

New Jersey's Clean Energy Program

LGEA Presentation
Cherry Hill School District

August 21, 2020



INTRODUCTIONS

- *Cherry Hill School District*
 - Lynn Shugars – Assistant Superintendent
 - Greg McCarty – Director of Facilities
 - Dave Nuzzie – Maintenance Supervisor
- *NJ Clean Energy Program*
 - Aimee Lalonde – TRC Program Manager
 - Kush Patel – TRC Auditor
 - Moussa Traore – TRC Auditor
 - Sarah Walters – TRC Account Manager
 - Tony O'Donnell – TRC Outreach Manager
 - Greg Reinert – TRC Outreach Manager
 - Michelle Rossi – ESIP Coordinator (BPU)
 - Arif Welcher – Government/Business Manager (BPU)



AGENDA

- The audit process overview
- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**easures (ECMs) identified
- Questions regarding the draft audit report
- Overview of NJCEP equipment incentives
- Next steps for Cherry Hill School District



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

Utility Consumption:

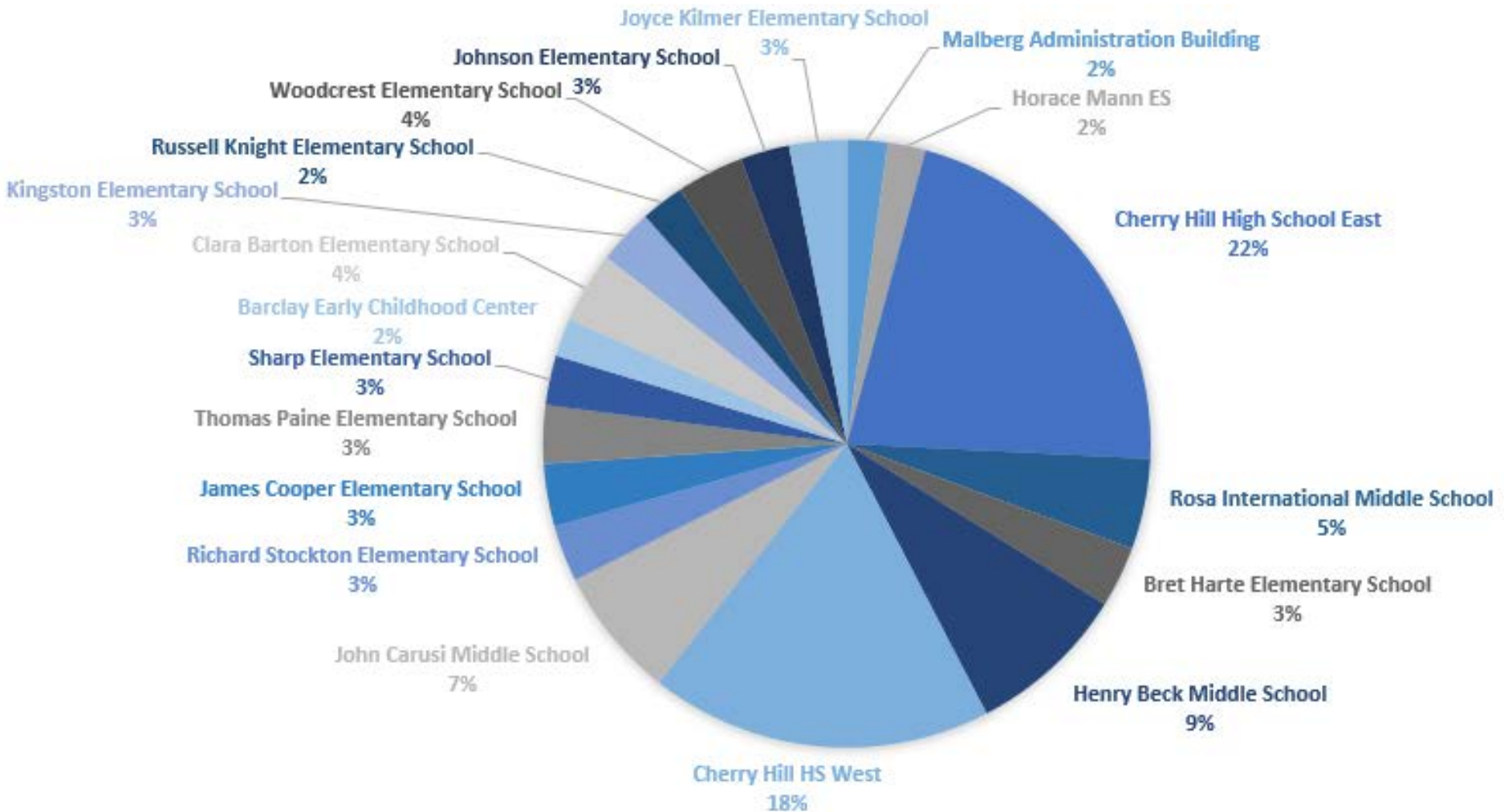
- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Sites Visited/Analyzed

- Clara Barton Elementary School
- James Copper Elementary School
- Bret Harte Elementary School
- Johnson Elementary School
- Joyce Kilmer Elementary School
- Kingston Elementary School
- Russell Knight Elementary School
- Horace Mann Elementary School
- Thomas Paine Elementary School
- Sharp Elementary School
- Richard Stockton Elementary School
- Woodcrest Elementary School
- Barclay Early Childhood Center
- Henry Beck Middle School
- John Carusi Middle School
- Rosa International Middle School
- Cherry Hill High School East
- Cherry Hill High School West
- Malberg Alternative High School Admin Building

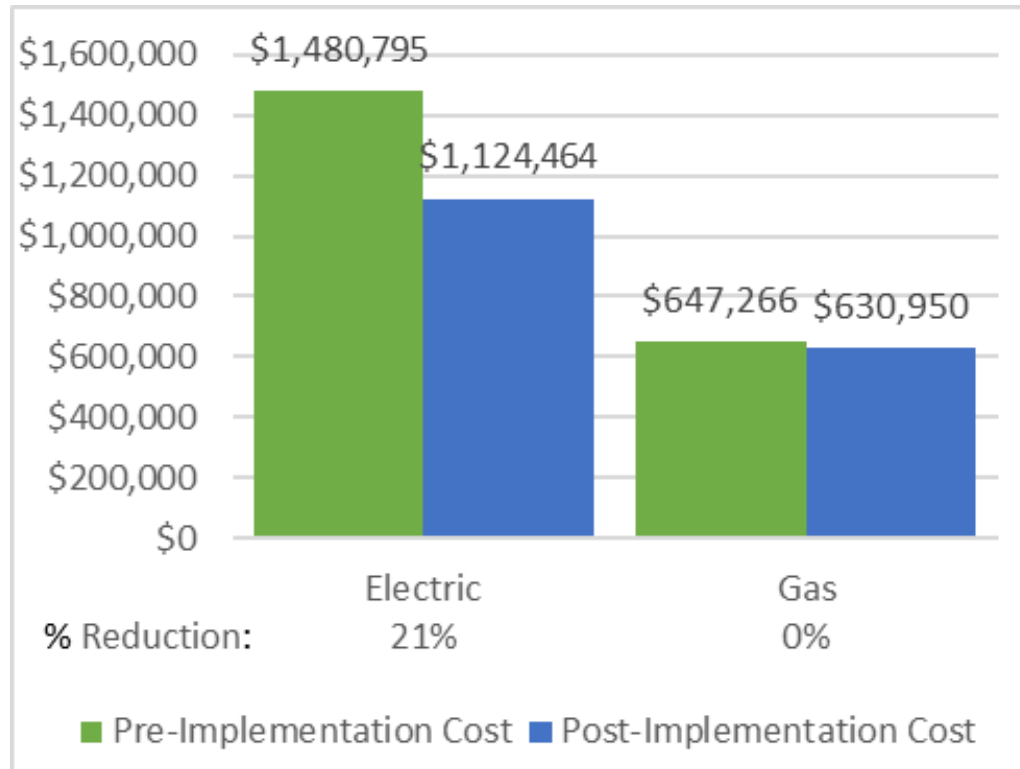
UTILITY BREAKOUT

Percent of Total Annual Energy Costs



UTILITY BREAKOUT

Pre & Post Implementation Cost



BENCHMARKING

ENERGY STAR® Statement of Energy Performance

LEARN MORE AT energystar.gov

68

ENERGY STAR® Score¹

Russell Knight Elementary School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 42,938
Built: 1964

For Year Ending: October 31, 2019
Date Generated: March 19, 2020

Property & Contact Information

Property Address Russell Knight Elementary School 140 Old Camage Road Cherry Hill, New Jersey 08034	Property Owner Cherry Hill Public School District 45 Raroldo Terrace Cherry Hill, NJ 08034 856-429-5600	Primary Contact Lynn Shugars 45 Raroldo Terrace Cherry Hill, NJ 08034 856-429-5600 x 4328 lshugars@chcdo.org
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Property ID: 10173320

Energy Consumption and Energy Use Intensity (EUI)

Site EUI 50 kBtu/ft ²	Annual Energy by Fuel	National Median Comparison
	Electric - Grid (kBtu) 793,707 (37%)	National Median Site EUI (kBtu/ft ²) 61.3
	Natural Gas (kBtu) 1,353,374 (63%)	National Median Source EUI (kBtu/ft ²) 104
		% Diff from National Median Source EUI -18%
Source EUI 84.9 kBtu/ft ²		Annual Emissions
		Greenhouse Gas Emissions (Metric Tons CO2e/year) 152

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)

Site EUI
50 kBtu/ft²

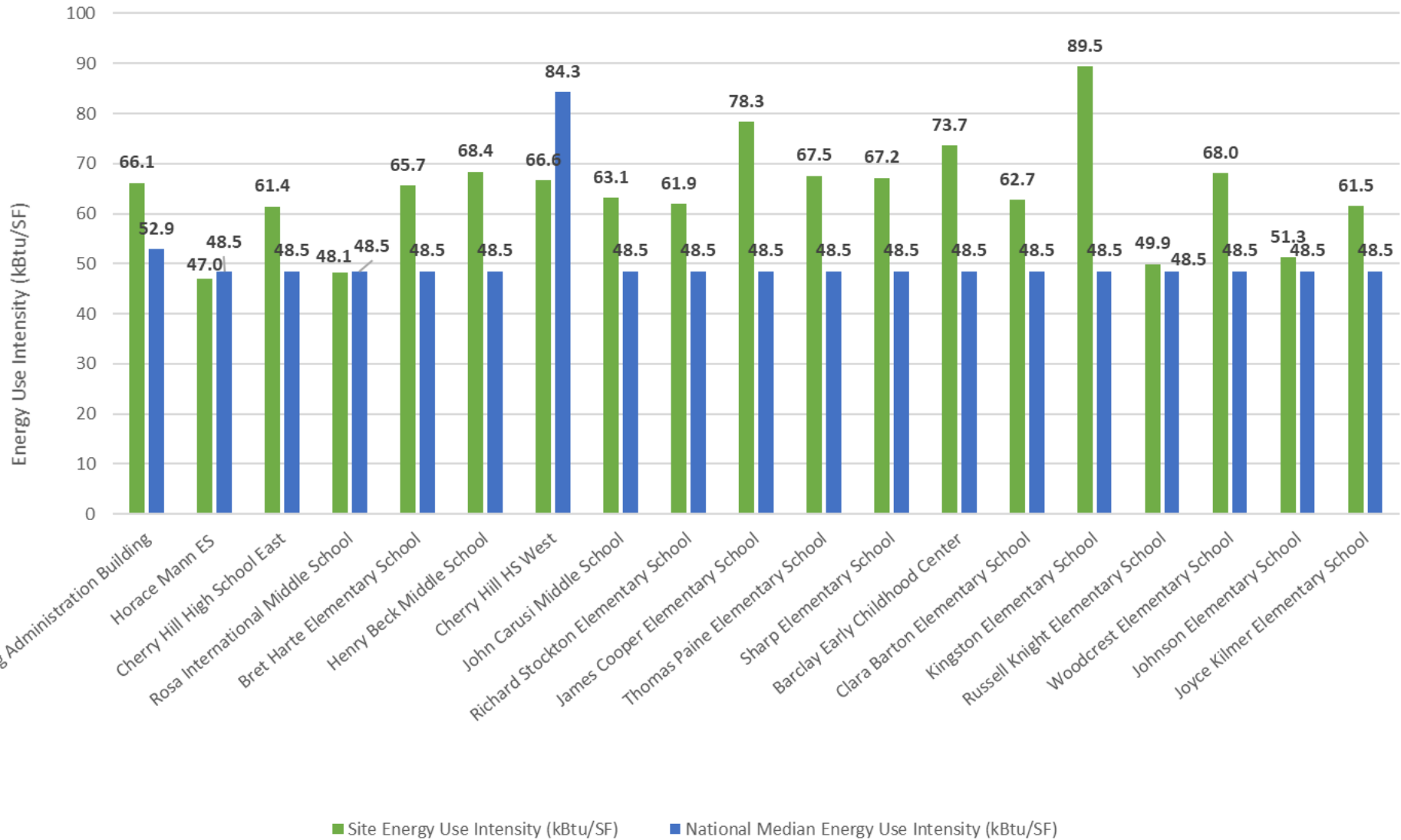
Source EUI
84.9 kBtu/ft²

Site Name	ENERGY STAR® Score
Malberg HS & Admin Building	N/A
Horace Mann ES	82
Cherry Hill HS East	73
Rosa International MS	73
Bret Harte ES	67
Henry Beck MS	56
Cherry Hill HS West	70
John Carusi MS	63
Richard Stockton ES	58
James Cooper ES	54
Thomas Paine	60
Sharp ES	68
Barclay Early Childhood Center	N/A
Clara Barton ES	60
Kingston ES	39
Russell Knight ES	68
Woodcrest ES	30
Johnson ES	68
Joyce Kilmer ES	67

National Median Comparison
 National Median Site EUI (kBtu/ft²) 61.3
 National Median Source EUI (kBtu/ft²) 104
 % Diff from National Median Source EUI -18%

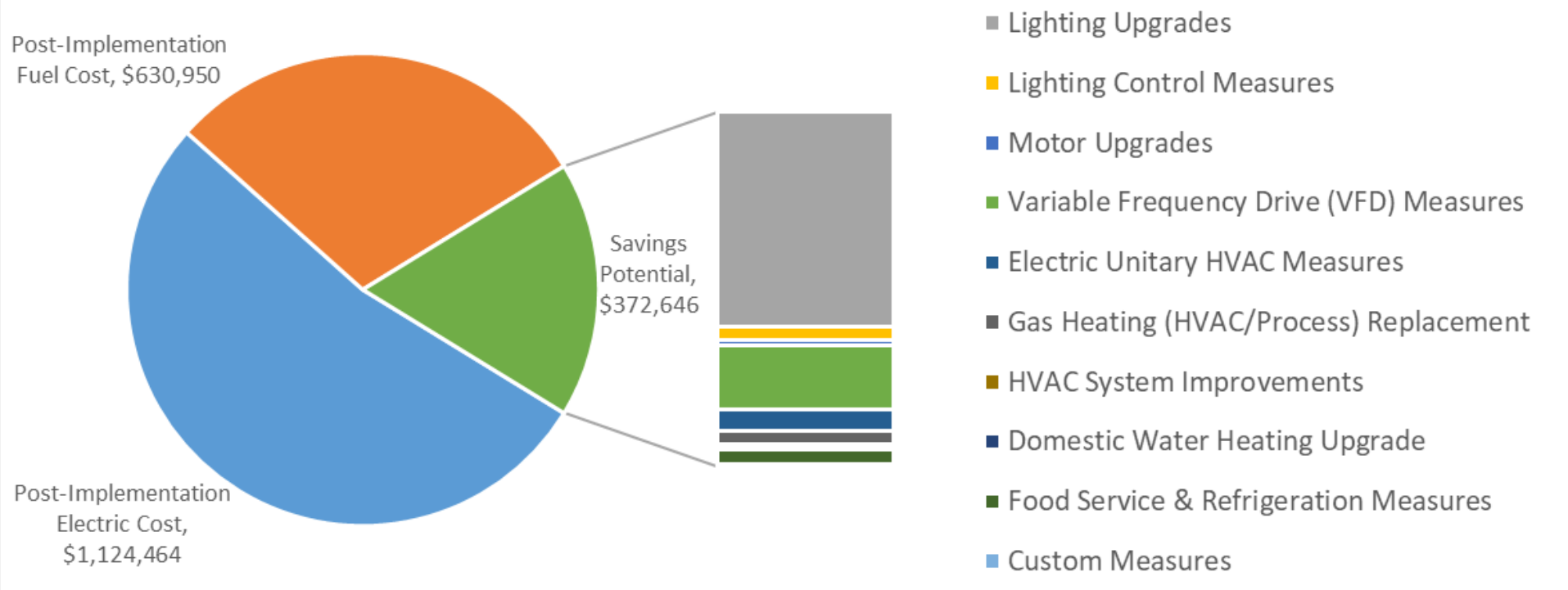
ENERGY STAR® scores are percentile ranking from 1 (least efficient) to 100 (most efficient). It compares your building's energy performance to similar buildings nationwide.

BENCHMARKING



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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades		1,658,937	370.5	-336.8	\$225,796	\$589,196	\$298,613	\$290,583	1.3	1,631,106
ECM 1	Install LED Fixtures	38,574	0.9	-1.2	\$5,532	\$34,373	\$10,033	\$24,340	4.4	38,699
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	22,239	4.2	-4.6	\$2,826	\$7,805	\$2,020	\$5,785	2.0	21,850
ECM 3	Retrofit Fixtures with LED Lamps	1,597,431	365.3	-330.7	\$217,349	\$546,149	\$286,560	\$259,589	1.2	1,569,876
ECM 4	Install LED Exit Signs	694	0.1	-0.1	\$89	\$869	\$0	\$869	9.8	682
Lighting Control Measures		99,736	15.9	-19.9	\$13,242	\$125,160	\$40,790	\$84,370	6.4	98,102
ECM 5	Install Occupancy Sensor Lighting Controls	75,815	12.5	-15.9	\$10,007	\$91,535	\$18,060	\$73,475	7.3	74,489
ECM 6	Install Daylight Dimming/Photocell Controls	4,471	0.0	0.0	\$624	\$8,200	\$0	\$8,200	13.1	4,502
ECM 7	Install High/Low Lighting Controls	19,450	3.4	-4.1	\$2,611	\$25,425	\$22,730	\$2,695	1.0	19,111
Motor Upgrades		39,623	9.6	0.0	\$5,618	\$199,514	\$0	\$199,514	35.5	39,900
ECM 8	Premium Efficiency Motors	39,623	9.6	0.0	\$5,618	\$199,514	\$0	\$199,514	35.5	39,900
Variable Frequency Drive (VFD) Measures		490,055	106.4	156.9	\$68,143	\$629,265	\$85,300	\$543,965	8.0	511,854
ECM 9	Install VFDs on Constant Volume (CV) Fans	403,130	97.5	0.0	\$55,429	\$461,077	\$74,200	\$386,877	7.0	405,949
ECM 10	Install VFDs on Heating Water Pumps	66,713	6.4	0.0	\$8,620	\$134,427	\$9,000	\$125,427	14.6	67,179
ECM 11	Install Boiler Draft Fan VFDs	7,342	2.4	0.0	\$1,110	\$19,376	\$1,000	\$18,376	16.6	7,393
ECM 12	Install VFDs on Kitchen Hood Fan Motors	12,870	0.1	156.9	\$2,985	\$14,385	\$1,100	\$13,285	4.5	31,333
Electric Unitary HVAC Measures		155,587	99.9	0.0	\$22,459	\$989,107	\$103,075	\$886,032	39.5	156,675
ECM 13	Install High Efficiency Air Conditioning Units	100,552	93.8	0.0	\$14,324	\$901,409	\$94,373	\$807,036	56.3	101,255
ECM 14	Install High Efficiency Heat Pumps	53,635	5.3	0.0	\$7,926	\$76,209	\$7,922	\$68,287	8.6	54,010
ECM 15	Install High Efficiency PTAC/PTHP	1,400	0.8	0.0	\$210	\$11,489	\$780	\$10,709	51.0	1,409

ALL OPPORTUNITIES

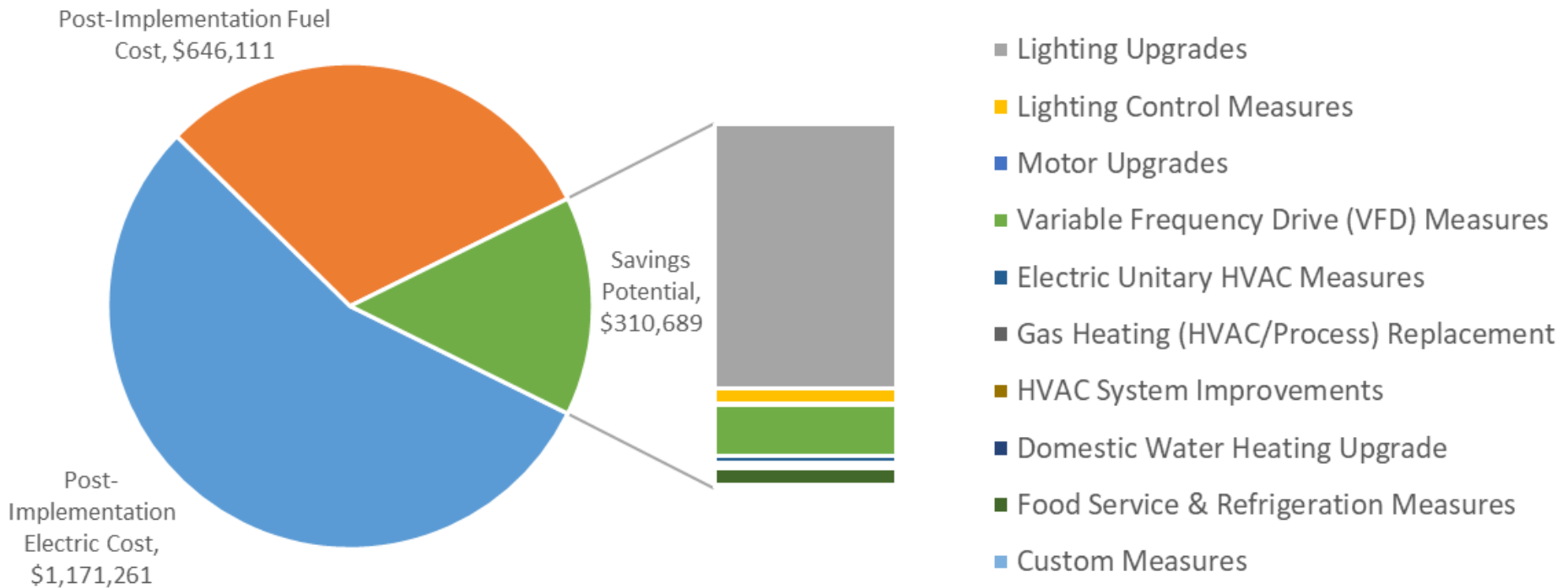
#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Gas Heating (HVAC/Process) Replacement		0	0.0	1,471.5	\$13,755	\$466,514	\$44,536	\$421,978	30.7	172,298
ECM 16	Install High Efficiency Hot Water Boilers	0	0.0	972.3	\$9,154	\$366,935	\$27,011	\$339,924	37.1	113,843
ECM 17	Install High Efficiency Furnaces	0	0.0	499.3	\$4,601	\$99,579	\$17,525	\$82,054	17.8	58,456
HVAC System Improvements		8,464	0.0	114.3	\$2,152	\$11,729	\$516	\$11,213	5.2	21,907
ECM 18	Implement Demand Control Ventilation (DCV)	7,616	0.0	50.7	\$1,446	\$10,875	\$0	\$10,875	7.5	13,605
ECM 19	Install Pipe Insulation	848	0.0	63.6	\$706	\$854	\$516	\$338	0.5	8,302
Domestic Water Heating Upgrade		1,963	0.0	358.4	\$3,657	\$86,096	\$8,443	\$77,653	21.2	43,937
ECM 20	Install High Efficiency Gas-Fired Water Heater	0	0.0	127.5	\$1,209	\$81,546	\$4,707	\$76,839	63.5	14,927
ECM 21	Install Tankless Water Heater	0	0.0	8.7	\$84	\$2,614	\$1,800	\$814	9.7	1,021
ECM 22	Install Low-Flow DHW Devices	1,963	0.0	222.2	\$2,364	\$1,936	\$1,936	\$0	0.0	27,989
Food Service & Refrigeration Measures		105,829	12.1	0.0	\$15,126	\$78,034	\$8,520	\$69,514	4.6	106,569
ECM 23	Food Service Equipment Replacement	1,731	1.2	0.0	\$281	\$13,780	\$2,600	\$11,180	39.7	1,744
ECM 24	Refrigerator/Freezer Case Electrically Commutated Motors	2,029	0.3	0.0	\$251	\$2,730	\$720	\$2,010	8.0	2,043
ECM 25	Refrigeration Controls	8,481	0.0	0.0	\$1,277	\$3,971	\$1,100	\$2,871	2.2	8,540
ECM 26	Replace Refrigeration Equipment	37,012	4.2	0.0	\$5,415	\$45,134	\$1,100	\$44,034	8.1	37,271
ECM 27	Vending Machine Control	56,576	6.5	0.0	\$7,902	\$12,420	\$3,000	\$9,420	1.2	56,971
Custom Measures		21,841	0.0	0.0	\$2,697	\$9,580	\$0	\$9,580	3.6	0
ECM 28	Computer Power Management Software	21,841	0.0	0.0	\$2,697	\$9,580	\$0	\$9,580	3.6	0
TOTALS		2,582,035	614.5	1,744.5	\$372,646	\$3,184,193	\$589,793	\$2,594,401	7.0	2,782,349

* - 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades		1,658,881	370.4	-336.7	\$225,788	\$588,602	\$298,573	\$290,029	1.3	1,631,051
ECM 1	Install LED Fixtures	38,517	0.9	-1.2	\$5,524	\$33,779	\$9,993	\$23,786	4.3	38,644
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	22,239	4.2	-4.6	\$2,826	\$7,805	\$2,020	\$5,785	2.0	21,850
ECM 3	Retrofit Fixtures with LED Lamps	1,597,431	365.3	-330.7	\$217,349	\$546,149	\$286,560	\$259,589	1.2	1,569,876
ECM 4	Install LED Exit Signs	694	0.1	-0.1	\$89	\$869	\$0	\$869	9.8	682
Lighting Control Measures		95,579	15.6	-19.5	\$12,649	\$113,791	\$39,360	\$74,431	5.9	93,961
ECM 5	Install Occupancy Sensor Lighting Controls	74,007	12.2	-15.5	\$9,737	\$85,766	\$16,630	\$69,136	7.1	72,712
ECM 6	Install Daylight Dimming/PhotoCell Controls	2,122	0.0	0.0	\$301	\$2,600	\$0	\$2,600	8.6	2,137
ECM 7	Install High/Low Lighting Controls	19,450	3.4	-4.1	\$2,611	\$25,425	\$22,730	\$2,695	1.0	19,111
Motor Upgrades		5,924	1.4	0.0	\$865	\$13,532	\$0	\$13,532	15.6	5,966
ECM 8	Premium Efficiency Motors	5,924	1.4	0.0	\$865	\$13,532	\$0	\$13,532	15.6	5,966
Variable Frequency Drive (VFD) Measures		313,494	62.2	156.9	\$43,793	\$242,726	\$55,650	\$187,076	4.3	334,058
ECM 9	Install VFDs on Constant Volume (CV) Fans	243,529	57.2	0.0	\$33,654	\$202,620	\$47,150	\$155,470	4.6	245,232
ECM 10	Install VFDs on Heating Water Pumps	57,095	4.8	0.0	\$7,154	\$25,721	\$7,400	\$18,321	2.6	57,494
ECM 12	Install VFDs on Kitchen Hood Fan Motors	12,870	0.1	156.9	\$2,985	\$14,385	\$1,100	\$13,285	4.5	31,333
Electric Unitary HVAC Measures		43,930	3.1	0.0	\$6,546	\$37,544	\$3,960	\$33,584	5.1	44,237
ECM 14	Install High Efficiency Heat Pumps	43,930	3.1	0.0	\$6,546	\$37,544	\$3,960	\$33,584	5.1	44,237

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 ₂ e Emissions Reduction (lbs)
Gas Heating (HVAC/Process) Replacement		0	0.0	0.6	\$5	\$725	\$725	\$0	0.0	66
ECM 17	Install High Efficiency Furnaces	0	0.0	0.6	\$5	\$725	\$725	\$0	0.0	66
HVAC System Improvements		8,464	0.0	114.3	\$2,152	\$11,729	\$516	\$11,213	5.2	21,907
ECM 18	Implement Demand Control Ventilation (DCV)	7,616	0.0	50.7	\$1,446	\$10,875	\$0	\$10,875	7.5	13,605
ECM 19	Install Pipe Insulation	848	0.0	63.6	\$706	\$854	\$516	\$338	0.5	8,302
Domestic Water Heating Upgrade		1,963	0.0	228.3	\$2,426	\$3,504	\$3,136	\$368	0.2	28,711
ECM 21	Install Tankless Water Heater	0	0.0	6.2	\$61	\$1,568	\$1,200	\$368	6.0	723
ECM 22	Install Low-Flow DHW Devices	1,963	0.0	222.2	\$2,364	\$1,936	\$1,936	\$0	0.0	27,989
Food Service & Refrigeration Measures		96,512	10.2	0.0	\$13,768	\$43,182	\$4,720	\$38,462	2.8	97,186
ECM 24	Refrigerator/Freezer Case Electrically Commutated Motors	2,029	0.3	0.0	\$251	\$2,730	\$720	\$2,010	8.0	2,043
ECM 25	Refrigeration Controls	7,702	0.0	0.0	\$1,181	\$1,260	\$750	\$510	0.4	7,756
ECM 26	Replace Refrigeration Equipment	30,204	3.4	0.0	\$4,434	\$26,773	\$250	\$26,523	6.0	30,416
ECM 27	Vending Machine Control	56,576	6.5	0.0	\$7,902	\$12,420	\$3,000	\$9,420	1.2	56,971
Custom Measures		21,841	0.0	0.0	\$2,697	\$9,580	\$0	\$9,580	3.6	0
ECM 28	Computer Power Management Software	21,841	0.0	0.0	\$2,697	\$9,580	\$0	\$9,580	3.6	0
TOTALS		2,246,587	462.8	143.8	\$310,689	\$1,064,916	\$406,640	\$658,276	2.1	2,257,143

CLARA BARTON 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			59,591	13.8	-12	\$9,990	\$24,096	\$11,772	\$12,324	1.2	58,602
ECM 1	Install LED Fixtures	Yes	1,285	0.0	0	\$218	\$931	\$200	\$731	3.4	1,294
ECM 2	Retrofit Fixtures with LED Lamps	Yes	58,306	13.8	-12	\$9,772	\$23,165	\$11,572	\$11,593	1.2	57,308
Lighting Control Measures			541	0.1	0	\$91	\$1,350	\$140	\$1,210	13.3	532
ECM 3	Install Occupancy Sensor Lighting Controls	No	541	0.1	0	\$91	\$1,350	\$140	\$1,210	13.3	532
Motor Upgrades			5,046	1.0	0	\$855	\$24,321	\$0	\$24,321	28.4	5,082
ECM 4	Premium Efficiency Motors	No	5,046	1.0	0	\$855	\$24,321	\$0	\$24,321	28.4	5,082
Variable Frequency Drive (VFD) Measures			12,367	2.4	0	\$2,095	\$49,869	\$1,400	\$48,469	23.1	12,454
ECM 5	Install VFDs on Constant Volume (CV) Fans	No	10,388	2.2	0	\$1,760	\$23,560	\$1,100	\$22,460	12.8	10,461
ECM 6	Install VFDs on Heating Water Pumps	No	1,979	0.2	0	\$335	\$26,309	\$300	\$26,009	77.6	1,993
Electric Unitary HVAC Measures			9,175	2.8	0	\$1,554	\$26,395	\$2,760	\$23,635	15.2	9,239
ECM 7	Install High Efficiency Air Conditioning Units	No	9,175	2.8	0	\$1,554	\$26,395	\$2,760	\$23,635	15.2	9,239
Gas Heating (HVAC/Process) Replacement			0	0.0	46	\$409	\$20,091	\$4,000	\$16,091	39.3	5,434
ECM 8	Install High Efficiency Hot Water Boilers	No	0	0.0	46	\$409	\$20,091	\$4,000	\$16,091	39.3	5,434
HVAC System Improvements			0	0.0	3	\$27	\$40	\$28	\$12	0.5	360
ECM 9	Install Pipe Insulation	Yes	0	0.0	3	\$27	\$40	\$28	\$12	0.5	360
Domestic Water Heating Upgrade			0	0.0	12	\$106	\$1,117	\$672	\$446	4.2	1,409
ECM 10	Install Tankless Water Heater	No	0	0.0	3	\$22	\$1,046	\$600	\$446	19.8	298
ECM 11	Install Low-Flow DHW Devices	Yes	0	0.0	9	\$84	\$72	\$72	\$0	0.0	1,111
Food Service & Refrigeration Measures			5,870	1.0	0	\$995	\$11,605	\$1,550	\$10,055	10.1	5,911
ECM 12	Food Service Equipment Replacement	No	813	0.6	0	\$138	\$6,890	\$1,300	\$5,590	40.6	818
ECM 13	Refrigeration Controls	Yes	1,432	0.0	0	\$243	\$252	\$150	\$102	0.4	1,442
ECM 14	Replace Refrigeration Equipment	No	2,013	0.2	0	\$341	\$4,233	\$0	\$4,233	12.4	2,027
ECM 15	Vending Machine Control	Yes	1,612	0.2	0	\$273	\$230	\$100	\$130	0.5	1,623
TOTALS (COST EFFECTIVE MEASURES)			62,635	14.0	1	\$10,617	\$24,690	\$12,122	\$12,568	1.2	63,138
TOTALS (ALL MEASURES)			92,591	21.1	49	\$16,122	\$158,884	\$22,322	\$136,562	8.5	99,022

JAMES COOPER 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			38,234	8.4	-6	\$5,922	\$20,114	\$10,370	\$9,744	1.6	37,818
ECM 1	Install LED Fixtures	Yes	8,782	0.0	0	\$1,373	\$6,972	\$3,400	\$3,572	2.6	8,844
ECM 2	Retrofit Fixtures with LED Lamps	Yes	29,394	8.4	-6	\$4,540	\$13,069	\$6,970	\$6,099	1.3	28,917
ECM 3	Install LED Exit Signs	Yes	58	0.0	0	\$9	\$72	\$0	\$72	8.1	57
Lighting Control Measures			1,285	0.3	0	\$198	\$2,696	\$710	\$1,986	10.0	1,262
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	1,285	0.3	0	\$198	\$2,696	\$710	\$1,986	10.0	1,262
Variable Frequency Drive (VFD) Measures			6,309	1.5	0	\$986	\$15,051	\$750	\$14,301	14.5	6,353
ECM 5	Install VFDs on Constant Volume (CV) Fans	No	6,309	1.5	0	\$986	\$15,051	\$750	\$14,301	14.5	6,353
Electric Unitary HVAC Measures			7,797	3.2	0	\$1,219	\$29,782	\$2,966	\$26,816	22.0	7,851
ECM 6	Install High Efficiency Air Conditioning Units	No	2,366	2.4	0	\$370	\$19,500	\$2,208	\$17,292	46.8	2,383
ECM 7	Install High Efficiency Heat Pumps	Yes	4,766	0.4	0	\$745	\$4,538	\$368	\$4,170	5.6	4,799
ECM 8	Install High Efficiency PTAC/PTHP	No	665	0.3	0	\$104	\$5,744	\$390	\$5,354	51.6	669
Domestic Water Heating Upgrade			327	0.0	6	\$103	\$143	\$143	\$0	0.0	983
ECM 9	Install Low-Flow DHW Devices	Yes	327	0.0	6	\$103	\$143	\$143	\$0	0.0	983
Food Service & Refrigeration Measures			3,519	0.9	0	\$550	\$9,934	\$1,600	\$8,334	15.2	3,544
ECM 10	Food Service Equipment Replacement	No	919	0.6	0	\$144	\$6,890	\$1,300	\$5,590	38.9	925
ECM 11	Replace Refrigeration Equipment	No	646	0.1	0	\$101	\$2,584	\$200	\$2,384	23.6	651
ECM 12	Vending Machine Control	Yes	1,954	0.2	0	\$305	\$460	\$100	\$360	1.2	1,968
TOTALS (COST EFFECTIVE MEASURES)			46,566	9.3	-1	\$7,273	\$27,951	\$11,691	\$16,260	2.2	46,830
TOTALS (ALL MEASURES)			57,471	14.2	-1	\$8,977	\$77,720	\$16,539	\$61,181	6.8	57,811

BRET HARTE 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			68,395	19.0	-14	\$9,758	\$29,355	\$15,455	\$13,900	1.4	67,252
ECM 1	Install LED Fixtures	Yes	378	0.0	0	\$55	\$193	\$193	\$0	0.0	381
ECM 2	Retrofit Fixtures with LED Lamps	Yes	68,017	19.0	-14	\$9,704	\$29,162	\$15,262	\$13,900	1.4	66,871
Lighting Control Measures			2,847	0.6	-1	\$406	\$3,780	\$1,010	\$2,770	6.8	2,799
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	2,092	0.5	0	\$298	\$2,430	\$420	\$2,010	6.7	2,055
ECM 4	Install High/Low Lighting Controls	Yes	756	0.1	0	\$108	\$1,350	\$590	\$760	7.0	743
Motor Upgrades			3,445	2.8	0	\$498	\$14,831	\$0	\$14,831	29.8	3,469
ECM 5	Premium Efficiency Motors	No	3,445	2.8	0	\$498	\$14,831	\$0	\$14,831	29.8	3,469
Variable Frequency Drive (VFD) Measures			9,818	2.7	0	\$1,419	\$24,942	\$1,000	\$23,942	16.9	9,886
ECM 6	Install VFDs on Constant Volume (CV) Fans	No	9,818	2.7	0	\$1,419	\$24,942	\$1,000	\$23,942	16.9	9,886
Electric Unitary HVAC Measures			9,229	2.7	0	\$1,334	\$38,219	\$3,733	\$34,486	25.8	9,293
ECM 7	Install High Efficiency Air Conditioning Units	No	149	0.3	0	\$21	\$1,757	\$0	\$1,757	81.7	150
ECM 8	Install High Efficiency Heat Pumps	No	8,345	1.9	0	\$1,206	\$30,718	\$3,343	\$27,375	22.7	8,404
ECM 9	Install High Efficiency PTAC/PTHP	No	735	0.5	0	\$106	\$5,744	\$390	\$5,354	50.4	740
HVAC System Improvements			0	0.0	3	\$25	\$35	\$24	\$11	0.4	308
ECM 10	Install Pipe Insulation	Yes	0	0.0	3	\$25	\$35	\$24	\$11	0.4	308
Food Service & Refrigeration Measures			5,155	0.6	0	\$745	\$2,410	\$100	\$2,310	3.1	5,191
ECM 11	Replace Refrigeration Equipment	Yes	3,201	0.4	0	\$463	\$1,950	\$0	\$1,950	4.2	3,223
ECM 12	Vending Machine Control	Yes	1,954	0.2	0	\$283	\$460	\$100	\$360	1.3	1,968
TOTALS (COST EFFECTIVE MEASURES)			76,398	20.1	-12	\$10,934	\$35,580	\$16,589	\$18,991	1.7	75,550
TOTALS (ALL MEASURES)			98,889	28.3	-12	\$14,186	\$113,572	\$21,322	\$92,250	6.5	98,199

JOHNSON 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			36,670	11.7	-6	\$5,505	\$21,415	\$10,186	\$11,229	2.0	36,166
ECM 1	Install LED Fixtures	Yes	5,674	0.0	0	\$862	\$3,492	\$720	\$2,772	3.2	5,713
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	104	0.0	0	\$16	\$101	\$20	\$81	5.2	102
ECM 3	Retrofit Fixtures with LED Lamps	Yes	30,891	11.6	-6	\$4,627	\$17,822	\$9,446	\$8,376	1.8	30,351
Lighting Control Measures			1,246	0.2	0	\$188	\$1,678	\$140	\$1,538	8.2	1,239
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	668	0.2	0	\$100	\$1,278	\$140	\$1,138	11.4	656
ECM 5	Install Daylight Dimming/PhotoCell Controls	Yes	578	0.0	0	\$88	\$400	\$0	\$400	4.6	582
Motor Upgrades			3,820	1.0	0	\$580	\$5,343	\$0	\$5,343	9.2	3,846
ECM 6	Premium Efficiency Motors	Yes	3,820	1.0	0	\$580	\$5,343	\$0	\$5,343	9.2	3,846
Variable Frequency Drive (VFD) Measures			7,734	2.4	0	\$1,175	\$24,081	\$1,200	\$22,881	19.5	7,788
ECM 7	Install VFDs on Constant Volume (CV) Fans	No	7,734	2.4	0	\$1,175	\$24,081	\$1,200	\$22,881	19.5	7,788
Electric Unitary HVAC Measures			3,606	4.0	0	\$548	\$31,320	\$3,303	\$28,017	51.1	3,631
ECM 8	Install High Efficiency Air Conditioning Units	No	3,606	4.0	0	\$548	\$31,320	\$3,303	\$28,017	51.1	3,631
Gas Heating (HVAC/Process) Replacement			0	0.0	23	\$231	\$18,778	\$2,930	\$15,849	68.6	2,690
ECM 9	Install High Efficiency Hot Water Boilers	No	0	0.0	23	\$231	\$18,778	\$2,930	\$15,849	68.6	2,690
HVAC System Improvements			0	0.0	4	\$44	\$58	\$40	\$18	0.4	514
ECM 10	Install Pipe Insulation	Yes	0	0.0	4	\$44	\$58	\$40	\$18	0.4	514
Domestic Water Heating Upgrade			0	0.0	19	\$196	\$1,049	\$865	\$184	0.9	2,281
ECM 11	Install Tankless Water Heater	Yes	0	0.0	2	\$22	\$784	\$600	\$184	8.4	255
ECM 12	Install Low-Flow DHW Devices	Yes	0	0.0	17	\$174	\$265	\$265	\$0	0.0	2,026
Food Service & Refrigeration Measures			2,297	0.3	0	\$349	\$690	\$100	\$590	1.7	2,313
ECM 13	Vending Machine Control	Yes	2,297	0.3	0	\$349	\$690	\$100	\$590	1.7	2,313
TOTALS (COST EFFECTIVE MEASURES)			44,033	13.2	17	\$6,862	\$30,233	\$11,331	\$18,902	2.8	46,359
TOTALS (ALL MEASURES)			55,373	19.6	40	\$8,815	\$104,413	\$18,764	\$85,649	9.7	60,469

JOYCE KILMER 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			2,241	0.5	0	\$318	\$1,068	\$344	\$724	2.3	2,236
ECM 1	Install LED Fixtures	Yes	15	0.0	0	\$2	\$200	\$0	\$200	95.0	15
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	259	0.0	0	\$36	\$101	\$20	\$81	2.2	255
ECM 3	Retrofit Fixtures with LED Lamps	Yes	1,967	0.4	0	\$280	\$767	\$324	\$443	1.6	1,967
Lighting Control Measures			759	0.1	0	\$107	\$2,160	\$280	\$1,880	17.6	746
ECM 4	Install Occupancy Sensor Lighting Controls	No	759	0.1	0	\$107	\$2,160	\$280	\$1,880	17.6	746
Motor Upgrades			3,406	0.6	0	\$486	\$17,071	\$0	\$17,071	35.1	3,430
ECM 5	Premium Efficiency Motors	No	3,406	0.6	0	\$486	\$17,071	\$0	\$17,071	35.1	3,430
Variable Frequency Drive (VFD) Measures			14,934	2.9	0	\$2,132	\$53,400	\$1,650	\$51,750	24.3	15,039
ECM 6	Install VFDs on Constant Volume (CV) Fans	No	12,978	2.7	0	\$1,853	\$27,091	\$1,350	\$25,741	13.9	13,069
ECM 7	Install VFDs on Heating Water Pumps	No	1,956	0.2	0	\$279	\$26,309	\$300	\$26,009	93.1	1,970
Electric Unitary HVAC Measures			2,852	2.6	0	\$407	\$26,625	\$3,011	\$23,614	58.0	2,872
ECM 8	Install High Efficiency Air Conditioning Units	No	2,520	2.4	0	\$360	\$20,947	\$2,576	\$18,371	51.1	2,537
ECM 9	Install High Efficiency Heat Pumps	No	332	0.2	0	\$47	\$5,678	\$435	\$5,243	110.5	335
Gas Heating (HVAC/Process) Replacement			0	0.0	59	\$562	\$20,091	\$4,000	\$16,091	28.6	6,930
ECM 10	Install High Efficiency Hot Water Boilers	No	0	0.0	59	\$562	\$20,091	\$4,000	\$16,091	28.6	6,930
HVAC System Improvements			0	0.0	5	\$50	\$69	\$48	\$21	0.4	617
ECM 11	Install Pipe Insulation	Yes	0	0.0	5	\$50	\$69	\$48	\$21	0.4	617
Domestic Water Heating Upgrade			0	0.0	41	\$391	\$12,392	\$1,430	\$10,961	28.0	4,816
ECM 12	Install High Efficiency Gas-Fired Water Heater	No	0	0.0	28	\$265	\$12,291	\$1,330	\$10,961	41.4	3,261
ECM 13	Install Low-Flow DHW Devices	Yes	0	0.0	13	\$126	\$100	\$100	\$0	0.0	1,556
Food Service & Refrigeration Measures			7,084	0.8	0	\$1,011	\$6,511	\$100	\$6,411	6.3	7,133
ECM 14	Replace Refrigeration Equipment	Yes	5,129	0.6	0	\$732	\$6,051	\$0	\$6,051	8.3	5,165
ECM 15	Vending Machine Control	Yes	1,954	0.2	0	\$279	\$460	\$100	\$360	1.3	1,968
TOTALS (COST EFFECTIVE MEASURES)			9,325	1.3	18	\$1,506	\$7,749	\$592	\$7,157	4.8	11,542
TOTALS (ALL MEASURES)			31,276	7.6	105	\$5,465	\$139,388	\$10,864	\$128,524	23.5	43,818

KINGSTON 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			2,465	0.7	-1	\$364	\$988	\$438	\$550	1.5	2,422
ECM 1	Retrofit Fixtures with LED Lamps	Yes	2,465	0.7	-1	\$364	\$988	\$438	\$550	1.5	2,422
Lighting Control Measures			574	0.1	0	\$85	\$1,305	\$420	\$885	10.4	564
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	287	0.1	0	\$42	\$1,080	\$210	\$870	20.5	282
ECM 3	Install High/Low Lighting Controls	Yes	287	0.0	0	\$42	\$225	\$210	\$15	0.4	282
Motor Upgrades			2,286	0.3	0	\$342	\$18,476	\$0	\$18,476	54.0	2,302
ECM 4	Premium Efficiency Motors	No	2,286	0.3	0	\$342	\$18,476	\$0	\$18,476	54.0	2,302
Variable Frequency Drive (VFD) Measures			1,995	0.6	0	\$299	\$6,833	\$300	\$6,533	21.9	2,009
ECM 5	Install Boiler Draft Fan VFDs	No	1,995	0.6	0	\$299	\$6,833	\$300	\$6,533	21.9	2,009
Electric Unitary HVAC Measures			183	0.1	0	\$27	\$1,633	\$0	\$1,633	59.6	184
ECM 6	Install High Efficiency Air Conditioning Units	No	183	0.1	0	\$27	\$1,633	\$0	\$1,633	59.6	184
HVAC System Improvements			0	0.0	4	\$34	\$39	\$24	\$15	0.4	432
ECM 7	Install Pipe Insulation	Yes	0	0.0	4	\$34	\$39	\$24	\$15	0.4	432
Domestic Water Heating Upgrade			1,390	0.0	9	\$287	\$100	\$100	\$0	0.0	2,400
ECM 8	Install Low-Flow DHW Devices	Yes	1,390	0.0	9	\$287	\$100	\$100	\$0	0.0	2,400
Food Service & Refrigeration Measures			4,483	0.3	0	\$671	\$2,828	\$250	\$2,578	3.8	4,514
ECM 9	Refrigeration Controls	Yes	1,522	0.0	0	\$228	\$252	\$150	\$102	0.4	1,532
ECM 10	Replace Refrigeration Equipment	No	1,007	0.1	0	\$151	\$2,116	\$0	\$2,116	14.0	1,014
ECM 11	Vending Machine Control	Yes	1,954	0.2	0	\$293	\$460	\$100	\$360	1.2	1,968
TOTALS (COST EFFECTIVE MEASURES)			7,905	1.0	12	\$1,291	\$3,145	\$1,232	\$1,912	1.5	9,318
TOTALS (ALL MEASURES)			13,376	2.2	12	\$2,110	\$32,203	\$1,532	\$30,671	14.5	14,827

RUSSELL KNIGHT 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			29,724	7.2	-6	\$4,493	\$10,901	\$5,636	\$5,265	1.2	29,204
ECM 1	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	247	0.0	0	\$37	\$69	\$20	\$49	1.3	243
ECM 2	Retrofit Fixtures with LED Lamps	Yes	29,476	7.2	-6	\$4,455	\$10,832	\$5,616	\$5,216	1.2	28,961
Lighting Control Measures			1,179	0.2	0	\$178	\$1,755	\$870	\$885	5.0	1,158
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	506	0.1	0	\$76	\$1,080	\$280	\$800	10.5	497
ECM 4	Install High/Low Lighting Controls	Yes	673	0.1	0	\$102	\$675	\$590	\$85	0.8	661
Motor Upgrades			1,553	0.3	0	\$238	\$13,841	\$0	\$13,841	58.2	1,564
ECM 5	Premium Efficiency Motors	No	1,553	0.3	0	\$238	\$13,841	\$0	\$13,841	58.2	1,564
Variable Frequency Drive (VFD) Measures			18,199	3.4	0	\$2,788	\$59,338	\$1,800	\$57,538	20.6	18,327
ECM 6	Install VFDs on Constant Volume (CV) Fans	No	14,352	2.5	0	\$2,199	\$29,059	\$1,300	\$27,759	12.6	14,452
ECM 7	Install VFDs on Heating Water Pumps	No	2,051	0.3	0	\$314	\$24,259	\$200	\$24,059	76.6	2,065
ECM 8	Install Boiler Draft Fan VFDs	No	1,796	0.6	0	\$275	\$6,020	\$300	\$5,720	20.8	1,809
Electric Unitary HVAC Measures			3,484	4.3	0	\$534	\$39,349	\$4,269	\$35,080	65.7	3,509
ECM 9	Install High Efficiency Air Conditioning Units	No	3,484	4.3	0	\$534	\$39,349	\$4,269	\$35,080	65.7	3,509
Gas Heating (HVAC/Process) Replacement			0	0.0	36	\$355	\$16,069	\$4,000	\$12,069	34.0	4,201
ECM 10	Install High Efficiency Hot Water Boilers	No	0	0.0	36	\$355	\$16,069	\$4,000	\$12,069	34.0	4,201
Domestic Water Heating Upgrade			0	0.0	30	\$292	\$12,451	\$2,114	\$10,337	35.4	3,458
ECM 11	Install High Efficiency Gas-Fired Water Heater	No	0	0.0	10	\$102	\$11,552	\$1,399	\$10,153	99.1	1,212
ECM 12	Install Tankless Water Heater	Yes	0	0.0	4	\$40	\$784	\$600	\$184	4.7	468
ECM 13	Install Low-Flow DHW Devices	Yes	0	0.0	15	\$150	\$115	\$115	\$0	0.0	1,778
Food Service & Refrigeration Measures			6,404	0.6	0	\$981	\$2,662	\$250	\$2,412	2.5	6,449
ECM 14	Refrigeration Controls	Yes	1,249	0.0	0	\$191	\$252	\$150	\$102	0.5	1,257
ECM 15	Replace Refrigeration Equipment	Yes	3,201	0.4	0	\$490	\$1,950	\$0	\$1,950	4.0	3,223
ECM 16	Vending Machine Control	Yes	1,954	0.2	0	\$299	\$460	\$100	\$360	1.2	1,968
TOTALS (COST EFFECTIVE MEASURES)			37,306	8.0	13	\$5,842	\$16,217	\$7,471	\$8,746	1.5	39,056
TOTALS (ALL MEASURES)			60,543	15.9	59	\$9,859	\$156,366	\$18,939	\$137,428	13.9	67,868

HORACE MANN 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			1,756	0.3	0	\$259	\$1,480	\$396	\$1,084	4.2	1,748
ECM 1	Install LED Fixtures	Yes	903	0.0	0	\$134	\$891	\$120	\$771	5.7	909
ECM 2	Retrofit Fixtures with LED Lamps	Yes	853	0.3	0	\$125	\$589	\$276	\$313	2.5	839
Lighting Control Measures			195	0.1	0	\$29	\$774	\$140	\$634	22.2	192
ECM 3	Install Occupancy Sensor Lighting Controls	No	195	0.1	0	\$29	\$774	\$140	\$634	22.2	192
Electric Unitary HVAC Measures			34,848	6.3	0	\$5,184	\$32,976	\$3,684	\$29,292	5.7	35,092
ECM 4	Install High Efficiency Air Conditioning Units	No	2,650	4.4	0	\$394	\$6,733	\$828	\$5,905	15.0	2,669
ECM 5	Install High Efficiency Heat Pumps	Yes	32,198	1.9	0	\$4,790	\$26,243	\$2,856	\$23,387	4.9	32,423
HVAC System Improvements			0	0.0	4	\$52	\$58	\$40	\$18	0.3	514
ECM 6	Install Pipe Insulation	Yes	0	0.0	4	\$52	\$58	\$40	\$18	0.3	514
Domestic Water Heating Upgrade			245	0.0	4	\$83	\$93	\$93	\$0	0.0	705
ECM 7	Install Low-Flow DHW Devices	Yes	245	0.0	4	\$83	\$93	\$93	\$0	0.0	705
Food Service & Refrigeration Measures			7,904	0.7	0	\$1,176	\$2,912	\$250	\$2,662	2.3	7,960
ECM 8	Refrigeration Controls	Yes	1,873	0.0	0	\$279	\$252	\$150	\$102	0.4	1,886
ECM 9	Replace Refrigeration Equipment	Yes	4,077	0.5	0	\$606	\$2,200	\$0	\$2,200	3.6	4,106
ECM 10	Vending Machine Control	Yes	1,954	0.2	0	\$291	\$460	\$100	\$360	1.2	1,968
TOTALS (COST EFFECTIVE MEASURES)			42,104	2.9	8	\$6,360	\$30,786	\$3,635	\$27,151	4.3	43,350
TOTALS (ALL MEASURES)			44,949	7.4	8	\$6,783	\$38,293	\$4,603	\$33,690	5.0	46,210

THOMAS PAINE 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			36,340	12.7	-7	\$5,763	\$21,576	\$10,810	\$10,766	1.9	35,746
ECM 1	Install LED Fixtures	Yes	945	0.1	0	\$151	\$1,735	\$300	\$1,435	9.5	948
ECM 2	Retrofit Fixtures with LED Lamps	Yes	35,395	12.7	-7	\$5,612	\$19,841	\$10,510	\$9,331	1.7	34,798
Lighting Control Measures			1,698	0.3	0	\$270	\$2,928	\$730	\$2,198	8.1	1,684
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	891	0.2	0	\$141	\$1,278	\$280	\$998	7.1	875
ECM 4	Install PhotoCell Controls	Yes	632	0.0	0	\$101	\$1,200	\$0	\$1,200	11.8	636
ECM 5	Install High/Low Lighting Controls	Yes	176	0.0	0	\$28	\$450	\$450	\$0	0.0	173
Variable Frequency Drive (VFD) Measures			5,768	1.2	0	\$925	\$12,041	\$600	\$11,441	12.4	5,808
ECM 6	Install VFDs on Constant Volume (CV) Fans	No	5,768	1.2	0	\$925	\$12,041	\$600	\$11,441	12.4	5,808
Electric Unitary HVAC Measures			1,461	1.8	0	\$234	\$14,692	\$1,472	\$13,220	56.4	1,471
ECM 7	Install High Efficiency Air Conditioning Units	No	1,461	1.8	0	\$234	\$14,692	\$1,472	\$13,220	56.4	1,471
Domestic Water Heating Upgrade			0	0.0	5	\$44	\$100	\$100	\$0	0.0	556
ECM 8	Install Low-Flow DHW Devices	Yes	0	0.0	5	\$44	\$100	\$100	\$0	0.0	556
Food Service & Refrigeration Measures			8,045	0.9	0	\$1,291	\$6,893	\$100	\$6,793	5.3	8,101
ECM 9	Replace Refrigeration Equipment	Yes	6,090	0.7	0	\$977	\$6,433	\$0	\$6,433	6.6	6,133
ECM 10	Vending Machine Control	Yes	1,954	0.2	0	\$314	\$460	\$100	\$360	1.1	1,968
TOTALS (COST EFFECTIVE MEASURES)			46,084	13.9	-3	\$7,369	\$31,498	\$11,740	\$19,757	2.7	46,087
TOTALS (ALL MEASURES)			53,312	16.9	-3	\$8,529	\$58,230	\$13,812	\$44,417	5.2	53,366

SHARP 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			38,736	15.5	-8	\$5,546	\$22,677	\$10,820	\$11,857	2.1	38,058
ECM 1	Install LED Fixtures	No	57	0.0	0	\$8	\$594	\$40	\$554	68.3	56
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	423	0.2	0	\$61	\$354	\$70	\$284	4.7	416
ECM 3	Retrofit Fixtures with LED Lamps	Yes	38,255	15.3	-8	\$5,478	\$21,730	\$10,710	\$11,020	2.0	37,586
Lighting Control Measures			603	0.1	0	\$87	\$2,485	\$870	\$1,615	18.6	600
ECM 4	Install Occupancy Sensor Lighting Controls	No	313	0.1	0	\$45	\$1,485	\$870	\$615	13.7	308
ECM 5	Install Photocell Controls	No	290	0.0	0	\$42	\$1,000	\$0	\$1,000	23.8	292
Variable Frequency Drive (VFD) Measures			1,578	0.5	0	\$229	\$5,513	\$200	\$5,313	23.2	1,589
ECM 6	Install VFDs on Constant Volume (CV) Fans	No	1,578	0.5	0	\$229	\$5,513	\$200	\$5,313	23.2	1,589
Electric Unitary HVAC Measures			9,852	2.9	0	\$1,430	\$14,245	\$1,656	\$12,589	8.8	9,921
ECM 7	Install High Efficiency Air Conditioning Units	No	2,886	2.1	0	\$419	\$7,481	\$920	\$6,561	15.7	2,907
ECM 8	Install High Efficiency Heat Pumps	Yes	6,965	0.7	0	\$1,011	\$6,764	\$736	\$6,028	6.0	7,014
HVAC System Improvements			848	0.0	4	\$165	\$104	\$72	\$32	0.2	1,368
ECM 9	Install Pipe Insulation	Yes	848	0.0	4	\$165	\$104	\$72	\$32	0.2	1,368
Domestic Water Heating Upgrade			0	0.0	4	\$37	\$50	\$50	\$0	0.0	458
ECM 10	Install Low-Flow DHW Devices	Yes	0	0.0	4	\$37	\$50	\$50	\$0	0.0	458
Food Service & Refrigeration Measures			6,460	0.7	0	\$938	\$4,611	\$100	\$4,511	4.8	6,505
ECM 11	Replace Refrigeration Equipment	Yes	4,506	0.5	0	\$654	\$4,151	\$0	\$4,151	6.3	4,537
ECM 12	Vending Machine Control	Yes	1,954	0.2	0	\$284	\$460	\$100	\$360	1.3	1,968
TOTALS (COST EFFECTIVE MEASURES)			52,953	16.9	0	\$7,690	\$33,612	\$11,738	\$21,874	2.8	53,347
TOTALS (ALL MEASURES)			58,077	19.6	0	\$8,433	\$49,685	\$13,768	\$35,917	4.3	58,499

RICHARD STOCKTON 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			47,580	15.4	-9	\$6,861	\$25,677	\$13,158	\$12,519	1.8	46,809
ECM 1	Install LED Fixtures	Yes	460	0.0	0	\$67	\$304	\$20	\$284	4.2	463
ECM 2	Retrofit Fixtures with LED Lamps	Yes	47,120	15.4	-9	\$6,794	\$25,373	\$13,138	\$12,235	1.8	46,346
Lighting Control Measures			1,726	0.4	0	\$249	\$2,186	\$1,910	\$276	1.1	1,695
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	172	0.0	0	\$25	\$386	\$110	\$276	11.1	169
ECM 4	Install High/Low Lighting Controls	Yes	1,553	0.4	0	\$224	\$1,800	\$1,800	\$0	0.0	1,526
Electric Unitary HVAC Measures			8,800	6.3	0	\$1,286	\$47,879	\$5,888	\$41,991	32.7	8,862
ECM 5	Install High Efficiency Air Conditioning Units	No	8,800	6.3	0	\$1,286	\$47,879	\$5,888	\$41,991	32.7	8,862
Domestic Water Heating Upgrade			0	0.0	8	\$80	\$14,469	\$1,772	\$12,698	159.2	960
ECM 6	Install High Efficiency Gas-Fired Water Heater	No	0	0.0	5	\$52	\$14,448	\$1,750	\$12,698	244.0	626
ECM 7	Install Low-Flow DHW Devices	Yes	0	0.0	3	\$28	\$22	\$22	\$0	0.0	333
Food Service & Refrigeration Measures			2,841	0.3	0	\$415	\$2,572	\$350	\$2,222	5.4	2,861
ECM 8	Replace Refrigeration Equipment	Yes	887	0.1	0	\$130	\$2,112	\$250	\$1,862	14.4	893
ECM 9	Vending Machine Control	Yes	1,954	0.2	0	\$286	\$460	\$100	\$360	1.3	1,968
TOTALS (COST EFFECTIVE MEASURES)			52,147	16.2	-7	\$7,553	\$30,456	\$15,440	\$15,017	2.0	51,698
TOTALS (ALL MEASURES)			60,947	22.4	-2	\$8,891	\$92,783	\$23,078	\$69,705	7.8	61,186

WOODCREST 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			63,511	17.2	-13	\$9,262	\$27,741	\$15,034	\$12,707	1.4	62,400
ECM 1	Install LED Fixtures	Yes	62	0.0	0	\$9	\$297	\$20	\$277	30.8	61
ECM 2	Retrofit Fixtures with LED Lamps	Yes	63,449	17.2	-13	\$9,253	\$27,444	\$15,014	\$12,430	1.3	62,339
Lighting Control Measures			4,047	0.8	-1	\$590	\$5,670	\$3,330	\$2,340	4.0	3,976
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	2,056	0.4	0	\$300	\$2,970	\$630	\$2,340	7.8	2,020
ECM 4	Install High/Low Lighting Controls	Yes	1,991	0.4	0	\$290	\$2,700	\$2,700	\$0	0.0	1,956
Variable Frequency Drive (VFD) Measures			42,580	10.2	0	\$6,294	\$84,937	\$8,650	\$76,287	12.1	42,878
ECM 5	Install VFDs on Constant Volume (CV) Fans	Yes	38,948	9.4	0	\$5,757	\$53,108	\$7,850	\$45,258	7.9	39,221
ECM 6	Install VFDs on Heating Water Pumps	No	3,632	0.8	0	\$537	\$31,829	\$800	\$31,029	57.8	3,657
Electric Unitary HVAC Measures			8,428	9.8	0	\$1,246	\$117,287	\$11,948	\$105,339	84.6	8,487
ECM 7	Install High Efficiency Air Conditioning Units	No	8,428	9.8	0	\$1,246	\$117,287	\$11,948	\$105,339	84.6	8,487
Gas Heating (HVAC/Process) Replacement			0	0.0	80	\$761	\$38,980	\$6,081	\$32,899	43.2	9,385
ECM 8	Install High Efficiency Hot Water Boilers	No	0	0.0	80	\$761	\$38,980	\$6,081	\$32,899	43.2	9,385
HVAC System Improvements			2,118	0.0	6	\$367	\$5,438	\$0	\$5,438	14.8	2,800
ECM 9	Implement Demand Control Ventilation (DCV)	Yes	2,118	0.0	6	\$367	\$5,438	\$0	\$5,438	14.8	2,800
Domestic Water Heating Upgrade			0	0.0	8	\$80	\$194	\$194	\$0	0.0	980
ECM 10	Install Low-Flow DHW Devices	Yes	0	0.0	8	\$80	\$194	\$194	\$0	0.0	980
Food Service & Refrigeration Measures			3,581	0.2	0	\$529	\$712	\$250	\$462	0.9	3,606
ECM 11	Refrigeration Controls	Yes	1,627	0.0	0	\$241	\$252	\$150	\$102	0.4	1,638
ECM 12	Vending Machine Control	Yes	1,954	0.2	0	\$289	\$460	\$100	\$360	1.2	1,968
TOTALS (COST EFFECTIVE MEASURES)			112,205	27.6	0	\$16,586	\$92,862	\$26,658	\$66,205	4.0	112,983
TOTALS (ALL MEASURES)			124,265	38.2	80	\$19,130	\$280,959	\$45,487	\$235,472	12.3	134,512

BARCLAY EARLY CHILDHOOD CENTER

#	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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			32,728	7.6	-7	\$4,872	\$11,951	\$6,222	\$5,729	1.2	32,155
ECM 1	Retrofit Fixtures with LED Lamps	Yes	32,728	7.6	-7	\$4,872	\$11,951	\$6,222	\$5,729	1.2	32,155
Lighting Control Measures			1,189	0.2	0	\$177	\$1,080	\$140	\$940	5.3	1,168
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	1,189	0.2	0	\$177	\$1,080	\$140	\$940	5.3	1,168
Motor Upgrades			1,041	0.2	0	\$157	\$12,498	\$0	\$12,498	79.6	1,049
ECM 3	Premium Efficiency Motors	No	1,041	0.2	0	\$157	\$12,498	\$0	\$12,498	79.6	1,049
Variable Frequency Drive (VFD) Measures			4,652	1.5	0	\$702	\$9,532	\$550	\$8,982	12.8	4,685
ECM 4	Install VFDs on Constant Volume (CV) Fans	No	1,101	0.3	0	\$166	\$3,010	\$150	\$2,860	17.2	1,109
ECM 5	Install Boiler Draft Fan VFDs	No	3,551	1.2	0	\$536	\$6,522	\$400	\$6,122	11.4	3,576
Electric Unitary HVAC Measures			572	0.5	0	\$86	\$3,183	\$258	\$2,926	33.9	576
ECM 6	Install High Efficiency Air Conditioning Units	No	572	0.5	0	\$86	\$3,183	\$258	\$2,926	33.9	576
Gas Heating (HVAC/Process) Replacement			0	0.0	8	\$75	\$2,266	\$800	\$1,466	19.5	924
ECM 7	Install High Efficiency Furnaces	No	0	0.0	8	\$75	\$2,266	\$800	\$1,466	19.5	924
HVAC System Improvements			0	0.0	1	\$5	\$72	\$40	\$32	6.7	59
ECM 8	Install Pipe Insulation	Yes	0	0.0	1	\$5	\$72	\$40	\$32	6.7	59
Domestic Water Heating Upgrade			0	0.0	9	\$81	\$65	\$65	\$0	0.0	1,000
ECM 9	Install Low-Flow DHW Devices	Yes	0	0.0	9	\$81	\$65	\$65	\$0	0.0	1,000
TOTALS (COST EFFECTIVE MEASURES)			33,916	7.8	2	\$5,135	\$13,168	\$6,467	\$6,701	1.3	34,382
TOTALS (ALL MEASURES)			40,182	10.0	10	\$6,156	\$40,647	\$8,074	\$32,573	5.3	41,616

HENRY BECK 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			214,438	36.8	-45	\$28,596	\$56,305	\$29,364	\$26,941	0.9	210,702
ECM 1	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	5,302	0.9	-1	\$707	\$1,513	\$440	\$1,073	1.5	5,210
ECM 2	Retrofit Fixtures with LED Lamps	Yes	209,020	35.9	-44	\$27,874	\$54,647	\$28,924	\$25,723	0.9	205,379
ECM 3	Install LED Exit Signs	Yes	116	0.0	0	\$15	\$145	\$0	\$145	9.4	114
Lighting Control Measures			6,936	1.0	-1	\$925	\$11,877	\$1,480	\$10,397	11.2	6,814
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	6,723	1.0	-1	\$896	\$11,652	\$1,480	\$10,172	11.3	6,605
ECM 5	Install High/Low Lighting Controls	Yes	213	0.0	0	\$28	\$225	\$0	\$225	7.9	209
Motor Upgrades			2,104	0.4	0	\$285	\$8,189	\$0	\$8,189	28.8	2,119
ECM 6	Premium Efficiency Motors	Yes	2,104	0.4	0	\$285	\$8,189	\$0	\$8,189	28.8	2,119
Variable Frequency Drive (VFD) Measures			72,436	15.4	0	\$9,797	\$42,114	\$15,800	\$26,314	2.7	72,943
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	66,177	14.4	0	\$8,950	\$34,596	\$15,000	\$19,596	2.2	66,639
ECM 8	Install VFDs on Heating Water Pumps	Yes	6,260	1.0	0	\$847	\$7,518	\$800	\$6,718	7.9	6,303
Electric Unitary HVAC Measures			8,273	6.5	0	\$1,119	\$81,412	\$7,188	\$74,224	66.3	8,331
ECM 9	Install High Efficiency Air Conditioning Units	No	8,273	6.5	0	\$1,119	\$81,412	\$7,188	\$74,224	66.3	8,331
Gas Heating (HVAC/Process) Replacement			0	0.0	78	\$709	\$24,209	\$6,725	\$17,484	24.7	9,129
ECM 10	Install High Efficiency Hot Water Boilers	No	0	0.0	77	\$704	\$23,484	\$6,000	\$17,484	24.8	9,063
ECM 11	Install High Efficiency Furnaces	Yes	0	0.0	1	\$5	\$725	\$725	\$0	0.0	66
Domestic Water Heating Upgrade			0	0.0	26	\$234	\$3,464	\$392	\$3,071	13.1	3,017
ECM 12	Install High Efficiency Gas-Fired Water Heater	No	0	0.0	4	\$36	\$3,299	\$228	\$3,071	85.8	461
ECM 13	Install Low-Flow DHW Devices	Yes	0	0.0	22	\$198	\$165	\$165	\$0	0.0	2,555
Food Service & Refrigeration Measures			5,178	0.6	0	\$700	\$920	\$300	\$620	0.9	5,214
ECM 14	Vending Machine Control	Yes	5,178	0.6	0	\$700	\$920	\$300	\$620	0.9	5,214
TOTALS (COST EFFECTIVE MEASURES)			301,092	54.2	-24	\$40,507	\$120,295	\$47,834	\$72,461	1.8	300,414
TOTALS (ALL MEASURES)			309,366	60.6	58	\$42,366	\$228,489	\$61,249	\$167,239	3.9	318,270

JOHN CARUSI 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			140,315	37.3	-28	\$18,621	\$60,329	\$30,722	\$29,607	1.6	138,052
ECM 1	Install LED Fixtures	Yes	4,415	0.0	0	\$593	\$4,122	\$820	\$3,302	5.6	4,446
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	1,746	0.5	0	\$232	\$825	\$240	\$585	2.5	1,716
ECM 3	Retrofit Fixtures with LED Lamps	Yes	134,153	36.8	-27	\$17,796	\$55,382	\$29,662	\$25,720	1.4	131,890
Lighting Control Measures			7,699	1.8	-2	\$1,021	\$13,485	\$6,210	\$7,275	7.1	7,564
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	4,908	1.2	-1	\$651	\$8,760	\$2,020	\$6,740	10.4	4,822
ECM 5	Install High/Low Lighting Controls	Yes	2,791	0.6	-1	\$370	\$4,725	\$4,190	\$535	1.4	2,742
Motor Upgrades			2,354	0.5	0	\$316	\$15,165	\$0	\$15,165	47.9	2,370
ECM 6	Premium Efficiency Motors	No	2,354	0.5	0	\$316	\$15,165	\$0	\$15,165	47.9	2,370
Variable Frequency Drive (VFD) Measures			47,881	14.9	0	\$6,436	\$45,009	\$11,800	\$33,209	5.2	48,216
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	47,881	14.9	0	\$6,436	\$45,009	\$11,800	\$33,209	5.2	48,216
Electric Unitary HVAC Measures			17,299	21.6	0	\$2,325	\$266,539	\$27,484	\$239,055	102.8	17,420
ECM 8	Install High Efficiency Air Conditioning Units	No	17,299	21.6	0	\$2,325	\$266,539	\$27,484	\$239,055	102.8	17,420
Gas Heating (HVAC/Process) Replacement			0	0.0	91	\$787	\$41,327	\$7,200	\$34,127	43.4	10,686
ECM 9	Install High Efficiency Furnaces	No	0	0.0	91	\$787	\$41,327	\$7,200	\$34,127	43.4	10,686
HVAC System Improvements			0	0.0	35	\$304	\$379	\$200	\$179	0.6	4,130
ECM 10	Install Pipe Insulation	Yes	0	0.0	35	\$304	\$379	\$200	\$179	0.6	4,130
Domestic Water Heating Upgrade			0	0.0	6	\$49	\$43	\$43	\$0	0.0	667
ECM 11	Install Low-Flow DHW Devices	Yes	0	0.0	6	\$49	\$43	\$43	\$0	0.0	667
Food Service & Refrigeration Measures			3,909	0.4	0	\$525	\$920	\$200	\$720	1.4	3,936
ECM 12	Vending Machine Control	Yes	3,909	0.4	0	\$525	\$920	\$200	\$720	1.4	3,936
TOTALS (COST EFFECTIVE MEASURES)			199,803	54.4	12	\$26,956	\$120,166	\$49,175	\$70,991	2.6	202,564
TOTALS (ALL MEASURES)			219,456	76.6	103	\$30,384	\$443,196	\$83,859	\$359,337	11.8	233,040

ROSA INTERNATIONAL 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			110,805	29.5	-22	\$15,807	\$51,688	\$25,428	\$26,260	1.7	108,977
ECM 1	Install LED Fixtures	Yes	4,078	0.0	0	\$589	\$6,620	\$1,400	\$5,220	8.9	4,106
ECM 2	Retrofit Fixtures with LED Lamps	Yes	106,728	29.5	-22	\$15,218	\$45,068	\$24,028	\$21,040	1.4	104,871
Lighting Control Measures			6,453	1.4	-1	\$920	\$9,646	\$4,880	\$4,766	5.2	6,340
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	3,526	0.8	-1	\$503	\$5,596	\$890	\$4,706	9.4	3,464
ECM 4	Install High/Low Lighting Controls	Yes	2,927	0.6	-1	\$417	\$4,050	\$3,990	\$60	0.1	2,876
Motor Upgrades			2,894	0.5	0	\$418	\$14,862	\$0	\$14,862	35.5	2,915
ECM 5	Premium Efficiency Motors	No	2,894	0.5	0	\$418	\$14,862	\$0	\$14,862	35.5	2,915
Variable Frequency Drive (VFD) Measures			20,799	4.4	0	\$3,006	\$15,107	\$4,100	\$11,007	3.7	20,945
ECM 6	Install VFDs on Constant Volume (CV) Fans	Yes	20,799	4.4	0	\$3,006	\$15,107	\$4,100	\$11,007	3.7	20,945
Electric Unitary HVAC Measures			6,403	6.9	0	\$925	\$76,989	\$7,428	\$69,561	75.2	6,448
ECM 7	Install High Efficiency Air Conditioning Units	No	6,403	6.9	0	\$925	\$76,989	\$7,428	\$69,561	75.2	6,448
Gas Heating (HVAC/Process) Replacement			0	0.0	174	\$1,605	\$19,757	\$3,200	\$16,557	10.3	20,330
ECM 8	Install High Efficiency Furnaces	No	0	0.0	174	\$1,605	\$19,757	\$3,200	\$16,557	10.3	20,330
Food Service & Refrigeration Measures			5,521	0.6	0	\$798	\$1,150	\$300	\$850	1.1	5,559
ECM 9	Vending Machine Control	Yes	5,521	0.6	0	\$798	\$1,150	\$300	\$850	1.1	5,559
TOTALS (COST EFFECTIVE MEASURES)			143,578	35.9	-24	\$20,531	\$77,591	\$34,708	\$42,883	2.1	141,820
TOTALS (ALL MEASURES)			152,875	43.2	150	\$23,479	\$189,199	\$45,336	\$143,863	6.1	171,513

CHERRY HILL HS EAST

#	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 ₂ e Reduction (lbs)
Lighting Upgrades			352,065	65.3	-73	\$42,829	\$98,459	\$48,992	\$49,467	1.2	345,977
ECM 1	Install LED Fixtures	Yes	6,128	0.5	-1	\$751	\$3,482	\$1,000	\$2,482	3.3	6,089
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	12,937	2.0	-3	\$1,574	\$4,108	\$1,020	\$3,088	2.0	12,711
ECM 3	Retrofit Fixtures with LED Lamps	Yes	332,596	62.8	-70	\$40,456	\$90,362	\$46,972	\$43,390	1.1	326,779
ECM 4	Install LED Exit Signs	Yes	405	0.0	0	\$49	\$507	\$0	\$507	10.3	398
Lighting Control Measures			30,625	4.3	-6	\$3,725	\$31,425	\$10,330	\$21,095	5.7	30,089
ECM 5	Install Occupancy Sensor Lighting Controls	Yes	24,055	3.4	-5	\$2,926	\$24,900	\$4,350	\$20,550	7.0	23,634
ECM 6	Install High/Low Lighting Controls	Yes	6,570	0.9	-1	\$799	\$6,525	\$5,980	\$545	0.7	6,455
Motor Upgrades			11,542	2.0	0	\$1,425	\$53,968	\$0	\$53,968	37.9	11,623
ECM 7	Premium Efficiency Motors	No	11,542	2.0	0	\$1,425	\$53,968	\$0	\$53,968	37.9	11,623
Variable Frequency Drive (VFD) Measures			150,989	27.6	157	\$20,042	\$122,622	\$25,300	\$97,322	4.9	170,417
ECM 8	Install VFDs on Constant Volume (CV) Fans	No	89,575	24.3	0	\$11,062	\$94,109	\$19,400	\$74,709	6.8	90,201
ECM 9	Install VFDs on Heating Water Pumps	Yes	48,544	3.1	0	\$5,995	\$14,127	\$4,800	\$9,327	1.6	48,883
ECM 10	Install VFDs on Kitchen Hood Fan Motors	Yes	12,870	0.1	157	\$2,985	\$14,385	\$1,100	\$13,285	4.5	31,333
Electric Unitary HVAC Measures			12,921	7.6	0	\$1,596	\$68,297	\$7,960	\$60,337	37.8	13,011
ECM 11	Install High Efficiency Air Conditioning Units	No	12,921	7.6	0	\$1,596	\$68,297	\$7,960	\$60,337	37.8	13,011
HVAC System Improvements			5,498	0.0	45	\$1,079	\$5,438	\$0	\$5,438	5.0	10,805
ECM 12	Implement Demand Control Ventilation (DCV)	Yes	5,498	0.0	45	\$1,079	\$5,438	\$0	\$5,438	5.0	10,805
Domestic Water Heating Upgrade			0	0.0	68	\$608	\$172	\$172	\$0	0.0	8,000
ECM 13	Install Low-Flow DHW Devices	Yes	0	0.0	68	\$608	\$172	\$172	\$0	0.0	8,000
Food Service & Refrigeration Measures			18,602	2.1	0	\$2,297	\$17,399	\$2,420	\$14,979	6.5	18,732
ECM 14	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	2,029	0.3	0	\$251	\$2,730	\$720	\$2,010	8.0	2,043
ECM 15	Refrigeration Controls	No	778	0.0	0	\$96	\$2,711	\$350	\$2,361	24.6	784
ECM 16	Replace Refrigeration Equipment	No	3,142	0.4	0	\$388	\$9,428	\$650	\$8,778	22.6	3,164
ECM 17	Vending Machine Control	Yes	12,653	1.4	0	\$1,563	\$2,530	\$700	\$1,830	1.2	12,741
Custom Measures			21,841	0.0	0	\$2,697	\$9,580	\$0	\$9,580	3.6	21,993
ECM 18	Installation of an Energy Management System	Yes	21,841	0.0	0	\$2,697	\$9,580	\$0	\$9,580	3.6	0
TOTALS (COST EFFECTIVE MEASURES)			486,125	74.5	191	\$61,731	\$178,845	\$66,814	\$112,031	1.8	511,865
TOTALS (ALL MEASURES)			604,083	108.8	191	\$76,298	\$407,359	\$95,174	\$312,185	4.1	630,648

CHERRY HILL HS WEST

#	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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			348,086	58.3	-72	\$46,776	\$88,614	\$45,786	\$42,828	0.9	342,125
ECM 1	Install LED Fixtures	Yes	4,636	0.3	0	\$628	\$4,000	\$1,400	\$2,600	4.1	4,614
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	1,219	0.4	0	\$164	\$734	\$190	\$544	3.3	1,197
ECM 3	Retrofit Fixtures with LED Lamps	Yes	342,116	57.6	-71	\$45,969	\$83,736	\$44,196	\$39,540	0.9	336,200
ECM 4	Install LED Exit Signs	Yes	116	0.0	0	\$16	\$145	\$0	\$145	9.3	114
Lighting Control Measures			25,956	3.0	-5	\$3,491	\$24,895	\$6,500	\$18,395	5.3	25,553
ECM 5	Install Occupancy Sensor Lighting Controls	Yes	22,469	2.9	-5	\$3,019	\$17,820	\$4,480	\$13,340	4.4	22,076
ECM 6	Install Daylight Dimming/Photocell Controls	No	2,059	0.0	0	\$281	\$4,600	\$0	\$4,600	16.4	2,073
ECM 7	Install High/Low Lighting Controls	Yes	1,429	0.2	0	\$192	\$2,475	\$2,020	\$455	2.4	1,404
Variable Frequency Drive (VFD) Measures			72,015	14.8	0	\$9,817	\$58,876	\$10,200	\$48,676	5.0	72,519
ECM 8	Install VFDs on Constant Volume (CV) Fans	Yes	69,724	14.1	0	\$9,505	\$54,800	\$8,400	\$46,400	4.9	70,211
ECM 9	Install VFDs on Heating Water Pumps	Yes	2,291	0.7	0	\$312	\$4,076	\$1,800	\$2,276	7.3	2,307
Electric Unitary HVAC Measures			9,375	10.1	0	\$1,278	\$70,017	\$7,884	\$62,133	48.6	9,441
ECM 10	Install High Efficiency Air Conditioning Units	No	9,375	10.1	0	\$1,278	\$70,017	\$7,884	\$62,133	48.6	9,441
Gas Heating (HVAC/Process) Replacement			0	0.0	876	\$8,261	\$264,946	\$5,600	\$259,346	31.4	102,589
ECM 11	Install High Efficiency Hot Water Boilers	No	0	0.0	650	\$6,131	\$229,442	\$0	\$229,442	37.4	76,140
ECM 12	Install High Efficiency Furnaces	No	0	0.0	226	\$2,130	\$35,504	\$5,600	\$29,904	14.0	26,450
Domestic Water Heating Upgrade			0	0.0	101	\$953	\$40,121	\$165	\$39,956	41.9	11,831
ECM 13	Install High Efficiency Gas-Fired Water Heater	No	0	0.0	80	\$754	\$39,956	\$0	\$39,956	53.0	9,367
ECM 14	Install Low-Flow DHW Devices	Yes	0	0.0	21	\$198	\$165	\$165	\$0	0.0	2,464
Food Service & Refrigeration Measures			3,909	0.4	0	\$533	\$920	\$200	\$720	1.4	3,936
ECM 15	Vending Machine Control	Yes	3,909	0.4	0	\$533	\$920	\$200	\$720	1.4	3,936
TOTALS (COST EFFECTIVE MEASURES)			447,908	76.6	-56	\$60,536	\$168,870	\$62,851	\$106,019	1.8	444,524
TOTALS (ALL MEASURES)			459,342	86.7	901	\$71,110	\$548,389	\$76,335	\$472,054	6.6	567,994

MALBERG ALTERNATIVE HS & ADMIN BUILDING

#	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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			35,257	13.3	-7	\$4,251	\$14,759	\$7,680	\$7,079	1.7	34,659
ECM 1	Install LED Fixtures	Yes	756	0.0	0	\$93	\$540	\$400	\$140	1.5	762
ECM 2	Retrofit Fixtures with LED Lamps	Yes	34,500	13.3	-7	\$4,159	\$14,219	\$7,280	\$6,939	1.7	33,897
Lighting Control Measures			4,179	1.0	-1	\$506	\$3,985	\$700	\$3,285	6.5	4,129
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	3,182	1.0	-1	\$384	\$2,760	\$490	\$2,270	5.9	3,126
ECM 4	Install Daylight Dimming/PhotoCell Controls	Yes	913	0.0	0	\$112	\$1,000	\$0	\$1,000	8.9	919
ECM 5	Install High/Low Lighting Controls	Yes	85	0.0	0	\$10	\$225	\$210	\$15	1.5	83
Motor Upgrades			131	0.0	0	\$16	\$948	\$0	\$948	59.2	132
ECM 6	Premium Efficiency Motors	No	131	0.0	0	\$16	\$948	\$0	\$948	59.2	132
Electric Unitary HVAC Measures			1,028	0.2	0	\$126	\$2,269	\$184	\$2,085	16.6	1,035
ECM 7	Install High Efficiency Heat Pumps	No	1,028	0.2	0	\$126	\$2,269	\$184	\$2,085	16.6	1,035
Domestic Water Heating Upgrade			0	0.0	4	\$34	\$72	\$72	\$0	0.0	418
ECM 8	Install Low-Flow DHW Devices	Yes	0	0.0	4	\$34	\$72	\$72	\$0	0.0	418
Food Service & Refrigeration Measures			5,068	0.6	0	\$621	\$2,385	\$100	\$2,285	3.7	5,103
ECM 9	Replace Refrigeration Equipment	Yes	3,113	0.4	0	\$382	\$1,925	\$0	\$1,925	5.0	3,135
ECM 10	Vending Machine Control	Yes	1,954	0.2	0	\$239	\$460	\$100	\$360	1.5	1,968
TOTALS (COST EFFECTIVE MEASURES)			44,504	14.9	-4	\$5,412	\$21,201	\$8,552	\$12,649	2.3	44,309
TOTALS (ALL MEASURES)			45,662	15.1	-4	\$5,554	\$24,418	\$8,736	\$15,682	2.8	45,475

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

- Retro-Commissioning Study
- Upgrade/Replace Energy Management System
- **Computer Power Management Software**
- Electric Submeter
- Ozone Laundry System
- Eliminate Oversized Domestic Hot Water Heating Systems
- Heating System Conversion from Steam to Hot Water
- Upgrade to a Heat Pump System
- Vestibule Revolving Doors
- Window Replacements
- Disaggregate Boiler System

CLEAN ENERGY PROGRAM PORTFOLIO

ELIGIBLE SECTORS

Commercial, Industrial, Government, Non-Profit, Institutional and Multifamily

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**

INCENTIVE PROGRAMS

OTHER PROGRAMS

Renewable Energy Generation:

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

SOLAR ENERGY GENERATION POTENTIAL

	Barton	Cooper	Johnson	Kilmer	Kingston	Knight	Mann	Paine
Potential:	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
System Potential: (kW)	101	84	65	91	87	93	72	90
Electric Generation: (kWh per year)	120,328	100,075	77,439	108,415	103,649	110,798	85,778	107,224
Displaced Cost: (per year)	\$20,390	\$15,640	\$11,760	\$15,480	\$15,520	\$16,980	\$12,760	\$17,200

Transition Incentive (TI) Program:

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

Community Solar Energy Pilot Program:

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



SOLAR ENERGY GENERATION POTENTIAL

	Sharp	Stockton	Woodcrest	Barclay	Beck	Carusi	Rosa	HS East	HS West
<i>Potential:</i>	HIGH	HIGH	Medium	Medium	HIGH	HIGH	HIGH	HIGH	Medium
<i>System Potential: (kW)</i>	75	81	88	57	258	225	171	604	464
<i>Electric Generation: (kWh per year)</i>	89,353	96,501	66,215	67,908	307,373	268,059	203,725	719,588	349,134
<i>Displaced Cost: (per year)</i>	\$12,970	\$14,100	\$9,790	\$10,240	\$41,570	\$36,030	\$29,490	\$88,870	\$47,600

Transition Incentive (TI) Program:

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

Community Solar Energy Pilot Program:

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

COMBINED HEAT & POWER POTENTIAL

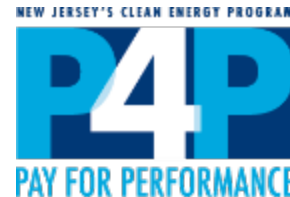
	High School East
<i>Potential:</i>	Medium
<i>System Type:</i>	Recip Engine
<i>System Potential: (kW)</i>	330
<i>Electric Generation: (kWh per year)</i>	1,708,180
<i>Thermal Generation: (MBtu per year)</i>	3,399,498
<i>Displaced Cost: (per year)</i>	\$52,455

RECOMMENDED NJCEP INCENTIVES PER BUILDING

Cherry Hill School District	Pay For Performance	Direct Install	SmartStart	CTEEP
Clara Barton ES		X	X	X
James Cooper ES		X	X	X
Bret Harte ES		X	X	X
Johnson ES		X	X	X
Kilmer ES		X	X	X
Kingston ES		X	X	X
Knight ES	X		X	X
Horace Mann ES		X	X	X
Thomas Paine ES		X	X	X
Sharp ES		X	X	X
Richard Stockton ES		X	X	X
Woodcrest ES	X	X	X	X
Barclay Early Childhood Center		X	X	X
Henry Beck MS	X		X	X
John Carusi MS	X		X	X
Rosa International MS		X	X	X
High School East	X		X	X
High School West	X		X	X
Malberg Alternative HS & Admin Bldg		X	X	X

PAY FOR PERFORMANCE

NJCleanEnergy.com/P4P



What is P4P: Comprehensive, whole-building approach to saving energy in existing or new facilities.

Qualifications: Annual peak demand 200 kW+ in the previous year for existing buildings

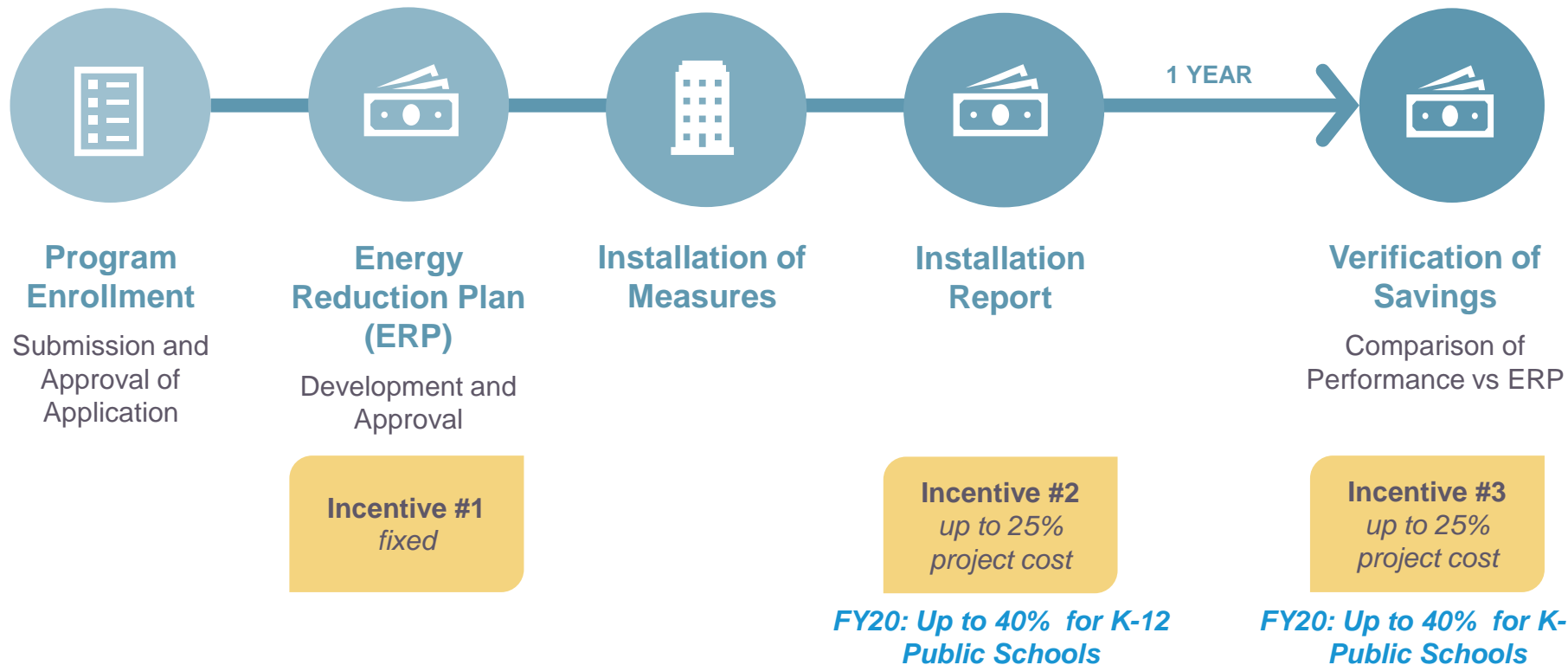
About: Customer choose from a network of pre-approved *Participating Partners*

Incentives:

- Incentives paid in *three* installments
 - Up to \$2MM per project((\$4MM entity cap/year)
 - \$1 million for electric measures
 - \$1 million for gas measures
 - Up to 50% of project cost (**80%** for UEZ/OZ/Local Govt./ **K-12 Public Schools**) up to \$2MM per project / \$4MM per entity annually

PAY FOR PERFORMANCE

NJCleanEnergy.com/P4P



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

Up to **80%** of installed cost is paid directly to the contractor

CUSTOMER

20% of installed cost

All other eligible facilities:

INCENTIVE FUNDING

Up to **70%** of installed cost is paid directly to the contractor

CUSTOMER

30% of installed cost



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

- Lighting & Lighting Controls
- Packaged HVAC
- Boilers & Water Heaters
- Chillers
- VFD's
- Food Service
- Refrigeration

Prescriptive Only:

**DOUBLE
INCENTIVES FOR
OZ/UEZ/ LOCAL
GOVT./K-12 PUBLIC
SCHOOLS**

Custom Incentives

- New or innovative technologies proven to be cost-effective and not listed as prescriptive
- Projects must have a minimum first year energy savings of 75,000 kWh or 1,500 therms
- Project pre and post inspection required



CUSTOMER TAILORED ENERGY EFFICIENCY PILOT

NJCleanEnergy.com/CTEEP

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**

COMBINED HEAT & POWER - FUEL CELLS

NJCleanEnergy.com/CHP

What is CHP: Combined Heat & Power (CHP) units generates electricity and recycle waste heat to provide heating and/or cooling

About:

- Fuel Cells (FC) with or without heat recovery (HR)
- Resiliency with Return on Investment
- Technology-neutral incentives

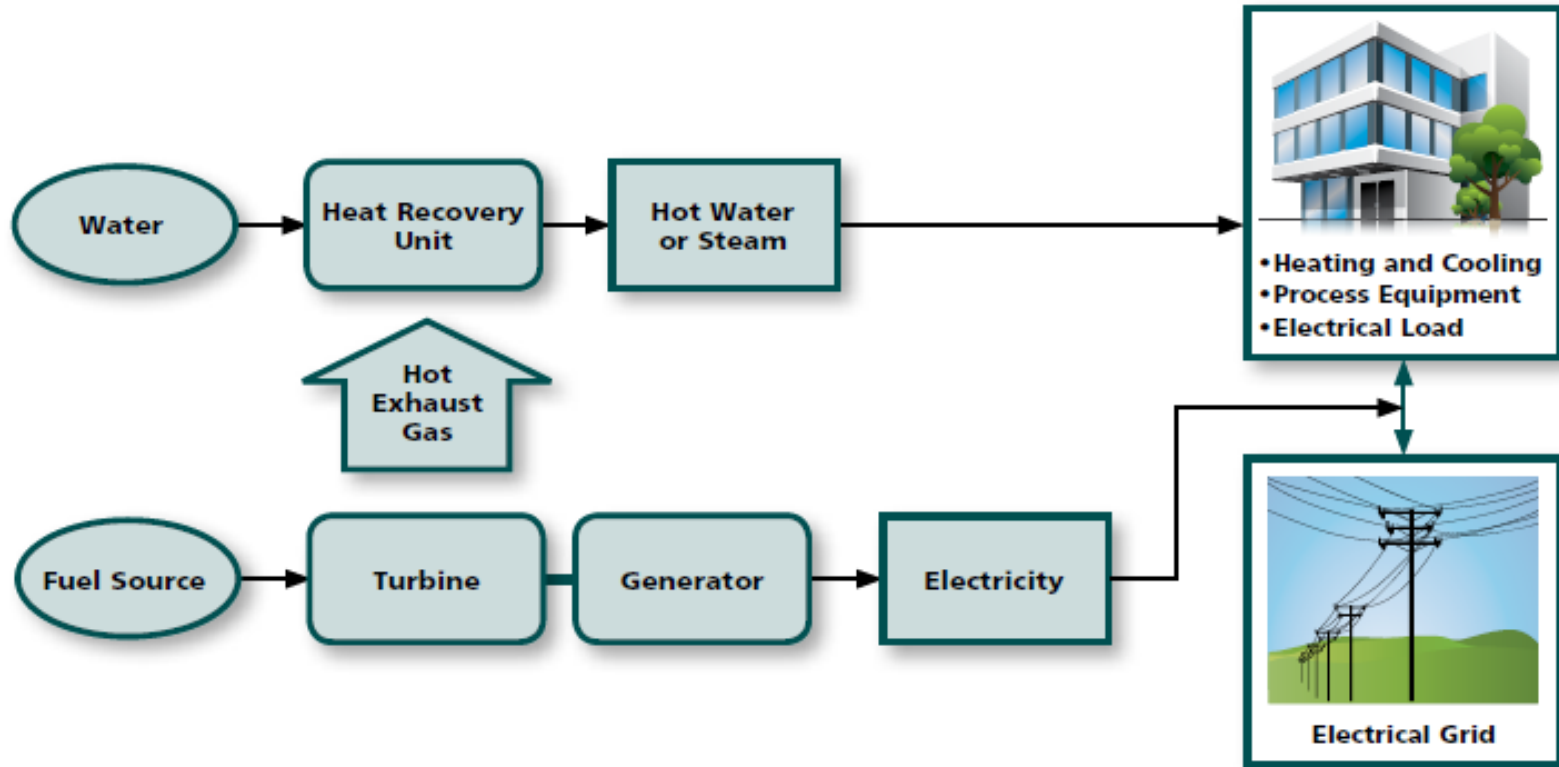
Incentives:

- 30/50/20 Incentive payment
 - 30% when equipment purchased
 - 50% when system installed
 - 20% upon confirmation that the project is achieving the required performance



COMBINED HEAT & POWER - FUEL CELLS

NJCleanEnergy.com/CHP



COMBINED HEAT & POWER - FUEL CELLS

NJCleanEnergy.com/CHP

Eligible Technology	Size (Installed Rated Capacity)	Incentive (\$/Watt) ⁽⁵⁾	% of Total Cost Cap per project	\$ Cap per project	
CHP powered by non-renewable or renewable fuel source, or a combination ⁽⁴⁾ : <ul style="list-style-type: none"> • Gas Internal Combustion Engine • Gas Combustion Turbine • Microturbine 	≤500 kW ⁽¹⁾	\$2.00	30-40% ⁽²⁾	\$2 million	
	>500 kW – 1 MW ⁽¹⁾	\$1.00			
	Fuel Cell with Heat Recovery (FCHR)	>3 MW ⁽¹⁾	\$0.35	30%	\$3 million
	Fuel Cell without Heat Recovery (FCwoHR)	Same as above ⁽¹⁾	Applicable amount above		
Waste Heat to Power (WHP) ⁽³⁾ Powered by non-renewable fuel source. Heat recovery or other mechanical recovery from existing equipment utilizing new electric generation equipment (e.g. steam turbine)	≤1 MW ⁽¹⁾	\$1.00	30%	\$2 million	
	>1 MW ⁽¹⁾	\$0.50	30%	\$3 million	

Critical Facility/Blackstart bonus of 25%

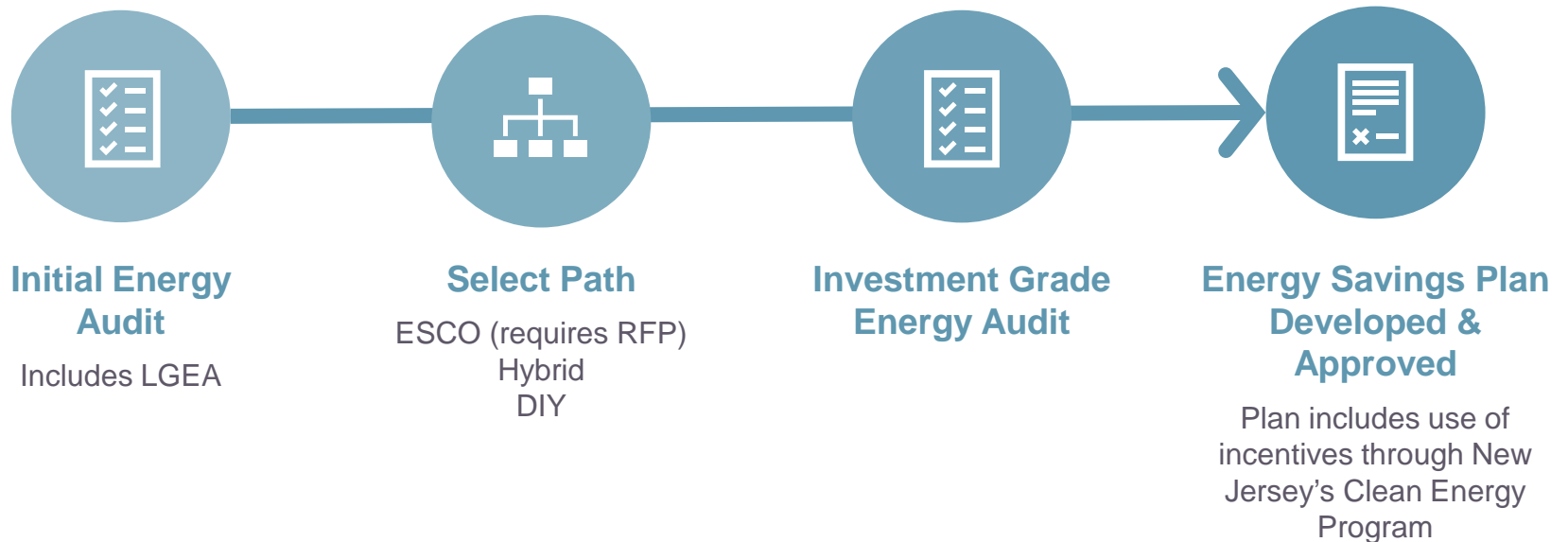
FINANCING MECHANISM: ESIP

ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- Provides alternative financing for energy savings projects at public institutions
- Administered directly by the BPU
- Value of energy savings leveraged to pay for cost of EE projects over a 15 year contract
- Requires NO new bonding and is outside of capital budget
- Does not count as debt or require voter approval



FINANCING MECHANISM: ESIP



ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

FOR MORE INFORMATION

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ESIP Coordinator

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New Jersey's
cleanenergy
program™

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QUESTIONS

