New Jersey's Clean Energy Program

LGEA Exit Meeting for:

Burlington Township BOE

August 14, 2019

Introductions

- *Burlington Township BOE*
  - Nick Bice – Business Administrator/Board Secretary
  - Bill VanSyckel – Facilities Manager
  - Mary Ann Bell – Superintendent
- *New Road Construction Management*
  - Scott Weitz – Professional Planner

INTRODUCTIONS

- *NJ Clean Energy Program*
  - Aimee Lalonde – TRC Program Manager
  - Yagna Otia – TRC Auditor
  - Sarah Walters – TRC Account Manager
  - Gary Finger– TRC Outreach Manager
  - Mike Thulen – ESIP Coordinator (BPU)
  - Arif Welcher – Government/Business Manager (BPU)
  - Michelle Rossi – State Energy Office
  - Dianne Solomon – BPU Commissioner
  - Robert Glover – Aide to BPU Commissioner Holden

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 Burlington Twp. BOE

LGEA Process

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

New Jersey's cleanenergy program™

Site Visit & Utility Analysis

Overview of Systems, Baseline & Existing Conditions:

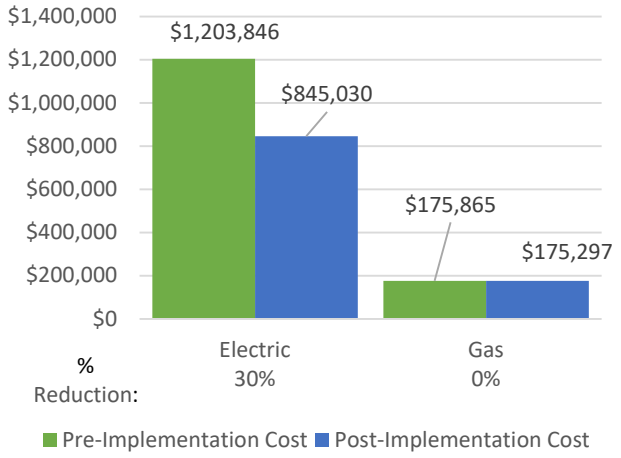
- Lighting System
- HVAC and Mechanical Systems
- Plug Load Equipment
- Kitchen Equipment

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

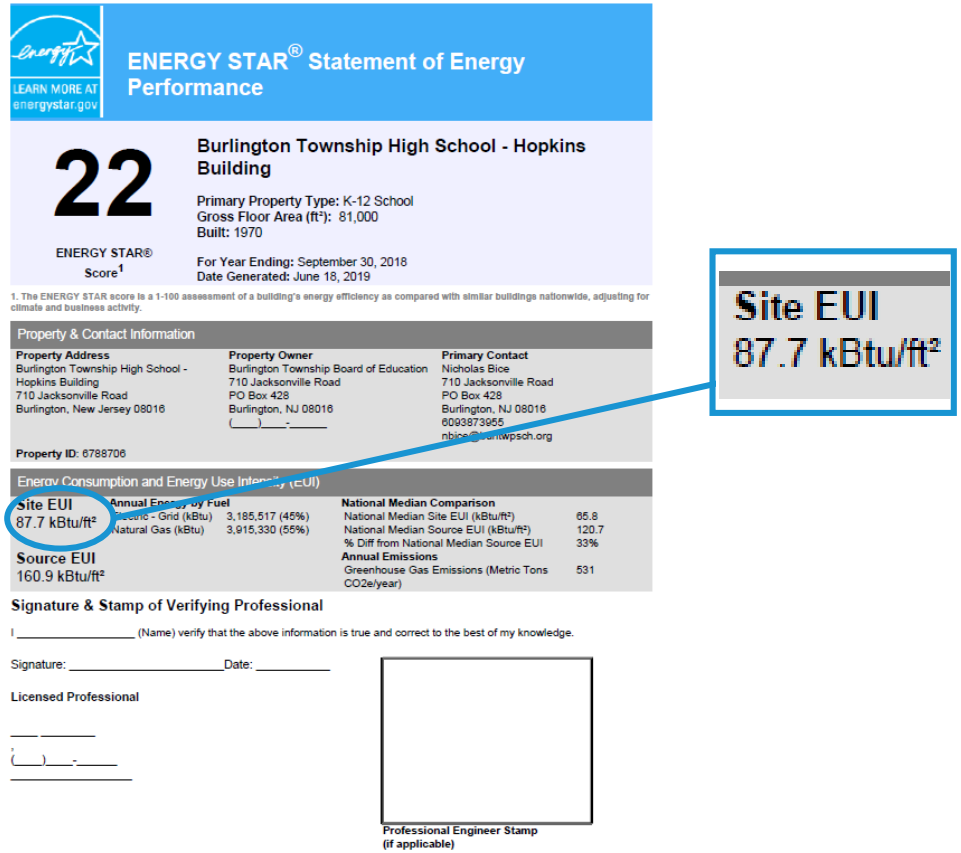
Sites Visited/Analyzed:

- Burlington Twp. HS – Main
- Burlington Twp. HS – Hopkins
- Burlington Twp. MS
- Fountain Woods ES
- B. Bernice Young ES



BENCHMARKING

Burlington Twp HS - Hopkins



ENERGY STAR® Statement of Energy Performance

LEARN MORE AT energystar.gov

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ENERGY STAR® Score[1]

Burlington Township High School - Hopkins Building

Primary Property Type: K-12 School
Gross Floor Area (ft²): 81,000
Built: 1970

For Year Ending: September 30, 2018
Date Generated: June 18, 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

Property Address	Property Owner	Primary Contact
Burlington Township High School - Hopkins Building 710 Jacksonville Road Burlington, New Jersey 08016	Burlington Township Board of Education 710 Jacksonville Road PO Box 428 Burlington, NJ 08016 (___)___-____	Nicholas Bice 710 Jacksonville Road PO Box 428 Burlington, NJ 08016 6093873955 nbice@burlwpsch.org

Property ID: 6788706

Energy Consumption and Energy Use Intensity (EUI)

Site EUI
87.7 kBtu/ft²

Source EUI
160.9 kBtu/ft²

Annual Energy by Fuel

Electric - Grid (kBtu)	3,185,517 (45%)	
Natural Gas (kBtu)	3,915,330 (55%)	

National Median Comparison

National Median Site EUI (kBtu/ft²)	65.8
National Median Source EUI (kBtu/ft²)	120.7
% Diff from National Median Source EUI	33%

Annual Emissions

Greenhouse Gas Emissions (Metric Tons CO2e/year)	531

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)

Site EUI
87.7 kBtu/ft²

Building Name	ENERGY STAR® Score
Burlington Twp. High School - Main	17
Burlington Twp. High School – Hopkins	22
Burlington Twp. Middle School	21
Fountain Woods Elementary School	10
B. Bernice Young Elementary School	46

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.

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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	1,626,534	336.6	-301.6	$233,909	$653,750	$116,037	$537,713	2.3	1,602,590
Install LED Fixtures	161,754	18.8	-0.8	$23,355	$139,780	$7,365	$132,415	5.7	162,788
Retrofit Fluorescent Fixtures with LED Lamps and Drivers	12,378	3.4	-2.6	$1,766	$6,109	$918	$5,191	2.9	12,161
Retrofit Fixtures with LED Lamps	1,452,403	314.4	-298.2	$208,788	$507,861	$107,754	$400,107	1.9	1,427,641
Lighting Control Measures	244,040	45.8	-49.8	$35,347	$184,035	$18,370	$165,665	4.7	239,914
Install Occupancy Sensor Lighting Controls	208,467	39.1	-42.4	$30,228	$149,700	$18,370	$131,330	4.3	204,964
Install High/Low Lighting Controls	35,572	6.7	-7.4	$5,118	$34,335	$0	$34,335	6.7	34,950
Motor Upgrades	10,056	2.0	0.0	$1,492	$27,976	$0	$27,976	18.7	10,126
Premium Efficiency Motors	10,056	2.0	0.0	$1,492	$27,976	$0	$27,976	18.7	10,126
Variable Frequency Drive (VFD) Measures	295,747	48.7	0.0	$42,378	$161,048	$3,720	$157,328	3.7	297,815
Install VFDs on Constant Volume (CV) Fans	40,966	13.4	0.0	$6,063	$35,247	$3,720	$31,527	5.2	41,252
Install VFDs on Chilled Water Pumps	195,988	26.4	0.0	$27,879	$80,661	$0	$80,661	2.9	197,358
Install VFDs on Heating Water Pumps	58,794	8.9	0.0	$8,437	$45,141	$0	$45,141	5.4	59,205
Electric Unitary HVAC Measures	24,025	12.0	0.0	$3,494	$233,711	$12,897	$220,815	63.2	24,193
Install High Efficiency Air Conditioning Units	12,942	9.9	0.0	$1,892	$198,997	$11,651	$187,346	99.0	13,033
Install High Efficiency Heat Pumps	11,083	2.1	0.0	$1,602	$34,715	$1,246	$33,469	20.9	11,160
Electric Chiller Replacement	205,913	101.0	0.0	$29,160	$207,894	$10,080	$197,814	6.8	207,353
Install High Efficiency Chillers	205,913	101.0	0.0	$29,160	$207,894	$10,080	$197,814	6.8	207,353
Gas Heating (HVAC/Process) Replacement	0	0.0	7.7	$62	$1,835	$400	$1,435	23.3	901
Install High Efficiency Furnaces	0	0.0	7.7	$62	$1,835	$400	$1,435	23.3	901
HVAC System Improvements	27,810	0.0	116.0	$5,199	$23,110	$0	$23,110	4.4	41,587
Implement Demand Control Ventilation (DCV)	27,810	0.0	116.0	$5,199	$23,110	$0	$23,110	4.4	41,587
Domestic Water Heating Upgrade	0	0.0	196.3	$1,569	$7,680	$240	$7,440	4.7	22,990
Install High Efficiency Gas-Fired Water Heater	0	0.0	32.3	$239	$6,935	$240	$6,695	28.0	3,784
Install Low-Flow DHW Devices	0	0.0	164.0	$1,330	$746	$0	$746	0.6	19,206
Food Service Equipment & Refrigeration Measures	10,276	0.6	0.0	$1,540	$13,193	$880	$12,313	8.0	10,348
Refrigerator/Freezer Case Electrically Commutated Motors	4,296	0.5	0.0	$629	$5,459	$480	$4,979	7.9	4,326
Refrigeration Controls	5,980	0.1	0.0	$910	$7,733	$400	$7,333	8.1	6,022
Plug Load Equipment Control - Vending Machine	16,219	1.9	0.0	$2,430	$3,450	$500	$2,950	1.2	16,333
Vending Machine Control	16,219	1.9	0.0	$2,430	$3,450	$500	$2,950	1.2	16,333
Custom Measures	37,774	0.0	144.0	$6,400	$36,000	$0	$36,000	5.6	54,899
Retro Commissioning Study & HVAC Improvements	37,774	0.0	144.0	$6,400	$36,000	$0	$36,000	5.6	54,899
TOTALS	2,498,395	548.6	112.6	$362,981	$1,553,683	$163,124	$1,390,559	3.8	2,529,048

* - 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.

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		1,626,534	336.6	-301.6	$233,909	$653,750	$116,037	$537,713	2.3	1,602,590
ECM 1	Install LED Fixtures	161,754	18.8	-0.8	$23,355	$139,780	$7,365	$132,415	5.7	162,788
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	12,378	3.4	-2.6	$1,766	$6,109	$918	$5,191	2.9	12,161
ECM 3	Retrofit Fixtures with LED Lamps	1,452,403	314.4	-298.2	$208,788	$507,861	$107,754	$400,107	1.9	1,427,641
Lighting Control Measures		244,040	45.8	-49.8	$35,347	$184,035	$18,370	$165,665	4.7	239,914
ECM 4	Install Occupancy Sensor Lighting Controls	208,467	39.1	-42.4	$30,228	$149,700	$18,370	$131,330	4.3	204,964
ECM 5	Install High/Low Lighting Controls	35,572	6.7	-7.4	$5,118	$34,335	$0	$34,335	6.7	34,950
Motor Upgrades		4,657	0.7	0.0	$720	$7,210	$0	$7,210	10.0	4,690
ECM 6	Premium Efficiency Motors	4,657	0.7	0.0	$720	$7,210	$0	$7,210	10.0	4,690
Variable Frequency Drive (VFD) Measures		295,747	48.7	0.0	$42,378	$161,048	$3,720	$157,328	3.7	297,815
ECM 7	Install VFDs on Constant Volume (CV) Fans	40,966	13.4	0.0	$6,063	$35,247	$3,720	$31,527	5.2	41,252
ECM 8	Install VFDs on Chilled Water Pumps	195,988	26.4	0.0	$27,879	$80,661	$0	$80,661	2.9	197,358
ECM 9	Install VFDs on Heating Water Pumps	58,794	8.9	0.0	$8,437	$45,141	$0	$45,141	5.4	59,205
Electric Unitary HVAC Measures		857	0.2	0.0	$142	$1,122	$69	$1,053	7.4	863
ECM 10	Install High Efficiency Air Conditioning Units	857	0.2	0.0	$142	$1,122	$69	$1,053	7.4	863
Electric Chiller Replacement		205,913	101.0	0.0	$29,160	$207,894	$10,080	$197,814	6.8	207,353
ECM 11	Install High Efficiency Chillers	205,913	101.0	0.0	$29,160	$207,894	$10,080	$197,814	6.8	207,353
HVAC System Improvements		27,810	0.0	116.0	$5,199	$23,110	$0	$23,110	4.4	41,587
ECM 12	Implement Demand Control Ventilation (DCV)	27,810	0.0	116.0	$5,199	$23,110	$0	$23,110	4.4	41,587
Domestic Water Heating Upgrade		0	0.0	164.0	$1,330	$746	$0	$746	0.6	19,206
ECM 13	Install Low-Flow DHW Devices	0	0.0	164.0	$1,330	$746	$0	$746	0.6	19,206
Food Service Equipment & Refrigeration Measures		7,636	0.5	0.0	$1,101	$9,326	$680	$8,646	7.9	7,690
ECM 14	Refrigerator/Freezer Case Electrically Commutated Motors	4,296	0.5	0.0	$629	$5,459	$480	$4,979	7.9	4,326
ECM 15	Refrigeration Controls	3,340	0.0	0.0	$472	$3,867	$200	$3,667	7.8	3,364
Plug Load Equipment Control - Vending Machine		16,219	1.9	0.0	$2,430	$3,450	$500	$2,950	1.2	16,333
ECM 16	Vending Machine Control	16,219	1.9	0.0	$2,430	$3,450	$500	$2,950	1.2	16,333
Custom Measures		37,774	0.0	144.0	$6,400	$36,000	$0	$36,000	5.6	54,899
ECM 17	Retro Commissioning Study & HVAC Improvements	37,774	0.0	144.0	$6,400	$36,000	$0	$36,000	5.6	54,899
TOTALS		2,467,188	535.4	72.6	$358,117	$1,287,691	$149,456	$1,138,235	3.2	2,492,938

* - 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).

BURLINGTON TWP. HS - MAIN

#	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			**507,279**	**124.9**	**-88**	**$72,266**	**$231,354**	**$22,394**	**$208,960**	**2.9**	**500,511**
ECM 1	Install LED Fixtures	Yes	67,268	7.7	0	$9,676	$52,335	$530	$51,805	5.4	67,738
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	12,086	3.3	-3	$1,718	$5,915	$900	$5,015	2.9	11,875
ECM 3	Retrofit Fixtures with LED Lamps	Yes	427,925	114.0	-86	$60,871	$173,104	$20,964	$152,140	2.5	420,898
Lighting Control Measures			**58,664**	**16.0**	**-12**	**$8,340**	**$73,399**	**$7,745**	**$65,654**	**7.9**	**57,638**
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	51,347	14.0	-11	$7,300	$63,724	$7,745	$55,979	7.7	50,449
ECM 5	Install High/Low Lighting Controls	Yes	7,316	2.0	-2	$1,040	$9,675	$0	$9,675	9.3	7,189
Motor Upgrades			**2,134**	**0.6**	**0**	**$307**	**$8,652**	**$0**	**$8,652**	**28.2**	**2,149**
ECM 6	Premium Efficiency Motors	No	2,134	0.6	0	$307	$8,652	$0	$8,652	28.2	2,149
Variable Frequency Drive (VFD) Measures			**77,815**	**22.0**	**0**	**$11,193**	**$60,475**	**$3,240**	**$57,235**	**5.1**	**78,359**
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	33,368	11.6	0	$4,800	$22,705	$3,240	$19,465	4.1	33,602
ECM 8	Install VFDs on Chilled Water Pumps	Yes	12,445	4.3	0	$1,790	$10,303	$0	$10,303	5.8	12,532
ECM 9	Install VFDs on Heating Water Pumps	Yes	32,001	6.1	0	$4,603	$27,467	$0	$27,467	6.0	32,225
Electric Unitary HVAC Measures			**4,098**	**1.9**	**0**	**$589**	**$50,118**	**$2,510**	**$47,608**	**80.8**	**4,127**
ECM 10	Install High Efficiency Air Conditioning Units	No	3,548	1.8	0	$510	$36,220	$2,105	$34,115	66.8	3,573
ECM 11	Install High Efficiency Heat Pumps	No	550	0.2	0	$79	$13,898	$405	$13,493	170.6	554
Electric Chiller Replacement			**32,735**	**36.6**	**0**	**$4,709**	**$85,318**	**$9,000**	**$76,318**	**16.2**	**32,964**
ECM 12	Install High Efficiency Chillers	Yes	32,735	36.6	0	$4,709	$85,318	$9,000	$76,318	16.2	32,964
Gas Heating (HVAC/Process) Replacement			**0**	**0.0**	**8**	**$62**	**$1,835**	**$400**	**$1,435**	**23.3**	**901**
ECM 13	Install High Efficiency Furnaces	No	0	0.0	8	$62	$1,835	$400	$1,435	23.3	901
Domestic Water Heating Upgrade			**0**	**0.0**	**76**	**$605**	**$402**	**$0**	**$402**	**0.7**	**8,853**
ECM 14	Install Low-Flow DHW Devices	Yes	0	0.0	76	$605	$402	$0	$402	0.7	8,853
Food Service & Refrigeration Measures			**3,566**	**0.4**	**0**	**$513**	**$690**	**$100**	**$590**	**1.2**	**3,591**
ECM 15	Vending Machine Control	Yes	3,566	0.4	0	$513	$690	$100	$590	1.2	3,591
TOTALS (COST EFFECTIVE MEASURES)			**680,058**	**199.9**	**-25**	**$97,627**	**$451,638**	**$42,479**	**$409,159**	**4.2**	**681,916**
TOTALS (ALL MEASURES)			**686,291**	**202.4**	**-17**	**$98,585**	**$512,244**	**$45,389**	**$466,854**	**4.7**	**689,093**

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BURLINGTON TWP HS - HOPKINS

#	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			**152,978**	**25.4**	**-29**	**$25,217**	**$45,571**	**$9,681**	**$35,890**	**1.4**	**150,676**
ECM 1	Install LED Fixtures	Yes	13,907	1.6	0	$2,312	$9,688	$120	$9,568	4.1	14,005
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	292	0.1	0	$48	$194	$18	$176	3.7	287
ECM 3	Retrofit Fixtures with LED Lamps	Yes	138,779	23.8	-29	$22,858	$35,690	$9,543	$26,147	1.1	136,385
Lighting Control Measures			**32,587**	**5.5**	**-7**	**$5,367**	**$29,231**	**$3,030**	**$26,201**	**4.9**	**32,017**
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	28,837	4.9	-6	$4,749	$24,956	$3,030	$21,926	4.6	28,332
ECM 5	Install High/Low Lighting Controls	Yes	3,751	0.6	-1	$618	$4,275	$0	$4,275	6.9	3,685
Motor Upgrades			**2,499**	**0.5**	**0**	**$415**	**$6,452**	**$0**	**$6,452**	**15.5**	**2,517**
ECM 6	Premium Efficiency Motors	Yes	2,499	0.5	0	$415	$6,452	$0	$6,452	15.5	2,517
Variable Frequency Drive (VFD) Measures			**7,597**	**1.7**	**0**	**$1,263**	**$12,542**	**$480**	**$12,062**	**9.6**	**7,650**
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	7,597	1.7	0	$1,263	$12,542	$480	$12,062	9.6	7,650
Electric Unitary HVAC Measures			**2,299**	**0.5**	**0**	**$382**	**$5,921**	**$253**	**$5,668**	**14.8**	**2,315**
ECM 8	Install High Efficiency Air Conditioning Units	Yes	857	0.2	0	$142	$1,122	$69	$1,053	7.4	863
ECM 9	Install High Efficiency Heat Pumps	No	1,442	0.3	0	$240	$4,798	$184	$4,614	19.3	1,452
HVAC System Improvements			**17,010**	**0.0**	**80**	**$3,408**	**$14,954**	**$0**	**$14,954**	**4.4**	**26,496**
ECM 10	Implement Demand Control Ventilation (DCV)	Yes	17,010	0.0	80	$3,408	$14,954	$0	$14,954	4.4	26,496
Food Service & Refrigeration Measures			**8,262**	**0.7**	**0**	**$1,373**	**$6,000**	**$560**	**$5,440**	**4.0**	**8,319**
ECM 11	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	786	0.1	0	$131	$1,213	$160	$1,053	8.1	792
ECM 12	Refrigeration Controls	No	2,640	0.0	0	$439	$3,867	$200	$3,667	8.4	2,658
ECM 13	Vending Machine Control	Yes	4,836	0.6	0	$804	$920	$200	$720	0.9	4,869
TOTALS (COST EFFECTIVE MEASURES)			**219,151**	**34.1**	**44**	**$36,747**	**$112,006**	**$13,620**	**$98,386**	**2.7**	**225,880**
TOTALS (ALL MEASURES)			**223,233**	**34.4**	**44**	**$37,425**	**$120,671**	**$14,004**	**$106,667**	**2.9**	**229,991**

New Jersey's cleanenergy program™

BURLINGTON TWP MS

#	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			**316,856**	**82.0**	**-58**	**$44,234**	**$197,343**	**$41,380**	**$155,963**	**3.5**	**312,246**
ECM 1	Install LED Fixtures	Yes	40,633	5.0	-1	$5,727	$66,154	$6,460	$59,694	10.4	40,820
ECM 2	Retrofit Fixtures with LED Lamps	Yes	276,224	77.0	-57	$38,507	$131,188	$34,920	$96,268	2.5	271,425
Lighting Control Measures			**6,874**	**1.3**	**-1**	**$958**	**$4,905**	**$315**	**$4,590**	**4.8**	**6,754**
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	2,661	0.5	-1	$371	$2,430	$315	$2,115	5.7	2,615
ECM 4	Install High/Low Lighting Controls	Yes	4,213	0.8	-1	$587	$2,475	$0	$2,475	4.2	4,139
Motor Upgrades			**2,158**	**0.2**	**0**	**$305**	**$758**	**$0**	**$758**	**2.5**	**2,173**
ECM 5	Premium Efficiency Motors	Yes	2,158	0.2	0	$305	$758	$0	$758	2.5	2,173
Domestic Water Heating Upgrade			**0**	**0.0**	**88**	**$724**	**$344**	**$0**	**$344**	**0.5**	**10,353**
ECM 6	Install Low-Flow DHW Devices	Yes	0	0.0	88	$724	$344	$0	$344	0.5	10,353
Food Service & Refrigeration Measures			**4,063**	**0.5**	**0**	**$573**	**$2,886**	**$370**	**$2,516**	**4.4**	**4,091**
ECM 7	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	2,108	0.3	0	$298	$2,426	$320	$2,106	7.1	2,123
ECM 8	Vending Machine Control	Yes	1,954	0.2	0	$276	$460	$50	$410	1.5	1,968
TOTALS (COST EFFECTIVE MEASURES)			**329,951**	**84.0**	**29**	**$46,795**	**$206,236**	**$42,065**	**$164,171**	**3.5**	**335,617**
TOTALS (ALL MEASURES)			**329,951**	**84.0**	**29**	**$46,795**	**$206,236**	**$42,065**	**$164,171**	**3.5**	**335,617**

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FOUNTAIN WOODS ES

#	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			**366,321**	**59.5**	**-67**	**$51,224**	**$103,419**	**$23,103**	**$80,316**	**1.6**	**361,008**
ECM 1	Install LED Fixtures	Yes	39,946	4.6	0	$5,640	$11,603	$255	$11,348	2.0	40,225
ECM 2	Retrofit Fixtures with LED Lamps	Yes	326,375	54.9	-67	$45,584	$91,816	$22,848	$68,968	1.5	320,784
Lighting Control Measures			**87,470**	**14.5**	**-17**	**$12,224**	**$48,600**	**$4,795**	**$43,805**	**3.6**	**86,082**
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	74,957	12.4	-14	$10,476	$36,990	$4,795	$32,195	3.1	73,788
ECM 4	Install High/Low Lighting Controls	Yes	12,513	2.1	-3	$1,747	$11,610	$0	$11,610	6.6	12,294
Motor Upgrades			**2,379**	**0.5**	**0**	**$336**	**$9,896**	**$0**	**$9,896**	**29.5**	**2,395**
ECM 5	Premium Efficiency Motors	No	2,379	0.5	0	$336	$9,896	$0	$9,896	29.5	2,395
Variable Frequency Drive (VFD) Measures			**167,370**	**17.9**	**0**	**$23,632**	**$65,797**	**$0**	**$65,797**	**2.8**	**168,541**
ECM 6	Install VFDs on Chilled Water Pumps	Yes	150,282	16.2	0	$21,219	$56,275	$0	$56,275	2.7	151,333
ECM 7	Install VFDs on Heating Water Pumps	Yes	17,088	1.7	0	$2,413	$9,521	$0	$9,521	3.9	17,208
Electric Unitary HVAC Measures			**11,148**	**2.2**	**0**	**$1,574**	**$20,507**	**$933**	**$19,574**	**12.4**	**11,226**
ECM 8	Install High Efficiency Air Conditioning Units	No	2,057	0.5	0	$290	$4,489	$276	$4,213	14.5	2,072
ECM 9	Install High Efficiency Heat Pumps	No	9,091	1.7	0	$1,284	$16,018	$657	$15,361	12.0	9,155
Electric Chiller Replacement			**173,178**	**64.5**	**0**	**$24,452**	**$122,575**	**$1,080**	**$121,495**	**5.0**	**174,389**
ECM 10	Install High Efficiency Chillers	Yes	173,178	64.5	0	$24,452	$122,575	$1,080	$121,495	5.0	174,389
HVAC System Improvements			**10,800**	**0.0**	**36**	**$1,791**	**$8,157**	**$0**	**$8,157**	**4.6**	**15,091**
ECM 11	Implement Demand Control Ventilation (DCV)	Yes	10,800	0.0	36	$1,791	$8,157	$0	$8,157	4.6	15,091
Domestic Water Heating Upgrade			**0**	**0.0**	**32**	**$239**	**$6,935**	**$240**	**$6,695**	**28.0**	**3,784**
ECM 12	Install High Efficiency Gas-Fired Water Heater	No	0	0.0	32	$239	$6,935	$240	$6,695	28.0	3,784
Food Service & Refrigeration Measures			**8,035**	**0.6**	**0**	**$1,135**	**$6,000**	**$300**	**$5,700**	**5.0**	**8,092**
ECM 13	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	786	0.1	0	$111	$1,213	$0	$1,213	10.9	792
ECM 14	Refrigeration Controls	Yes	3,340	0.0	0	$472	$3,867	$200	$3,667	7.8	3,364
ECM 15	Vending Machine Control	Yes	3,909	0.4	0	$552	$920	$100	$820	1.5	3,936
Custom Measures			**37,774**	**0.0**	**144**	**$6,400**	**$36,000**	**$0**	**$36,000**	**5.6**	**54,899**
ECM 16	Retro-Commissioning Study & HVAC Improvements	Yes	37,774	0.0	144	$6,400	$36,000	$0	$36,000	5.6	54,899
TOTALS			**864,475**	**159.6**	**128**	**$123,006**	**$427,884**	**$30,451**	**$397,433**	**3.2**	**885,506**

B. Bernice Young ES

#	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			**283,100**	**44.7**	**-59**	**$40,968**	**$76,063**	**$19,479**	**$56,584**	**1.4**	**278,149**
ECM 1	Retrofit Fixtures with LED Lamps	Yes	283,100	44.7	-59	$40,968	$76,063	$19,479	$56,584	1.4	278,149
Lighting Control Measures			**58,445**	**8.5**	**-12**	**$8,458**	**$27,900**	**$2,485**	**$25,415**	**3.0**	**57,422**
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	50,665	7.4	-11	$7,332	$21,600	$2,485	$19,115	2.6	49,779
ECM 3	Install High/Low Lighting Controls	Yes	7,779	1.1	-2	$1,126	$6,300	$0	$6,300	5.6	7,643
Motor Upgrades			**886**	**0.2**	**0**	**$130**	**$2,218**	**$0**	**$2,218**	**17.1**	**892**
ECM 4	Premium Efficiency Motors	No	886	0.2	0	$130	$2,218	$0	$2,218	17.1	892
Variable Frequency Drive (VFD) Measures			**42,965**	**7.1**	**0**	**$6,291**	**$22,235**	**$0**	**$22,235**	**3.5**	**43,265**
ECM 5	Install VFDs on Chilled Water Pumps	Yes	33,261	5.9	0	$4,870	$14,082	$0	$14,082	2.9	33,493
ECM 6	Install VFDs on Heating Water Pumps	Yes	9,704	1.2	0	$1,421	$8,152	$0	$8,152	5.7	9,772
Electric Unitary HVAC Measures			**6,480**	**7.4**	**0**	**$949**	**$157,166**	**$9,200**	**$147,965**	**156.0**	**6,525**
ECM 7	Install High Efficiency Air Conditioning Units	No	6,480	7.4	0	$949	$157,166	$9,200	$147,965	156.0	6,525
Food Service & Refrigeration Measures			**2,569**	**0.3**	**0**	**$376**	**$1,067**	**$50**	**$1,017**	**2.7**	**2,587**
ECM 8	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	615	0.0	0	$90	$607	$0	$607	6.7	619
ECM 9	Vending Machine Control	Yes	1,954	0.2	0	$286	$460	$50	$410	1.4	1,968
TOTALS (COST EFFECTIVE MEASURES)			**387,079**	**60.6**	**-71**	**$56,092**	**$127,264**	**$22,014**	**$105,250**	**1.9**	**381,424**
TOTALS (ALL MEASURES)			**394,445**	**68.1**	**-71**	**$57,170**	**$286,648**	**$31,214**	**$255,434**	**4.5**	**388,841**

New Jersey's cleanenergy program™

Solar Energy Generation Potential

	HS - Main	HS - Hopkins	MS	Fountain Woods	B. Bernice Young
Potential:	**HIGH**	**HIGH**	**HIGH**	**HIGH**	**HIGH**
System Potential: (kW)	400	230	408	193	341
Electric Generation: (kWh per year)	476,549	274,015	486,079	229,934	406,257
Displaced Cost: (per year)	$68,550	$45,540	$68,590	$32,470	$59,480

SREC Registration Program (SRP):

http://www.NJCleanEnergy.com/SREC

Community Solar Energy Pilot Program:

http://www.NJCleanEnergy.com/CommunitySolar

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

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 (CHP)

Other Programs

Renewable Energy Generation:

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

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Recommended NJCEP Incentives per Building

Burlington Twp BOE	Pay For Performance	SmartStart	CTEEP
High School – Main		X	X
High School – Hopkins		X	X
Middle School		X	X
Fountain Woods ES	X	X	X
B. Bernice Young ES		X	X

PAY FOR PERFORMANCE

NJCleanEnergy.com/P4P

NEW JERSEY'S CLEAN ENERGY PROGRAM
P4P
PAY FOR PERFORMANCE

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
  - Incentive #2 & #3 are double for UEZ/OZ/ MUNI/**K-12 Public Schools**

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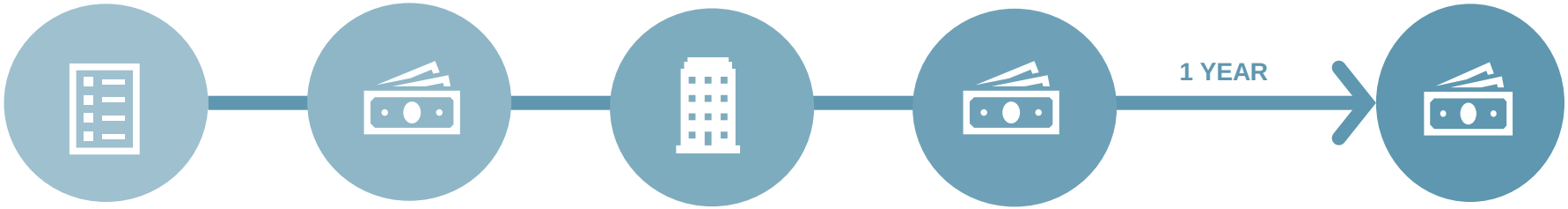
Pay for Performance

NJCleanEnergy.com/P4P



Program Enrollment

Submission and Approval of Application

Energy Reduction Plan (ERP)

Development and Approval

Incentive #1
fixed

Installation of Measures

Installation Report

Incentive #2
up to 25% project cost

Verification of Savings

Comparison of Performance vs ERP

Incentive #3
up to 25% project cost

New Jersey's cleanenergy program™

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

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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:

- $250,000 fiscal year entity cap
- Technical assistance incentives for custom project evaluation (up to $10K)

SAME INCENTIVE VALUES AS SMARTSTART

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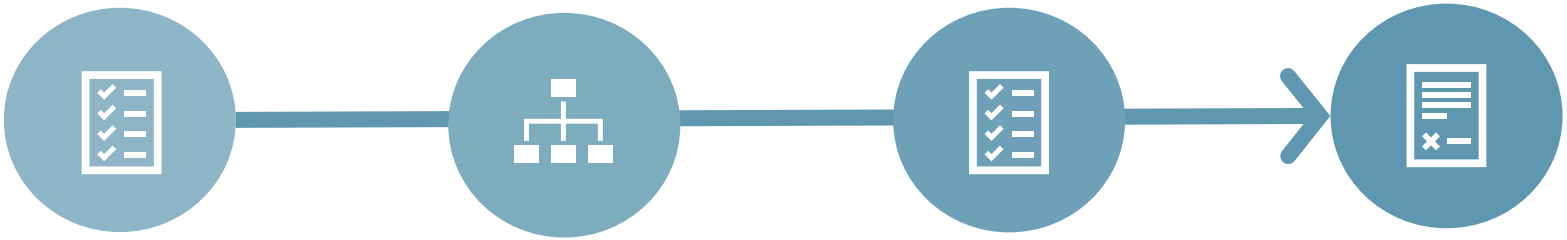
FINANCING MECHANISM: ESIP

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



Initial Energy Audit

Includes LGEA

Select Path

ESCO (requires RFP)
Hybrid
DIY

Investment Grade Energy Audit

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

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ESIP Coordinator

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Cell: 732-330-2419

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For More Information

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QUESTIONS

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