

New Jersey's Clean Energy Program

LGEA Exit Meeting for:
Egg Harbor Township School District

TRC Energy Services

May 13, 2019

Introductions



Egg Harbor Township School District

- Chandra Anaya – Business Administrator
- Timothy Brunetta – Director of Facilities

NJ Clean Energy Program

- Brian DeLuca, CEM – TRC Program Manager
- Yagna Otia, CEM – TRC Auditor
- Sarah Walters – TRC Account Manager
- Gary Finger – TRC Outreach Account Manager
- Mike Thulen – ESIP Coordinator
- Michelle Rossi – BPU Outreach Manager

Agenda



- The audit process overview
- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**easures (ECMs) identified
- Questions or concerns regarding the draft audit report
- Overview of NJCEP equipment incentives
- Next steps for Egg Harbor Township School 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
- Plug Load Equipment
- Kitchen and Refrigeration Equipment

Utility Consumption:

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

Sites Visited/Analyzed

- Egg Harbor Township HS
- Alder Ave. MS
- Fernwood MS
- Clayton J Davenport ES
- Clayton J Davenport Primary
- Dr. Joyanne D Miller ES
- E. H. Slaybaugh ES
- E. H. Slaybaugh Primary
- H Russell Swift ES
- District Transportation Complex
- Egg Harbor Township HS Fieldhouse
- Eagle Academy

Benchmarking



ENERGY STAR® Statement of Energy Performance

79

ENERGY STAR® Score¹

Egg Harbor Township High School

Primary Property Type: K-12 School
 Gross Floor Area (ft²): 440,900
 Built: 1980

For Year Ending: April 30, 2018
 Date Generated: March 05, 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 Egg Harbor Township High School 24 High School Drive Egg Harbor Township, New Jersey 08234	Property Owner Egg Harbor Township School District 13 Swift Drive Egg Harbor Township, NJ 08234 609-646-8441	Primary Contact Chandra Anaya 13 Swift Drive Egg Harbor Township, NJ 08234 609-646-8441 anayac@eht.k12.nj.us
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Property ID: 6627772

Energy Consumption and Energy Use Intensity (EUI)

Site EUI 55.4 kBtu/ft²	Annual Energy by Fuel Electric - Grid (kBtu) 11,983,411 (49%) Electric - Solar (kBtu) 1,527,868 (8%) Natural Gas (kBtu) 10,933,644 (45%)	National Median Comparison National Median Site EUI (kBtu/ft²) 75.9 National Median Source EUI (kBtu/ft²) 144.6 % Diff from National Median Source EUI -27%
Source EUI 105.6 kBtu/ft²	Annual Emissions Greenhouse Gas Emissions (Metric Tons CO2e/year) 1,795	

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
Egg Harbor Township HS	79
Alder Ave. MS	53
Fernwood MS	80
Clayton J Davenport ES	86
Clayton J Davenport Primary	51
Dr. Joyanne D Miller ES	93
E. H. Slaybaugh ES	94
E. H. Slaybaugh Primary	35
H. Russell Swift ES	90
District Transportation Complex	6
Egg Harbor Township HS Fieldhouse	N/A
Eagle Academy	98

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.

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	1,997,532	550.9	-370.0	\$245,035	\$1,350,676	\$224,215	\$1,126,461	4.6	1,968,179
Install LED Fixtures	632,195	140.8	-81.6	\$75,158	\$691,526	\$69,300	\$622,226	8.3	627,064
Retrofit Fluorescent Fixtures with LED Lamps and Drivers	413	0.2	-0.1	\$44	\$275	\$40	\$235	5.3	406
Retrofit Fixtures with LED Lamps	1,364,924	409.9	-288.3	\$169,833	\$658,875	\$154,875	\$504,000	3.0	1,340,709
Lighting Control Measures	326,832	97.3	-69.9	\$40,765	\$429,100	\$46,570	\$382,530	9.4	320,937
Install Occupancy Sensor Lighting Controls	284,689	85.7	-60.7	\$35,432	\$370,700	\$46,570	\$324,130	9.1	279,568
Install High/Low Lighting Controls	42,143	11.6	-9.1	\$5,334	\$58,400	\$0	\$58,400	10.9	41,369
Motor Upgrades	28,280	10.8	0.0	\$3,343	\$194,265	\$0	\$194,265	58.1	28,477
Premium Efficiency Motors	28,280	10.8	0.0	\$3,343	\$194,265	\$0	\$194,265	58.1	28,477
Variable Frequency Drive (VFD) Measures	675,600	252.4	396.9	\$87,097	\$538,611	\$71,498	\$467,114	5.4	726,791
Install VFD on Variable Air Volume (VAV) Fans	363,227	147.1	0.0	\$44,757	\$242,903	\$57,638	\$185,266	4.1	365,767
Install VFDs on Constant Volume (CV) Fans	54,666	44.1	0.0	\$7,122	\$93,596	\$12,260	\$81,336	11.4	55,048
Install VFDs on Chilled Water Pumps	44,880	17.6	0.0	\$5,005	\$35,607	\$0	\$35,607	7.1	45,194
Install VFDs on Heating Water Pumps	192,325	41.8	0.0	\$23,491	\$144,676	\$0	\$144,676	6.2	193,669
Install Boiler Draft Fan VFDs	2,719	1.8	0.0	\$349	\$10,530	\$0	\$10,530	30.1	2,738
Install VFDs on Kitchen Hood Fan Motors	17,784	0.0	396.9	\$6,372	\$11,299	\$1,600	\$9,699	1.5	64,376
Electric Unitary HVAC Measures	306,358	337.4	0.0	\$37,791	\$3,068,227	\$19,948	\$3,048,279	80.7	308,500
Install High Efficiency Air Conditioning Units	303,315	336.7	0.0	\$37,419	\$3,054,700	\$19,212	\$3,035,488	81.1	305,435
Install High Efficiency Heat Pumps	3,044	0.7	0.0	\$372	\$13,527	\$736	\$12,791	34.4	3,065
Electric Chiller Replacement	150,650	564.7	0.0	\$16,173	\$598,452	\$33,300	\$565,152	34.9	151,704
Install High Efficiency Chillers	150,650	564.7	0.0	\$16,173	\$598,452	\$33,300	\$565,152	34.9	151,704
HVAC System Improvements	3,355	0.0	82.7	\$1,489	\$21,751	\$0	\$21,751	14.6	13,060
Implement Demand Control Ventilation (DCV)	3,355	0.0	82.7	\$1,489	\$21,751	\$0	\$21,751	14.6	13,060
Domestic Water Heating Upgrade	55,322	0.0	714.4	\$14,858	\$6,745	\$0	\$6,745	0.5	139,356
Install Low-Flow DHW Devices	55,322	0.0	714.4	\$14,858	\$6,745	\$0	\$6,745	0.5	139,356
Food Service Equipment & Refrigeration Measures	30,597	2.9	0.0	\$3,811	\$48,600	\$1,675	\$46,925	12.3	30,811
Refrigerator/Freezer Case Electrically Commutated Motors	5,632	0.7	0.0	\$668	\$6,673	\$0	\$6,673	10.0	5,671
Refrigeration Controls	5,786	0.0	0.0	\$684	\$3,230	\$225	\$3,005	4.4	5,827
Replace Refrigeration Equipment	19,179	2.2	0.0	\$2,459	\$38,697	\$1,450	\$37,247	15.1	19,313
Plug Load Equipment Control - Vending Machine	24,278	2.8	0.0	\$2,990	\$4,370	\$800	\$3,570	1.2	24,448
Vending Machine Control	24,278	2.8	0.0	\$2,990	\$4,370	\$800	\$3,570	1.2	24,448
Custom Measures	10,213	0.0	169.8	\$2,887	\$50,000	\$0	\$50,000	17.3	30,166
Custom DDC Measure	10,213	0.0	169.8	\$2,887	\$50,000	\$0	\$50,000	17.3	30,166
TOTALS	3,609,018	1,819.1	923.9	\$456,239	\$6,310,797	\$398,006	\$5,912,791	13.0	3,742,429

* - All incentives presented in this table are based on NJ SmartStart 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 2/3rds of the useful 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		1,915,052	530.9	-365.6	\$234,607	\$1,135,351	\$208,120	\$927,231	4.0	1,885,633
ECM 1	Install LED Fixtures	549,715	120.8	-77.2	\$64,729	\$476,201	\$53,205	\$422,996	6.5	544,518
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	413	0.2	-0.1	\$44	\$275	\$40	\$235	5.3	406
ECM 3	Retrofit Fixtures with LED Lamps	1,364,924	409.9	-288.3	\$169,833	\$658,875	\$154,875	\$504,000	3.0	1,340,709
Lighting Control Measures		269,306	72.8	-57.0	\$34,971	\$316,374	\$35,445	\$280,929	8.0	264,511
ECM 4	Install Occupancy Sensor Lighting Controls	237,613	65.2	-50.2	\$30,773	\$279,574	\$35,445	\$244,129	7.9	233,397
ECM 5	Install High/Low Lighting Controls	31,693	7.7	-6.8	\$4,197	\$36,800	\$0	\$36,800	8.8	31,114
Motor Upgrades		12,154	2.8	0.0	\$1,476	\$49,132	\$0	\$49,132	33.3	12,239
ECM 6	Premium Efficiency Motors	12,154	2.8	0.0	\$1,476	\$49,132	\$0	\$49,132	33.3	12,239
Variable Frequency Drive (VFD) Measures		591,342	211.8	396.9	\$78,580	\$433,555	\$60,658	\$372,897	4.7	641,944
ECM 7	Install VFD on Variable Air Volume (VAV) Fans	336,080	129.0	0.0	\$41,895	\$206,333	\$49,038	\$157,296	3.8	338,429
ECM 8	Install VFDs on Constant Volume (CV) Fans	42,013	36.0	0.0	\$5,816	\$69,491	\$10,020	\$59,471	10.2	42,307
ECM 9	Install VFDs on Chilled Water Pumps	22,177	8.3	0.0	\$2,878	\$17,603	\$0	\$17,603	6.1	22,332
ECM 10	Install VFDs on Heating Water Pumps	173,288	38.6	0.0	\$21,619	\$128,830	\$0	\$128,830	6.0	174,500
ECM 11	Install VFDs on Kitchen Hood Fan Motors	17,784	0.0	396.9	\$6,372	\$11,299	\$1,600	\$9,699	1.5	64,376
HVAC System Improvements		0	0.0	45.5	\$573	\$5,438	\$0	\$5,438	9.5	5,329
ECM 12	Implement Demand Control Ventilation (DCV)	0	0.0	45.5	\$573	\$5,438	\$0	\$5,438	9.5	5,329
Domestic Water Heating Upgrade		55,322	0.0	714.4	\$14,858	\$6,745	\$0	\$6,745	0.5	139,356
ECM 13	Install Low-Flow DHW Devices	55,322	0.0	714.4	\$14,858	\$6,745	\$0	\$6,745	0.5	139,356
Food Service Equipment & Refrigeration Measures		9,322	0.5	0.0	\$1,165	\$6,957	\$175	\$6,782	5.8	9,387
ECM 14	Refrigerator/Freezer Case Electrically Commutated Motors	4,059	0.5	0.0	\$522	\$4,246	\$0	\$4,246	8.1	4,087
ECM 15	Refrigeration Controls	5,263	0.0	0.0	\$642	\$2,711	\$175	\$2,536	3.9	5,300
Plug Load Equipment Control - Vending Machine		24,278	2.8	0.0	\$2,990	\$4,370	\$800	\$3,570	1.2	24,448
ECM 16	Vending Machine Control	24,278	2.8	0.0	\$2,990	\$4,370	\$800	\$3,570	1.2	24,448
TOTALS		2,876,776	821.6	734.1	\$369,219	\$1,957,923	\$305,198	\$1,652,725	4.5	2,982,847

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

Egg Harbor Township High School



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		788,241	203.6	-141	\$94,985	\$1,424,776	\$450,820	\$73,568	\$377,252	4.0	777,231
ECM 1	Install LED Fixtures	338,837	75.9	-48	\$40,954	\$614,312	\$255,142	\$27,220	\$227,922	5.6	335,601
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	283	0.1	0	\$34	\$511	\$138	\$20	\$118	3.4	279
ECM 3	Retrofit Fixtures with LED Lamps	449,121	127.6	-93	\$53,997	\$809,953	\$195,540	\$46,328	\$149,212	2.8	441,351
Lighting Control Measures		85,833	24.0	-18	\$10,318	\$82,545	\$94,908	\$10,970	\$83,938	8.1	84,332
ECM 4	Install Occupancy Sensor Lighting Controls	77,690	22.3	-16	\$9,339	\$74,714	\$87,308	\$10,970	\$76,338	8.2	76,331
ECM 5	Install High/Low Lighting Controls	8,143	1.7	-2	\$979	\$7,831	\$7,600	\$0	\$7,600	7.8	8,001
Motor Upgrades		3,896	1.1	0	\$476	\$7,144	\$13,462	\$0	\$13,462	28.3	3,923
	Premium Efficiency Motors	3,896	1.1	0	\$476	\$7,144	\$13,462	\$0	\$13,462	28.3	3,923
Variable Frequency Drive (VFD) Measures		62,026	12.0	314	\$10,611	\$159,163	\$44,742	\$1,240	\$43,502	4.1	99,205
	Install VFDs on Constant Volume (CV) Fans	6,930	2.4	0	\$847	\$12,706	\$11,001	\$640	\$10,361	12.2	6,978
ECM 6	Install VFDs on Heating Water Pumps	42,955	9.6	0	\$5,250	\$78,757	\$26,518	\$0	\$26,518	5.1	43,256
ECM 7	Install VFDs on Kitchen Hood Fan Motors	12,141	0.0	314	\$4,513	\$67,701	\$7,223	\$600	\$6,623	1.5	48,971
Electric Unitary HVAC Measures		253,483	269.4	0	\$30,983	\$464,750	\$1,933,840	\$9,474	\$1,924,366	62.1	255,255
	Install High Efficiency Air Conditioning Units	250,439	268.7	0	\$30,611	\$459,170	\$1,920,313	\$8,738	\$1,911,575	62.4	252,190
	Install High Efficiency Heat Pumps	3,044	0.7	0	\$372	\$5,580	\$13,527	\$736	\$12,791	34.4	3,065
Domestic Water Heating Upgrade		0	0.0	191	\$1,841	\$18,412	\$480	\$0	\$480	0.3	22,333
ECM 8	Install Low-Flow DHW Devices	0	0.0	191	\$1,841	\$18,412	\$480	\$0	\$480	0.3	22,333
Food Service & Refrigeration Measures		12,961	1.1	0	\$1,584	\$19,204	\$15,891	\$1,175	\$14,716	9.3	13,051
ECM 9	Refrigerator/Freezer Case Electrically Commutated Motors	1,091	0.1	0	\$133	\$2,000	\$910	\$0	\$910	6.8	1,099
ECM 10	Refrigeration Controls	4,197	0.0	0	\$513	\$8,208	\$2,193	\$125	\$2,068	4.0	4,226
	Replace Refrigeration Equipment	5,033	0.6	0	\$615	\$7,383	\$11,869	\$850	\$11,019	17.9	5,069
ECM 11	Vending Machine Control	2,639	0.3	0	\$323	\$1,613	\$920	\$200	\$720	2.2	2,658
Custom Measures		10,213	0.0	170	\$2,887	\$0	\$50,000	\$0	\$50,000	17.3	30,166
	Pool Covers Measure	10,213	0.0	170	\$2,887	\$0	\$50,000	\$0	\$50,000	17.3	30,166
TOTALS		1,216,652	511.1	515	\$153,687	\$2,175,995	\$2,604,143	\$96,427	\$2,507,716	16.3	1,285,495

* - 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).

Alder Ave. Middle School



#	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		172,188	52.8	-30	\$20,529	\$162,458	\$26,246	\$136,212	6.6	169,897
	Install LED Fixtures	29,150	5.0	0	\$3,540	\$81,678	\$8,510	\$73,168	20.7	29,354
ECM 1	Retrofit Fixtures with LED Lamps	143,038	47.8	-30	\$16,990	\$80,779	\$17,736	\$63,043	3.7	140,543
Lighting Control Measures		35,119	11.5	-7	\$4,171	\$49,091	\$5,190	\$43,901	10.5	34,504
ECM 2	Install Occupancy Sensor Lighting Controls	29,781	9.7	-6	\$3,537	\$40,124	\$5,190	\$34,934	9.9	29,260
	Install High/Low Lighting Controls	5,338	1.7	-1	\$634	\$8,967	\$0	\$8,967	14.1	5,244
Motor Upgrades		12,154	2.8	0	\$1,476	\$43,133	\$0	\$43,133	29.2	12,239
ECM 3	Premium Efficiency Motors	12,154	2.8	0	\$1,476	\$43,133	\$0	\$43,133	29.2	12,239
Variable Frequency Drive (VFD) Measures		279,955	77.4	0	\$33,993	\$141,462	\$31,138	\$110,325	3.2	281,913
ECM 4	Install VFD on Variable Air Volume (VAV) Fans	272,233	76.6	0	\$33,056	\$132,439	\$31,138	\$101,302	3.1	274,137
ECM 5	Install VFDs on Heating Water Pumps	7,722	0.9	0	\$938	\$9,023	\$0	\$9,023	9.6	7,776
Domestic Water Heating Upgrade		9,184	0.0	137	\$2,848	\$2,130	\$0	\$2,130	0.7	25,248
ECM 6	Install Low-Flow DHW Devices	9,184	0.0	137	\$2,848	\$2,130	\$0	\$2,130	0.7	25,248
Food Service & Refrigeration Measures		7,726	0.8	0	\$938	\$5,479	\$300	\$5,179	5.5	7,780
ECM 7	Refrigerator/Freezer Case Electrically Commutated Motors	1,657	0.2	0	\$201	\$1,820	\$0	\$1,820	9.0	1,669
ECM 8	Refrigeration Controls	1,066	0.0	0	\$129	\$519	\$50	\$469	3.6	1,073
	Replace Refrigeration Equipment	1,437	0.2	0	\$174	\$2,451	\$150	\$2,301	13.2	1,447
ECM 9	Vending Machine Control	3,566	0.4	0	\$433	\$690	\$100	\$590	1.4	3,591
TOTALS		516,326	145.3	99	\$63,956	\$403,753	\$62,874	\$340,880	5.3	531,581

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria

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

Fernwood Ave. Middle School



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		377,491	84.3	-69	\$51,415	\$771,220	\$196,921	\$34,151	\$162,770	3.2	371,996
ECM 1	Install LED Fixtures	45,208	5.2	0	\$6,259	\$93,881	\$75,967	\$8,000	\$67,967	10.9	45,524
ECM 2	Retrofit Fixtures with LED Lamps	332,283	79.2	-69	\$45,156	\$677,339	\$120,954	\$26,151	\$94,803	2.1	326,471
Lighting Control Measures		86,824	20.6	-18	\$11,799	\$94,393	\$85,104	\$8,220	\$76,884	6.5	85,306
ECM 3	Install Occupancy Sensor Lighting Controls	70,106	16.7	-15	\$9,527	\$76,217	\$65,504	\$8,220	\$57,284	6.0	68,880
ECM 4	Install High/Low Lighting Controls	16,718	4.0	-3	\$2,272	\$18,176	\$19,600	\$0	\$19,600	8.6	16,426
Motor Upgrades		5,500	3.4	0	\$761	\$11,421	\$84,273	\$0	\$84,273	110.7	5,538
	Premium Efficiency Motors	5,500	3.4	0	\$761	\$11,421	\$84,273	\$0	\$84,273	110.7	5,538
Variable Frequency Drive (VFD) Measures		189,303	111.2	0	\$26,208	\$393,115	\$206,586	\$27,920	\$178,666	6.8	190,627
ECM 5	Install VFD on Variable Air Volume (VAV) Fans	63,847	52.4	0	\$8,839	\$132,586	\$73,894	\$17,900	\$55,994	6.3	64,293
ECM 6	Install VFDs on Constant Volume (CV) Fans	42,013	36.0	0	\$5,816	\$87,246	\$69,491	\$10,020	\$59,471	10.2	42,307
ECM 7	Install VFDs on Chilled Water Pumps	14,138	5.6	0	\$1,957	\$29,360	\$10,389	\$0	\$10,389	5.3	14,237
ECM 8	Install VFDs on Heating Water Pumps	69,306	17.3	0	\$9,595	\$143,923	\$52,812	\$0	\$52,812	5.5	69,790
Electric Chiller Replacement		70,272	428.0	0	\$9,729	\$194,572	\$332,576	\$9,000	\$323,576	33.3	70,763
	Install High Efficiency Chillers	70,272	428.0	0	\$9,729	\$194,572	\$332,576	\$9,000	\$323,576	33.3	70,763
Domestic Water Heating Upgrade		0	0.0	130	\$1,581	\$15,814	\$1,351	\$0	\$1,351	0.9	15,202
ECM 9	Install Low-Flow DHW Devices	0	0.0	130	\$1,581	\$15,814	\$1,351	\$0	\$1,351	0.9	15,202
Food Service & Refrigeration Measures		10,162	1.2	0	\$1,407	\$12,195	\$11,248	\$350	\$10,898	7.7	10,233
	Replace Refrigeration Equipment	5,326	0.6	0	\$737	\$8,848	\$10,558	\$200	\$10,358	14.0	5,363
ECM 10	Vending Machine Control	4,836	0.6	0	\$669	\$3,347	\$690	\$150	\$540	0.8	4,869
TOTALS		739,552	648.7	42	\$102,900	\$1,492,730	\$918,060	\$79,641	\$838,419	8.1	749,664

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that product.

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

Davenport Elementary School



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		76,677	26.3	-12	\$7,498	\$112,467	\$54,131	\$10,733	\$43,398	5.8	75,758
ECM 1	Install LED Fixtures	16,010	3.3	-1	\$1,584	\$23,765	\$18,215	\$1,400	\$16,815	10.6	15,997
ECM 2	Retrofit Fixtures with LED Lamps	60,666	23.0	-11	\$5,913	\$88,702	\$35,916	\$9,333	\$26,583	4.5	59,760
Lighting Control Measures		14,711	6.0	-3	\$1,430	\$11,440	\$23,296	\$2,460	\$20,836	14.6	14,454
	Install Occupancy Sensor Lighting Controls	13,271	5.4	-3	\$1,290	\$10,320	\$20,296	\$2,460	\$17,836	13.8	13,039
	Install High/Low Lighting Controls	1,440	0.6	0	\$140	\$1,120	\$3,000	\$0	\$3,000	21.4	1,415
Motor Upgrades		1,859	0.9	0	\$185	\$2,782	\$14,625	\$0	\$14,625	78.9	1,872
	Premium Efficiency Motors	1,859	0.9	0	\$185	\$2,782	\$14,625	\$0	\$14,625	78.9	1,872
Variable Frequency Drive (VFD) Measures		48,032	19.9	0	\$4,793	\$71,890	\$38,883	\$5,500	\$33,383	7.0	48,368
	Install VFD on Variable Air Volume (VAV) Fans	16,759	11.4	0	\$1,672	\$25,083	\$18,105	\$5,500	\$12,605	7.5	16,876
	Install VFDs on Chilled Water Pumps	15,637	5.6	0	\$1,560	\$23,403	\$10,389	\$0	\$10,389	6.7	15,746
	Install VFDs on Heating Water Pumps	15,637	2.9	0	\$1,560	\$23,403	\$10,389	\$0	\$10,389	6.7	15,746
Electric Unitary HVAC Measures		3,900	4.9	0	\$389	\$5,836	\$41,098	\$1,228	\$39,870	102.5	3,927
	Install High Efficiency Air Conditioning Units	3,900	4.9	0	\$389	\$5,836	\$41,098	\$1,228	\$39,870	102.5	3,927
Domestic Water Heating Upgrade		4,056	0.0	0	\$405	\$4,047	\$222	\$0	\$222	0.5	4,084
ECM 3	Install Low-Flow DHW Devices	4,056	0.0	0	\$405	\$4,047	\$222	\$0	\$222	0.5	4,084
Food Service & Refrigeration Measures		4,625	0.5	0	\$462	\$4,707	\$5,265	\$50	\$5,215	11.3	4,658
	Refrigerator/Freezer Case Electrically Commutated Motors	983	0.1	0	\$98	\$1,471	\$1,517	\$0	\$1,517	15.5	990
	Replace Refrigeration Equipment	2,030	0.2	0	\$203	\$2,431	\$3,518	\$0	\$3,518	17.4	2,045
ECM 4	Vending Machine Control	1,612	0.2	0	\$161	\$804	\$230	\$50	\$180	1.1	1,623
TOTALS		153,860	58.5	-16	\$15,161	\$213,169	\$177,520	\$19,971	\$157,549	10.4	153,120

* - 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).

Davenport Primary School



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		127,702	40.7	-35	\$11,313	\$169,700	\$86,885	\$14,757	\$72,128	6.4	124,452
ECM 1	Install LED Fixtures	94,644	28.5	-26	\$8,393	\$125,895	\$58,307	\$7,805	\$50,502	6.0	92,318
ECM 2	Retrofit Fixtures with LED Lamps	33,059	12.2	-10	\$2,920	\$43,805	\$28,578	\$6,952	\$21,626	7.4	32,133
Lighting Control Measures		10,858	3.7	-4	\$956	\$7,648	\$17,875	\$2,050	\$15,825	16.6	10,522
	Install Occupancy Sensor Lighting Controls	9,597	3.2	-3	\$845	\$6,760	\$16,008	\$2,050	\$13,958	16.5	9,300
	Install High/Low Lighting Controls	1,261	0.4	0	\$111	\$888	\$1,867	\$0	\$1,867	16.8	1,222
Motor Upgrades		0	0.0	0	\$0	\$0	\$5,999	\$0	\$5,999	0.0	0
ECM 3	Premium Efficiency Motors	0	0.0	0	\$0	\$0	\$5,999	\$0	\$5,999	0.0	0
Variable Frequency Drive (VFD) Measures		3,400	0.4	0	\$312	\$4,683	\$5,458	\$0	\$5,458	17.5	3,423
	Install VFDs on Heating Water Pumps	3,400	0.4	0	\$312	\$4,683	\$5,458	\$0	\$5,458	17.5	3,423
HVAC System Improvements		0	0.0	37	\$436	\$6,534	\$5,438	\$0	\$5,438	12.5	4,353
	Implement Demand Control Ventilation (DCV)	0	0.0	37	\$436	\$6,534	\$5,438	\$0	\$5,438	12.5	4,353
Domestic Water Heating Upgrade		0	0.0	57	\$667	\$6,670	\$143	\$0	\$143	0.2	6,666
ECM 4	Install Low-Flow DHW Devices	0	0.0	57	\$667	\$6,670	\$143	\$0	\$143	0.2	6,666
Food Service & Refrigeration Measures		2,258	0.3	0	\$207	\$1,452	\$1,862	\$175	\$1,687	8.1	2,273
	Replace Refrigeration Equipment	646	0.1	0	\$59	\$712	\$1,632	\$125	\$1,507	25.4	650
ECM 5	Vending Machine Control	1,612	0.2	0	\$148	\$740	\$230	\$50	\$180	1.2	1,623
TOTALS		144,218	45.0	55	\$13,892	\$196,688	\$123,660	\$16,982	\$106,678	7.7	151,691

* - 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).



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		232,700	63.3	-43	\$32,795	\$491,931	\$191,735	\$26,597	\$165,138	5.0	229,270
	Install LED Fixtures	41,961	10.4	-3	\$5,969	\$89,539	\$107,457	\$5,840	\$101,617	17.0	41,856
ECM 1	Retrofit Fixtures with LED Lamps	190,739	53.0	-40	\$26,826	\$402,393	\$84,278	\$20,757	\$63,521	2.4	187,414
Lighting Control Measures		54,376	15.0	-11	\$7,647	\$61,178	\$79,582	\$9,365	\$70,217	9.2	53,425
ECM 2	Install Occupancy Sensor Lighting Controls	49,434	13.6	-10	\$6,952	\$55,618	\$72,982	\$9,365	\$63,617	9.2	48,569
ECM 3	Install High/Low Lighting Controls	4,942	1.3	-1	\$695	\$5,560	\$6,600	\$0	\$6,600	9.5	4,855
Motor Upgrades		8,337	3.9	0	\$1,195	\$46	\$62,682	\$0	\$62,682	52.5	8,395
	Premium Efficiency Motors	21	0.0	0	\$3	\$46	\$913	\$0	\$913	299.8	21
Variable Frequency Drive (VFD) Measures		22,603	3.8	83	\$4,289	\$65,633	\$18,930	\$1,000	\$17,930	4.2	32,483
ECM 4	Install VFDs on Heating Water Pumps	16,242	3.1	0	\$2,327	\$34,908	\$14,082	\$0	\$14,082	6.1	16,356
	Install Boiler Draft Fan VFDs	1,322	0.9	0	\$189	\$2,842	\$5,265	\$0	\$5,265	27.8	1,332
ECM 5	Install VFDs on Kitchen Hood Fan Motors	5,644	0.0	83	\$1,859	\$27,883	\$4,076	\$1,000	\$3,076	1.7	15,405
Electric Unitary HVAC Measures		38,385	48.8	0	\$5,500	\$82,497	\$1,005,238	\$6,320	\$998,918	181.6	38,653
	Install High Efficiency Air Conditioning Units	38,385	48.8	0	\$5,500	\$82,497	\$1,005,238	\$6,320	\$998,918	181.6	38,653
HVAC System Improvements		3,355	0.0	0	\$481	\$7,210	\$10,875	\$0	\$10,875	22.6	3,378
	Implement Demand Control Ventilation (DCV)	3,355	0.0	0	\$481	\$7,210	\$10,875	\$0	\$10,875	22.6	3,378
Domestic Water Heating Upgrade		0	0.0	48	\$603	\$6,032	\$748	\$0	\$748	1.2	5,584
ECM 6	Install Low-Flow DHW Devices	0	0.0	48	\$603	\$6,032	\$748	\$0	\$748	1.2	5,584
Food Service & Refrigeration Measures		7,326	0.8	0	\$1,050	\$11,199	\$9,013	\$50	\$8,963	8.5	7,377
ECM 7	Refrigerator/Freezer Case Electrically Commutated Motors	1,311	0.2	0	\$188	\$2,817	\$1,517	\$0	\$1,517	8.1	1,320
	Replace Refrigeration Equipment	4,061	0.5	0	\$582	\$6,982	\$7,037	\$0	\$7,037	12.1	4,089
ECM 8	Vending Machine Control	1,954	0.2	0	\$280	\$1,400	\$460	\$50	\$410	1.5	1,968
TOTALS		367,081	135.7	76	\$53,559	\$725,727	\$1,378,802	\$43,332	\$1,335,470	24.9	378,566

* - 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).

E.H Slaybaugh Elementary School



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		42,031	25.1	-7	\$3,280	\$49,206	\$55,429	\$9,836	\$45,593	13.9	41,468
	Install LED Fixtures	10,789	4.4	-1	\$853	\$12,797	\$24,257	\$1,545	\$22,712	26.6	10,751
ECM 1	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	130	0.1	0	\$10	\$151	\$138	\$20	\$118	11.7	128
ECM 2	Retrofit Fixtures with LED Lamps	31,112	20.6	-6	\$2,417	\$36,258	\$31,034	\$8,271	\$22,763	9.4	30,590
Lighting Control Measures		8,426	5.6	-2	\$654	\$5,232	\$26,912	\$2,990	\$23,922	36.6	8,278
	Install Occupancy Sensor Lighting Controls	7,625	5.1	-2	\$592	\$4,734	\$24,112	\$2,990	\$21,122	35.7	7,491
	Install High/Low Lighting Controls	801	0.5	0	\$62	\$497	\$2,800	\$0	\$2,800	45.0	787
Motor Upgrades		3,343	1.9	0	\$268	\$4,020	\$19,585	\$0	\$19,585	73.1	3,366
	Premium Efficiency Motors	3,343	1.9	0	\$268	\$4,020	\$19,585	\$0	\$19,585	73.1	3,366
Variable Frequency Drive (VFD) Measures		34,215	14.2	0	\$2,743	\$41,149	\$36,725	\$1,600	\$35,125	12.8	34,455
	Install VFDs on Constant Volume (CV) Fans	5,723	5.7	0	\$459	\$6,882	\$13,103	\$1,600	\$11,503	25.1	5,763
	Install VFDs on Chilled Water Pumps	7,066	3.7	0	\$567	\$8,498	\$7,616	\$0	\$7,616	13.4	7,116
ECM 3	Install VFDs on Heating Water Pumps	21,426	4.8	0	\$1,718	\$25,768	\$16,005	\$0	\$16,005	9.3	21,576
Electric Unitary HVAC Measures		8,575	10.9	0	\$688	\$10,313	\$49,207	\$1,679	\$47,528	69.1	8,635
	Install High Efficiency Air Conditioning Units	8,575	10.9	0	\$688	\$10,313	\$49,207	\$1,679	\$47,528	69.1	8,635
Electric Chiller Replacement		80,379	136.7	0	\$6,444	\$128,889	\$265,876	\$24,300	\$241,576	37.5	80,941
	Install High Efficiency Chillers	80,379	136.7	0	\$6,444	\$128,889	\$265,876	\$24,300	\$241,576	37.5	80,941
Domestic Water Heating Upgrade		19,184	0.0	0	\$1,538	\$15,381	\$165	\$0	\$165	0.1	19,319
ECM 4	Install Low-Flow DHW Devices	19,184	0.0	0	\$1,538	\$15,381	\$165	\$0	\$165	0.1	19,319
Food Service & Refrigeration Measures		2,725	0.3	0	\$218	\$2,027	\$1,659	\$100	\$1,559	7.1	2,744
	Refrigerator/Freezer Case Electrically Commutated Motors	590	0.1	0	\$47	\$709	\$910	\$0	\$910	19.2	594
	Refrigeration Controls	523	0.0	0	\$42	\$671	\$519	\$50	\$469	11.2	527
ECM 5	Vending Machine Control	1,612	0.2	0	\$129	\$646	\$230	\$50	\$180	1.4	1,623
TOTALS		198,878	194.7	-9	\$15,834	\$256,216	\$455,557	\$40,505	\$415,052	26.2	199,206

* - 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).

E.H. Slaybaugh Primary School



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		73,643	20.9	-15	\$9,911	\$148,672	\$77,530	\$12,018	\$65,512	6.6	72,447
ECM 1	Install LED Fixtures	26,674	3.0	0	\$3,657	\$54,850	\$40,571	\$4,200	\$36,371	9.9	26,861
ECM 2	Retrofit Fixtures with LED Lamps	46,969	17.8	-15	\$6,255	\$93,822	\$36,960	\$7,818	\$29,142	4.7	45,587
Lighting Control Measures		6,924	2.3	-2	\$923	\$7,383	\$11,988	\$1,120	\$10,868	11.8	6,728
ECM 3	Install Occupancy Sensor Lighting Controls	5,034	1.7	-1	\$672	\$5,372	\$8,988	\$1,120	\$7,868	11.7	4,897
ECM 4	Install High/Low Lighting Controls	1,890	0.6	-1	\$251	\$2,011	\$3,000	\$0	\$3,000	11.9	1,832
HVAC System Improvements		0	0.0	46	\$573	\$8,597	\$5,438	\$0	\$5,438	9.5	5,329
ECM 5	Implement Demand Control Ventilation (DCV)	0	0.0	46	\$573	\$8,597	\$5,438	\$0	\$5,438	9.5	5,329
Domestic Water Heating Upgrade		0	0.0	84	\$1,054	\$10,545	\$179	\$0	\$179	0.2	9,804
ECM 6	Install Low-Flow DHW Devices	0	0.0	84	\$1,054	\$10,545	\$179	\$0	\$179	0.2	9,804
Food Service & Refrigeration Measures		3,869	0.4	0	\$530	\$3,272	\$2,092	\$225	\$1,867	3.5	3,896
	Replace Refrigeration Equipment	646	0.1	0	\$89	\$1,062	\$1,632	\$125	\$1,507	17.0	650
ECM 7	Vending Machine Control	3,224	0.4	0	\$442	\$2,210	\$460	\$100	\$360	0.8	3,246
TOTALS		84,436	23.6	113	\$12,992	\$178,469	\$97,227	\$13,363	\$83,864	6.5	98,204

* - 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).

H. Russell Swift Elementary School



#	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		57,377	22.9	-11	\$6,425	\$37,022	\$9,329	\$27,693	4.3	56,462
	Install LED Fixtures	580	0.1	0	\$66	\$1,932	\$200	\$1,732	26.1	584
ECM 1	Retrofit Fixtures with LED Lamps	56,797	22.8	-11	\$6,359	\$35,090	\$9,129	\$25,961	4.1	55,878
Lighting Control Measures		16,084	6.6	-3	\$1,798	\$28,214	\$2,925	\$25,289	14.1	15,803
	Install Occupancy Sensor Lighting Controls	14,685	6.0	-3	\$1,642	\$24,614	\$2,925	\$21,689	13.2	14,428
	Install High/Low Lighting Controls	1,399	0.6	0	\$156	\$3,600	\$0	\$3,600	23.0	1,374
Motor Upgrades		1,506	0.7	0	\$173	\$12,274	\$0	\$12,274	71.1	1,517
	Premium Efficiency Motors	1,506	0.7	0	\$173	\$12,274	\$0	\$12,274	71.1	1,517
Variable Frequency Drive (VFD) Measures		35,461	13.3	0	\$4,061	\$41,332	\$3,100	\$38,232	9.4	35,709
	Install VFD on Variable Air Volume (VAV) Fans	10,388	6.7	0	\$1,190	\$18,465	\$3,100	\$15,365	12.9	10,461
ECM 2	Install VFDs on Chilled Water Pumps	8,039	2.8	0	\$921	\$7,214	\$0	\$7,214	7.8	8,095
ECM 3	Install VFDs on Heating Water Pumps	15,637	2.9	0	\$1,791	\$10,389	\$0	\$10,389	5.8	15,746
	Install Boiler Draft Fan VFDs	1,396	0.9	0	\$160	\$5,265	\$0	\$5,265	32.9	1,406
Electric Unitary HVAC Measures		2,016	3.4	0	\$231	\$38,845	\$1,247	\$37,598	162.8	2,031
	Install High Efficiency Air Conditioning Units	2,016	3.4	0	\$231	\$38,845	\$1,247	\$37,598	162.8	2,031
Domestic Water Heating Upgrade		0	0.0	60	\$782	\$129	\$0	\$129	0.2	7,059
ECM 4	Install Low-Flow DHW Devices	0	0.0	60	\$782	\$129	\$0	\$129	0.2	7,059
Food Service & Refrigeration Measures		1,612	0.2	0	\$185	\$230	\$50	\$180	1.0	1,623
ECM 5	Vending Machine Control	1,612	0.2	0	\$185	\$230	\$50	\$180	1.0	1,623
TOTALS		114,056	47.0	46	\$13,654	\$158,047	\$16,651	\$141,396	10.4	120,202

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria

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

District Transportation Complex



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		37,242	7.3	-5	\$5,028	\$75,423	\$29,758	\$5,295	\$24,463	4.9	36,874
ECM 1	Install LED Fixtures	25,366	4.4	-3	\$3,436	\$51,540	\$26,296	\$4,400	\$21,896	6.4	25,220
ECM 2	Retrofit Fixtures with LED Lamps	11,877	2.8	-3	\$1,592	\$23,883	\$3,462	\$895	\$2,567	1.6	11,654
Lighting Control Measures		5,569	1.2	-1	\$746	\$5,969	\$4,668	\$580	\$4,088	5.5	5,460
ECM 3	Install Occupancy Sensor Lighting Controls	5,569	1.2	-1	\$746	\$5,969	\$4,668	\$580	\$4,088	5.5	5,460
Domestic Water Heating Upgrade		0	0.0	9	\$108	\$1,078	\$22	\$0	\$22	0.2	1,000
ECM 4	Install Low-Flow DHW Devices	0	0.0	9	\$108	\$1,078	\$22	\$0	\$22	0.2	1,000
Food Service & Refrigeration Measures		1,612	0.2	0	\$221	\$1,103	\$230	\$0	\$230	1.0	1,623
ECM 5	Vending Machine Control	1,612	0.2	0	\$221	\$1,103	\$230	\$0	\$230	1.0	1,623
TOTALS		44,423	8.6	2	\$6,103	\$83,572	\$34,678	\$5,875	\$28,803	4.7	44,958

* - 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).

High School Fieldhouse



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		7,548	2.0	0	\$1,111	\$16,665	\$3,953	\$859	\$3,094	2.8	7,600
ECM 1	Install LED Fixtures	2,246	0.4	0	\$331	\$4,960	\$219	\$30	\$189	0.6	2,262
ECM 2	Retrofit Fixtures with LED Lamps	5,301	1.6	0	\$780	\$11,705	\$3,734	\$829	\$2,905	3.7	5,338
Lighting Control Measures		1,049	0.4	0	\$154	\$1,235	\$3,440	\$420	\$3,020	19.6	1,056
	Install Occupancy Sensor Lighting Controls	1,009	0.3	0	\$149	\$1,188	\$3,240	\$420	\$2,820	19.0	1,016
	Install High/Low Lighting Controls	40	0.0	0	\$6	\$47	\$200	\$0	\$200	34.1	40
Domestic Water Heating Upgrade		17,599	0.0	0	\$2,591	\$25,906	\$1,118	\$0	\$1,118	0.4	17,722
ECM 3	Install Low-Flow DHW Devices	17,599	0.0	0	\$2,591	\$25,906	\$1,118	\$0	\$1,118	0.4	17,722
TOTALS		26,195	2.3	0	\$3,856	\$43,806	\$8,510	\$1,279	\$7,231	1.9	26,379

* - 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).

Eagle Academy



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		4,690	1.7	0	\$743	\$11,144	\$4,033	\$826	\$3,207	4.3	4,723
ECM 1	Install LED Fixtures	730	0.1	0	\$116	\$1,734	\$1,483	\$150	\$1,333	11.5	735
ECM 2	Retrofit Fixtures with LED Lamps	3,960	1.6	0	\$627	\$9,410	\$2,550	\$676	\$1,874	3.0	3,988
Lighting Control Measures		1,061	0.4	0	\$168	\$1,345	\$3,456	\$280	\$3,176	18.9	1,069
	Install Occupancy Sensor Lighting Controls	889	0.4	0	\$141	\$1,127	\$2,856	\$280	\$2,576	18.3	895
	Install High/Low Lighting Controls	172	0.1	0	\$27	\$218	\$600	\$0	\$600	22.0	173
Domestic Water Heating Upgrade		5,299	0.0	0	\$839	\$8,394	\$57	\$0	\$57	0.1	5,336
ECM 3	Install Low-Flow DHW Devices	5,299	0.0	0	\$839	\$8,394	\$57	\$0	\$57	0.1	5,336
TOTALS		11,050	2.1	0	\$1,750	\$20,882	\$7,547	\$1,106	\$6,441	3.7	11,128

* - 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).

Solar Energy Generation Potential



	Egg Harbor HS	Alder Ave. MS	Fernwood Ave. MS	Davenport ES	Davenport PS	Miller ES
<i>Potential:</i>	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
<i>System Potential: (kW)</i>	215	446	402	172	156	383
<i>Electric Generation: (kWh per year)</i>	256,145	531,351	478,931	204,916	185,854	456,295
<i>Displaced Cost: (per year)</i>	\$31,310	\$64,520	\$66,300	\$20,450	\$17,070	\$65,380

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>

Solar Energy Generation Potential



	E.H. Slaybaugh ES	E.H. Slaybaugh PS	H. Russell Swift ES	District Transportation Complex	HS Fieldhouse
<i>Potential:</i>	HIGH	HIGH	HIGH	HIGH	MEDIUM
<i>System Potential: (kW)</i>	86	164	138	49	54
<i>Electric Generation: (kWh per year)</i>	102,458	195,385	164,409	58,378	64,334
<i>Displaced Cost: (per year)</i>	\$8,210	\$26,780	\$18,830	\$7,990	\$9,470

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

Combined Heat & Power Potential



Egg Harbor Township High School - Pool

<i>Potential:</i>	HIGH
<i>System Potential: (kW)</i>	70
<i>Electric Generation: (kWh per year)</i>	150,220
<i>Displaced Cost: (per year)</i>	\$11,018



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

Recommended NJCEP Incentives per Building



Egg Harbor Township SD	Pay For Performance	Direct Install	SmartStart	CTEEP	Combined Heat & Power
Egg Harbor Township HS	X		X	X	X (pool only)
Alder Ave. MS	X		X	X	
Fernwood MS			X	X	
Clayton J Davenport ES	X		X	X	
Clayton J Davenport Primary			X	X	
Dr. Joyanne D Miller ES			X	X	
E. H. Slaybaugh ES	X	X	X	X	
E. H. Slaybaugh Primary		X	X	X	
H. Russell Swift ES	X		X	X	
District Transportation Complex		X	X	X	
Egg Harbor Township HS Fieldhouse		X	X	X	
Eagle Academy			X	X	

Pay for Performance: Overview



- Comprehensive, whole-building approach to saving energy in existing or new facilities
- Qualification based on energy consumption, energy savings and measure types
- Customer chooses from network of pre-approved ***Participating Partners***
- Incentives paid in three installments at milestones
 - Incentives up to \$2MM per project (\$4MM entity cap/year)
 - \$1 million for electric measures
 - \$1 million for gas measures
 - Incentives up to 50% of total project cost

www.NJCleanEnergy/P4P

Pay for Performance: Process



Submittal and Approval of Application

Development and Approval of Energy Reduction Plan (ERP)

Installation of Recommended Measures

Submittal and Approval of As-Built ERP and Cx Report

Post Construction Verification of Savings

Incentive #1
fixed between \$3,750-\$25,000

Incentive #2
up to 25% project cost

Incentive #3
up to 25% project cost

1 year

Pay for Performance: Details



Incentive #1: Energy Reduction Plan			
Incentive Amount:		\$0.15	per sq ft
Minimum Incentive:		\$3,750	
Maximum Incentive:		\$25,000	or 50% of facility annual energy cost
Incentive #2: Installation of Recommended Measures			
Minimum Performance Target:		15%	
Electric Incentives	Base Incentive based on 15% savings:	\$0.09	per projected kWh saved
	For each % over 15% add:	\$0.005	
	Maximum Incentive:	\$0.11	
Gas Incentives	Base Incentive based on 15 % savings:	\$0.90	per projected Therm saved
	For each % over 15% add:	\$0.05	
	Maximum Incentive:	\$1.25	
Incentive Cap:		25%	of total project cost
Incentive #3: Post-Construction Benchmarking Report			
Minimum Performance Target:		15%	
Electric Incentives	Base Incentive based on 15% savings:	\$0.09	per projected kWh saved
	For each % over 15% add:	\$0.005	
	Maximum Incentive:	\$0.11	
Gas Incentives	Base Incentive based on 15% savings:	\$0.90	per projected Therm saved
	For each % over 15% add:	\$0.05	
	Maximum Incentive:	\$1.25	
Incentive Cap:		25%	of total project cost

Direct Install: Overview



- Turn-key retrofit program to replace outdated and inefficient equipment, including lighting, HVAC, refrigeration, etc.
- Open to Small to Mid-Sized Commercial and Industrial facilities with an average electric demand ≤ 200 kW
- Provides incentives of up to 70% of the installed cost
- Incentives are paid directly to the contractor
 - Customer only pays remaining 30% of installed cost
 - \$125,000 project/building cap
 - \$250,000 per entity cap (up to \$500,000 if using ESIP)
- Participating contractors provide support and process all paperwork
- Fast turnaround time: Average length of time for job completion (4-6 months)

www.NJCleanEnergy/DI

Direct Install:



Participating Contractor

Hutchinson Mechanical Services

Pete Hatton

856-429-5828 x259

petehatton@hutchbiz.com

Direct Install: Financing Option



The State of NJ pays:

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

South Jersey Gas will finance:

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



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

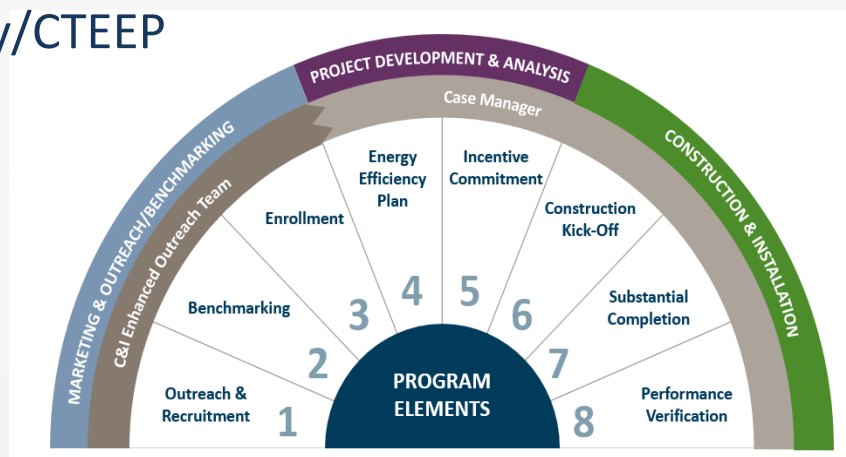
CTEEP: Overview



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.

www.NJCleanEnergy/CTEEP



SmartStart, CTEEP & P4P:



Financing Option

- 0% Financing
- Up to \$130,000 for 10 years
- SJG can help guide you through the process

Contact:

Bruce Grossman – Program Manager

South Jersey Gas

#1 South Jersey Plaza

Folsom, NJ 08037

Phone: 609-561-9000, ext. 4271



CHP: OVERVIEW



Combined Heat and Power (CHP)

- Enhanced alternative to emergency generators
- On-site power generation with recovery and productive use of waste heat
- System provides building heating and cooling
- Resiliency with Return on Investment
- Technology-neutral incentives
- 30/50/20 Incentive payment
 - 30% when equipment purchased
 - 50% when system installed
 - 20% upon acceptance and confirmation that the project is achieving the required performance

CHP: OVERVIEW



Eligible Technologies	Size (Installed Rated Capacity) ¹	Incentive (\$/kW)	% of Total Cost Cap per Project ³	\$ Cap per Project ³
Powered by non-renewable or renewable fuel source ⁴	≤500 kW	\$2,000	30-40% ²	\$2 million
Gas Internal Combustion Engine	>500 kW - 1 MW	\$1,000		
Gas Combustion Turbine	> 1 MW - 3 MW	\$550	30%	\$3 million
Microturbine				
Fuel Cells with Heat Recovery	>3 MW	\$350		
Waste Heat to Power ⁵	<1 MW	\$1,000	30%	\$2 million
	> 1MW	\$500		\$3 million

*Waste Heat to Power: Powered by non-renewable fuel source, heat recovery or other mechanical recovery from existing equipment utilizing new electric generation equipment (e.g. steam turbine).

Recommended NJCEP Incentives per Building



Egg Harbor Township SD	Pay For Performance	Direct Install	SmartStart	CTEEP	Combined Heat & Power
Egg Harbor Township HS	X		X	X	X (pool only)
Alder Ave. MS	X		X	X	
Fernwood MS			X	X	
Clayton J Davenport ES	X		X	X	
Clayton J Davenport Primary			X	X	
Dr. Joyanne D Miller ES			X	X	
E. H. Slaybaugh ES		X	X	X	
E. H. Slaybaugh Primary		X	X	X	
H. Russell Swift ES	X		X	X	
District Transportation Complex		X	X	X	
Egg Harbor Township HS Fieldhouse		X	X	X	
Eagle Academy			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

Mike Thulen

ESIP Coordinator

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ESIP@bpu.nj.gov

Questions



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FOR MORE INFORMATION

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