$509	$631	$593	$38	0.1	5,131
Custom Measures		**20,225**	**0.0**	**25.4**	**$1,791**	**$3,912**	**$0**	**$3,912**	**2.2**	**23,340**
ECM 21	Install Heat Pump Water Heater	1,899	0.0	0.0	$357	$2,970	$0	$2,970	8.3	1,912
ECM 22	Optimize Boiler Controls	0	0.0	25.4	$273	$27	$0	$27	0.1	2,973
TOTALS		**247,376**	**66.3**	**274.1**	**$21,546**	**$180,807**	**$55,379**	**$125,428**	**5.8**	**281,200**

* - 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).

MEMORIAL 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_2e Emissions Reduction (lbs)
Lighting Upgrades			**167,357**	**50.5**	**-34**	**$10,234**	**$116,510**	**$28,928**	**$87,582**	**8.6**	**164,509**
ECM 1	Install LED Fixtures	Yes	10,619	2.4	-2	$656	$11,296	$2,200	$9,096	13.9	10,507
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	93,649	30.4	-20	$5,723	$77,921	$13,400	$64,521	11.3	92,011
ECM 3	Retrofit Fixtures with LED Lamps	Yes	63,089	17.7	-13	$3,856	$27,292	$13,328	$13,964	3.6	61,991
Lighting Control Measures			**34,304**	**9.3**	**-7**	**$2,096**	**$32,146**	**$12,310**	**$19,836**	**9.5**	**33,704**
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	29,893	8.3	-6	$1,827	$26,296	$6,630	$19,666	10.8	29,370
ECM 5	Install High/Low Lighting Controls	Yes	4,411	0.9	-1	$270	$5,850	$5,680	$170	0.6	4,334
Variable Frequency Drive (VFD) Measures			**31,854**	**5.7**	**23**	**$2,271**	**$127,072**	**$9,500**	**$117,572**	**51.8**	**34,824**
ECM 6	Install VFDs on Constant Volume (CV) Fans	No	6,301	2.9	0	$399	$8,152	$3,600	$4,552	11.4	6,345
ECM 7	Install VFDs on Heating Water Pumps	No	24,271	2.8	0	$1,538	$115,910	$5,750	$110,160	71.6	24,441
ECM 8	Install VFDs on Kitchen Hood Fan Motors	Yes	1,282	0.0	23	$334	$3,010	$150	$2,860	8.6	4,038
Electric Unitary HVAC Measures			**6,915**	**8.4**	**0**	**$438**	**$177,754**	**$17,696**	**$160,058**	**365.3**	**6,964**
ECM 9	Install High Efficiency Air Conditioning Units	No	6,915	8.4	0	$438	$177,754	$17,696	$160,058	365.3	6,964
Gas Heating (HVAC/Process) Replacement			**0**	**0.0**	**245**	**$2,641**	**$57,111**	**$10,469**	**$46,642**	**17.7**	**28,692**
ECM 10	Install High Efficiency Hot Water Boilers	No	0	0.0	245	$2,641	$57,111	$10,469	$46,642	17.7	28,692
HVAC System Improvements			**1,536**	**0.0**	**297**	**$3,300**	**$20,322**	**$7,650**	**$12,672**	**3.8**	**36,341**
ECM 11	Install Occupancy-Controlled Thermostats	Yes	0	0.0	237	$2,556	$12,166	$7,650	$4,516	1.8	27,773
ECM 12	Implement Demand Control Ventilation (DCV)	No	1,536	0.0	60	$744	$8,157	$0	$8,157	11.0	8,568
Domestic Water Heating Upgrade			**491**	**0.0**	**55**	**$622**	**$18,170**	**$2,692**	**$15,478**	**24.9**	**6,912**
ECM 13	Install High Efficiency Gas-Fired Water Heater	No	0	0.0	20	$221	$17,568	$2,128	$15,440	70.0	2,398
ECM 14	Install Low-Flow DHW Devices	Yes	491	0.0	34	$401	$602	$564	$38	0.1	4,514
Food Service & Refrigeration Measures			**2,543**	**0.1**	**0**	**$161**	**$4,561**	**$620**	**$3,941**	**24.5**	**2,561**
ECM 15	Refrigerator/Freezer Case Electrically Commutated Motors	No	885	0.1	0	$56	$1,213	$320	$893	15.9	891
ECM 16	Refrigeration Controls	No	1,658	0.0	0	$105	$3,348	$300	$3,048	29.0	1,670
Custom Measures			**30,936**	**0.0**	**251**	**$4,664**	**$88,462**	**$0**	**$88,462**	**19.0**	**60,536**
ECM 17	Installation of an Energy Management System	No	12,610	0.0	251	$3,503	$87,547	$0	$87,547	25.0	42,082
ECM 18	Timer Controls for Window ACs	Yes	18,326	0.0	0	$1,161	$915	$0	$915	0.8	18,454
TOTALS (COST EFFECTIVE MEASURES)			**221,760**	**59.8**	**254**	**$16,783**	**$165,348**	**$49,602**	**$115,746**	**6.9**	**252,992**
TOTALS (ALL MEASURES)			**275,936**	**74.0**	**830**	**$26,427**	**$642,109**	**$89,865**	**$552,243**	**20.9**	**375,043**

ADULT SCHOOL / BOROUGH OFFICE

#	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_2e Emissions Reduction (lbs)
Lighting Upgrades			**14,864**	**3.3**	**-3**	**$2,763**	**$5,080**	**$2,340**	**$2,740**	**1.0**	**14,604**
ECM 1	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	855	0.6	0	$159	$1,613	$500	$1,113	7.0	840
ECM 2	Retrofit Fixtures with LED Lamps	Yes	14,009	2.7	-3	$2,604	$3,467	$1,840	$1,627	0.6	13,764
Lighting Control Measures			**3,709**	**0.6**	**-1**	**$690**	**$2,302**	**$950**	**$1,352**	**2.0**	**3,644**
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	2,155	0.4	0	$401	$1,620	$420	$1,200	3.0	2,117
ECM 4	Install High/Low Lighting Controls	Yes	1,555	0.2	0	$289	$682	$530	$152	0.5	1,527
Electric Unitary HVAC Measures			**1,442**	**1.0**	**0**	**$271**	**$10,252**	**$0**	**$10,252**	**37.8**	**1,452**
ECM 5	Install High Efficiency Air Conditioning Units	No	1,442	1.0	0	$271	$10,252	$0	$10,252	37.8	1,452
Domestic Water Heating Upgrade			**491**	**0.0**	**0**	**$92**	**$22**	**$22**	**$0**	**0.0**	**494**
ECM 6	Install Low-Flow DHW Devices	Yes	491	0.0	0	$92	$22	$22	$0	0.0	494
Custom Measures			**1,899**	**0.0**	**25**	**$630**	**$2,997**	**$0**	**$2,997**	**4.8**	**4,886**
ECM 7	Install Heat Pump Water Heater	Yes	1,899	0.0	0	$357	$2,970	$0	$2,970	8.3	1,912
ECM 8	Optimize Boiler Controls	Yes	0	0.0	25	$273	$27	$0	$27	0.1	2,973
TOTALS (COST EFFECTIVE MEASURES)			**20,963**	**4.0**	**22**	**$4,175**	**$10,401**	**$3,312**	**$7,089**	**1.7**	**23,628**
TOTALS (ALL MEASURES)			**22,405**	**5.0**	**22**	**$4,446**	**$20,653**	**$3,312**	**$17,342**	**3.9**	**25,080**

* - All incentives presented in this table are based on NJ SmartStart 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).

New Jersey's cleanenergy program™

BOARD OFFICE

#	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_2e Emissions Reduction (lbs)
Lighting Upgrades			**3,466**	**2.0**	**-1**	**$437**	**$2,617**	**$1,156**	**$1,461**	**3.3**	**3,406**
ECM 1	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	608	0.7	0	$77	$1,123	$360	$763	9.9	597
ECM 2	Retrofit Fixtures with LED Lamps	Yes	2,858	1.4	-1	$361	$1,494	$796	$698	1.9	2,808
Lighting Control Measures			**891**	**0.5**	**0**	**$112**	**$2,330**	**$1,230**	**$1,100**	**9.8**	**875**
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	383	0.3	0	$48	$855	$190	$665	13.7	377
ECM 4	Install Daylight Dimming Controls	Yes	430	0.2	0	$54	$1,250	$970	$280	5.2	422
ECM 5	Install High/Low Lighting Controls	Yes	78	0.0	0	$10	$225	$70	$155	15.8	77
Electric Unitary HVAC Measures			**127**	**0.1**	**0**	**$16**	**$907**	**$0**	**$907**	**55.7**	**128**
ECM 6	Install High Efficiency Air Conditioning Units	No	127	0.1	0	$16	$907	$0	$907	55.7	128
Gas Heating (HVAC/Process) Replacement			**0**	**0.0**	**14**	**$146**	**$15,129**	**$832**	**$14,297**	**97.9**	**1,587**
ECM 7	Install High Efficiency Steam Boilers	No	0	0.0	14	$146	$15,129	$832	$14,297	97.9	1,587
HVAC System Improvements			**174**	**0.0**	**0**	**$22**	**$104**	**$72**	**$32**	**1.4**	**175**
ECM 8	Install Pipe Insulation	Yes	174	0.0	0	$22	$104	$72	$32	1.4	175
Domestic Water Heating Upgrade			**123**	**0.0**	**0**	**$16**	**$7**	**$7**	**$0**	**0.0**	**124**
ECM 9	Install Low-Flow DHW Devices	Yes	123	0.0	0	$16	$7	$7	$0	0.0	124
TOTALS (COST EFFECTIVE MEASURES)			**4,654**	**2.5**	**-1**	**$588**	**$5,058**	**$2,465**	**$2,592**	**4.4**	**4,580**
TOTALS (ALL MEASURES)			**4,781**	**2.6**	**13**	**$750**	**$21,094**	**$3,297**	**$17,796**	**23.7**	**6,295**

* - All incentives presented in this table are based on NJ SmartStart 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).

BPU | New Jersey's cleanenergy program™

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

- **Upgrade to a Heat Pump System**

Solar Energy Generation Potential

	Memorial School
Potential:	**HIGH**
System Potential: (kW)	75
Electric Generation: (kWh per year)	89,353
Displaced Cost: (per year)	$5,660

Transition Incentive (TI) Program:

https://www.njcleanenergy.com/renewable-energy/programs/transition-incentive-program

Community Solar Energy Pilot Program:

http://www.NJCleanEnergy.com/CommunitySolar

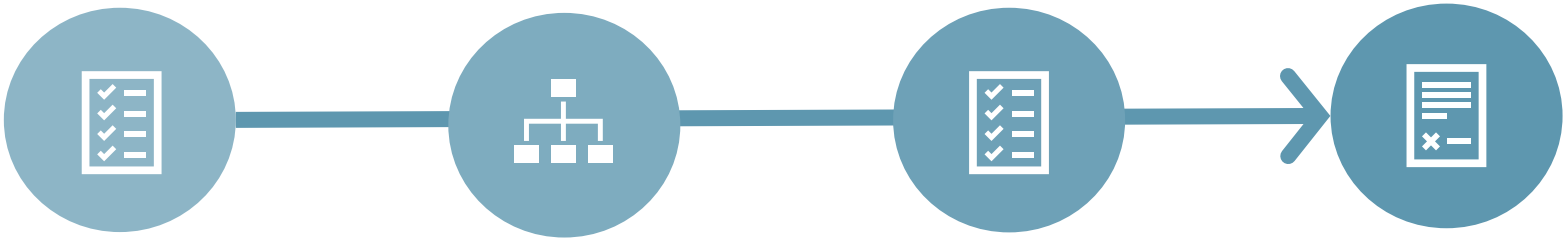
BPU | New Jersey's cleanenergy program™

FINANCING MECHANISM: ESIP

ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- Provides alternative financing for energy savings projects at public institutions
- Administered directly by the NJBPU
- Project is paid for with the value of its own energy savings
- 15 or 20-year repayment term
- NJCEP incentives/rebates are layered within an ESIP
- No upfront capital expenses
- Doesn't require voter approval

Financing Mechanism: ESIP



Initial Energy Audit

Includes LGEA

Select Path

ESCO (requires RFP)
Hybrid
DIY

Investment Grade Energy Audit

Prioritize ECM's to determine project

Energy Savings Plan Developed & Approved

Plan includes use of incentives through New Jersey's Clean Energy Program

Energy Savings Improvement Program (ESIP)

FOR MORE INFORMATION

Michelle Rossi

ESIP Coordinator

ESIP@bpu.nj.gov

o: 609.633.9641

c: 609.915.0903

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:

- **Transition Incentive (TI) Program**
- **Community Solar**

BPU | New Jersey's cleanenergy program™

Recommended NJCEP Incentives per Building

Entity Name	Direct Install	SmartStart	CTEEP
Memorial School	X	X	X
Adult School / Borough Office	X	X	X
Board Office	X	X	X

DIRECT INSTALL

NJCleanEnergy.com/DI

What is DI: Turn-key retrofit program to replace outdated and inefficient equipment, including lighting, HVAC, refrigeration, etc.

Qualifications: Average electric peak demand <200 kW in the previous 12 months

About:

- Pre-approved participating contractors provide support and process paperwork
- Incentives paid directly to the contractor
- Fast project turnaround time (4-6 months)

Incentives:

- $125,000 incentive funding per project/building (**$250K** UEZ/OZ/ Local Govt./**K-12 Public Schools**), or
- $250,000 entity cap ($4MM UEZ/OZ/Local Govt./**K-12 Public Schools**)

DIRECT INSTALL

NJCleanEnergy.com/DI

Facilities in Urban Enterprise Zones (UEZ), Opportunity Zones (OZ), Local Governments, and K-12 public schools:

INCENTIVE FUNDING	CUSTOMER
Up to **80%** of installed cost is paid directly to the contractor	20% of installed cost

All other eligible facilities:

INCENTIVE FUNDING	CUSTOMER
Up to **70%** of installed cost is paid directly to the contractor	30% of installed cost

BPU | New Jersey's cleanenergy program™

DIRECT INSTALL

NJCleanEnergy.com/DI

Participating Contractor

Hutchinson Mechanical Services
Pete Hatton
856-429-5828 x259
petehatton@hutchbiz.com

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

- Electric Chillers
- Gas Cooling
- Electric Unitary HVAC
- Ground Source Heat Pumps
- Gas Heating
- Variable Frequency Drives
- Gas Water Heating
- Lighting/Lighting Controls
- Refrigeration Doors
- Refrigeration Controls
- Food Service Equipment
- Refrigerator/Freezer Motors

DOUBLE INCENTIVES
for OZ/UEZ, local government (munis & counties), K-12 public school, or designated as affordable housing

CUSTOM INCENTIVES

- New or innovative technologies proven to be cost-effective and not listed as prescriptive
- Must meet code for retrofit projects or exceed code for new construction
- Project pre- and post-inspection required

BPU | New Jersey's cleanenergy program™

Customer Tailored Energy Efficiency Pilot

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:

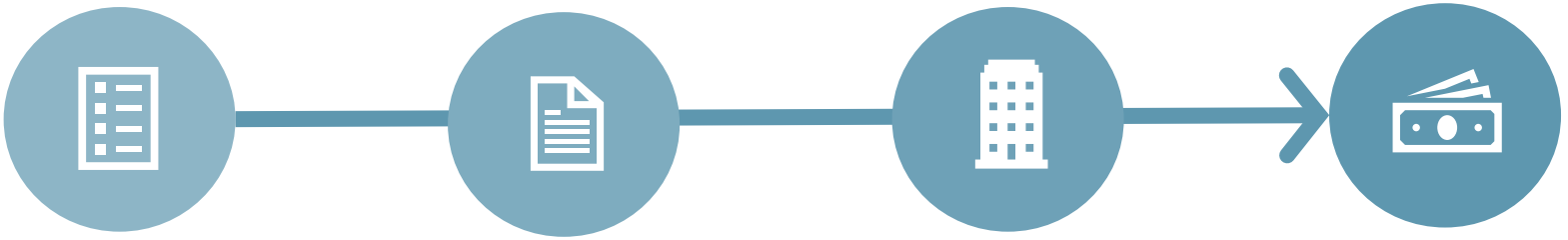
- Up to $500,000 for each electric or gas account
- Technical assistance incentives for custom project evaluation (up to $10K)

SAME INCENTIVE VALUES AS SMARTSTART

New Jersey's cleanenergy program™

CTEEP: Customer Tailored Energy Efficiency Pilot

NJCleanEnergy.com/CTEEP



Scoping Session

One-on-One customization with program staff

Energy Efficiency Plan

Application Approval

Installation of Measures

Confirmation of Installation

Incentives* Paid

SAME INCENTIVE VALUES AS SMARTSTART

New Jersey's cleanenergy program™

DI, SmartStart, & CTEEP: Financing Option

- Direct Install: Eligible NJNG customers can *finance the remaining 30 percent balance* at 0% APR through the "SAVEGREEN Project® On-Bill Repayment Program" (OBRP) for 36 months.
- 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.

New Jersey Natural Gas

- Questions? Contact:

Jerry Ryan
Energy Efficiency Ops. Manager
New Jersey Natural Gas
732-433-4362 (cell)
732 378 4920 (office)
jryan@njng.com

BPU | New Jersey's cleanenergy program™

For More Information

NJ Clean Energy Program

Aimee Lalonde – LGEA Program Manager
ALalonde@trccompanies.com
(347) 913-2422

Aditya Saxena – LGEA Auditor
ASaxena@trccompanies.com
(732) 425-4147

Sarah Walters– LGEA Account Manager
SWalters@trccompanies.com
(732) 589-7372

Tony O'Donnell– Outreach Account Manager
AODonnell@trccompanies.com
(732) 259-4938

BPU | New Jersey's cleanenergy program™

NJCleanEnergy.com
(866) 657-6278

QUESTIONS

?