

New Jersey's Clean Energy Program

LGEA Exit Meeting for:
Vineland Public School District

December 17, 2019



INTRODUCTIONS

Vineland Public School District

- Gene Mercoli – Business Administrator
- Paul Farinaccio – Director of Maintenance Services
- *NJ Clean Energy Program*
 - Moussa Traore – TRC Auditor
 - Amanda Muench – TRC Account Manager
 - Gary Finger – TRC Outreach Manager
 - Michelle Rossi – BPU State Energy Office

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 Vineland Public School District



LGEA PROCESS

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

SITE VISIT & UTILITY ANALYSIS

Overview of Systems, Baseline & Existing Conditions:

- Lighting System
- HVAC and Mechanical Systems
- Plug Load Equipment
- Food Service & Refrigeration Equipment

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

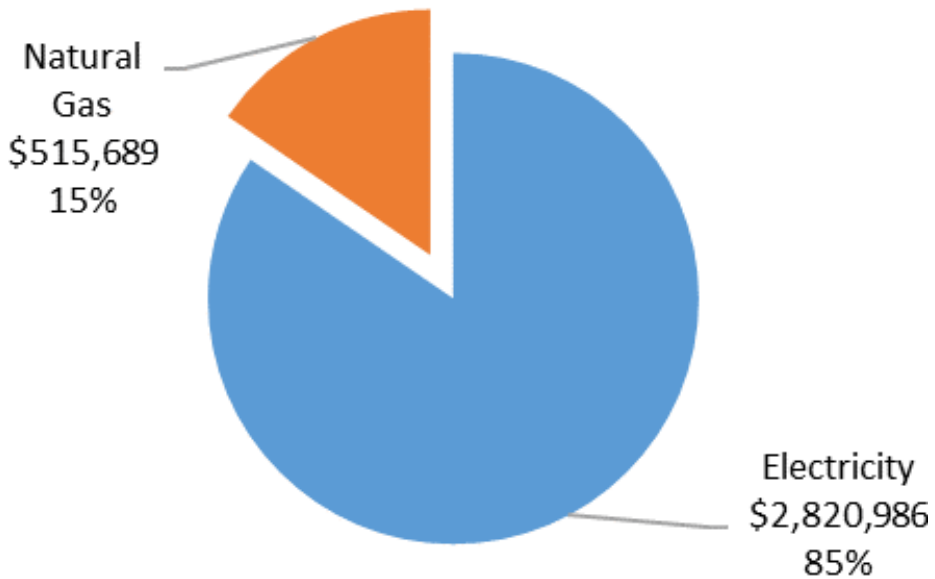
Sites Visited/Analyzed

- Anthony Rossi Intermediate School
- D'Ippolito Elementary School
- Dane Barse Elementary School
- Dr. John H. Winslow Elementary School
- Johnstone Elementary School
- Landis Administrative Bldg.
- Petway Elementary School
- Casimer Dallago Early Childhood Center
- Gloria M. Sabater Elementary School
- Veterans Memorial Intermediate School
- Vineland High School North
- Vineland High School South
- Thomas Wallace Middle School
- Cunningham School (Academy)
- Maintenance/Transportation Building
- Central Warehouse
- Sgt. Dominick Pilla Middle School

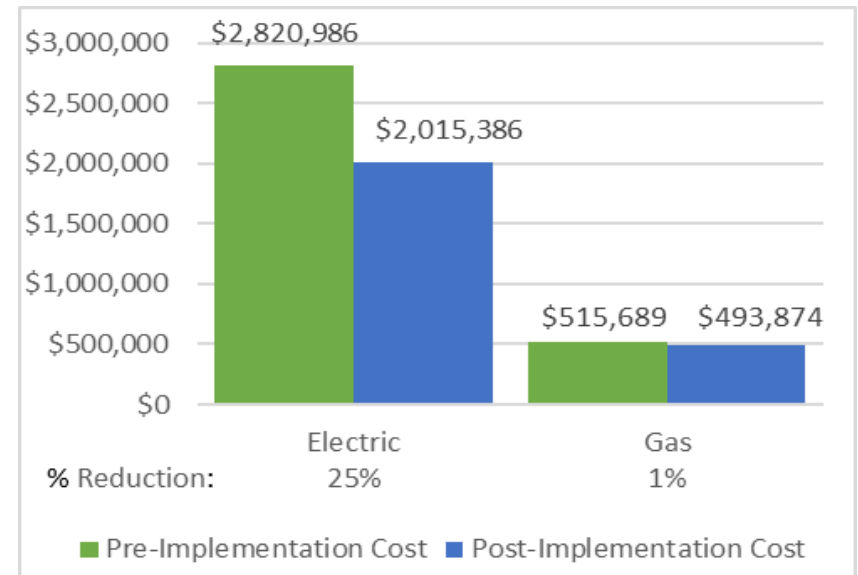


UTILITY BREAKOUT

Percent of Total Annual Energy Costs



Pre & Post Implementation Cost



BENCHMARKING



52

ENERGY STAR®
Score¹

Petway Elementary School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 74,300
Built: 1927

For Year Ending: June 30, 2018
Date Generated: October 04, 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 Petway Elementary School 1115 S. Lincoln Avenue Vineland, New Jersey 08361	Property Owner Vineland Public Schools 61 W. Landis Avenue Vineland, NJ 08360 856-794-6700, ext 2226	Primary Contact Gene Mercoli 61 W. Landis Avenue Vineland, NJ 08360 856-794-6700, ext. 2226 jrosado@trcsolutions.com
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Property ID: 7566443

Energy Consumption and Energy Use Intensity (EUI)

Site EUI 44.2 kBtu/ft ²	Annual Energy by Fuel Natural Gas (kBtu) 692,837 (21%) Electric - Grid (kBtu) 2,594,217 (79%)	National Median Comparison National Median Site EUI (kBtu/ft ²) 45.4 National Median Source EUI (kBtu/ft ²) 110.4 % Diff from National Median Source EUI -3%
Source EUI 107.6 kBtu/ft ²	Annual Emissions Greenhouse Gas Emissions (Metric Tons CO ₂ e/year) 300	

Site EUI
44.2 kBtu/ft²

Source EUI
107.6 kBtu/ft²

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

() _____

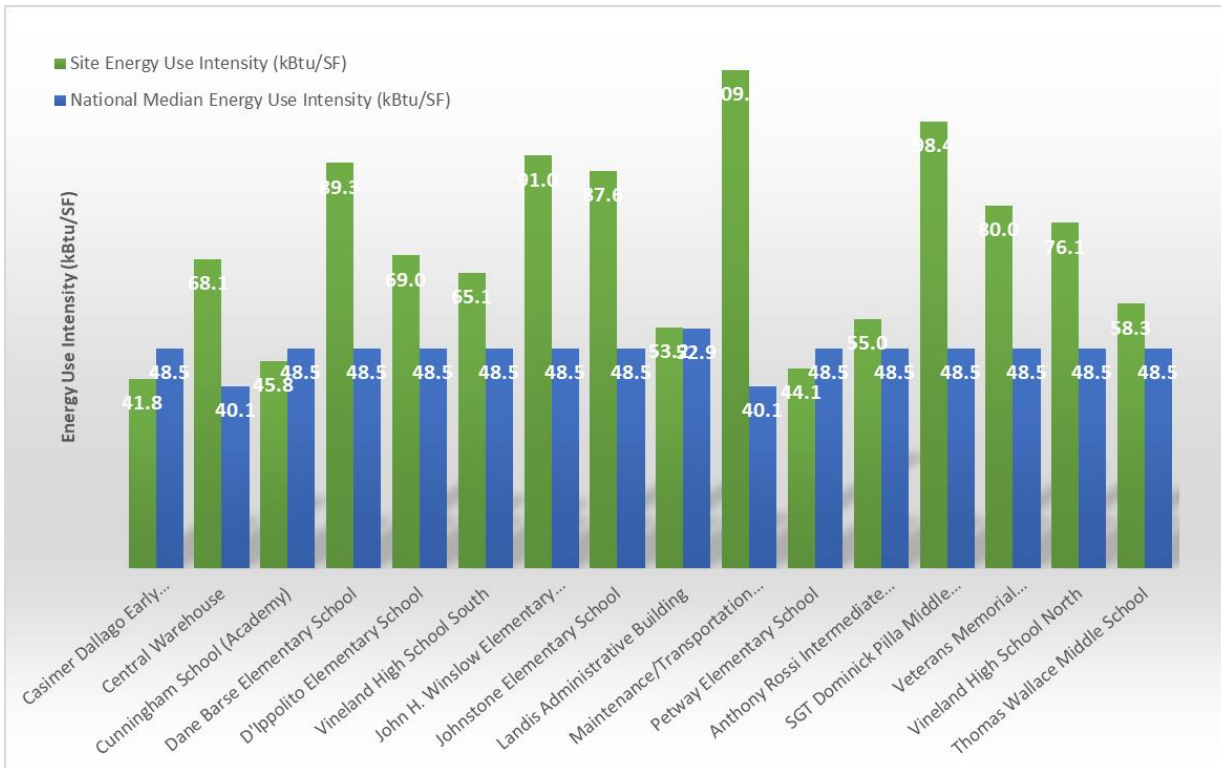


Professional Engineer Stamp
(if applicable)

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



Casimer Dallago Early Childhood Center	N/A
Gloria M. Sabater Elementary School	N/A
Central Warehouse	25
Cunningham School (Academy)	67
Dane Barse Elementary School	15
D'Ippolito Elementary School	6
Vineland High School South	
John H. Winslow Elementary School	16
Johnstone Elementary School	12
Landis Administrative Building	N/A
Maintenance/Transportation Building	N/A
Petway Elementary School	52
Anthony Rossi Intermediate School	20
SGT Dominick Pilla Middle School	17
Veterans Memorial Intermediate School	14
Vineland High School North & South	43
Thomas Wallace Middle School	24

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		3,149,834	578.3	-492.7	\$471,128	\$1,512,516	\$0	\$1,512,516	3.2	3,114,170
ECM 1	Install LED Fixtures	702,366	57.9	-42.7	\$106,331	\$667,935	\$0	\$667,935	6.3	702,280
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	6,797	2.2	-1.5	\$1,104	\$3,754	\$0	\$3,754	3.4	6,671
ECM 3	Retrofit Fixtures with LED Lamps	2,427,930	517.1	-447.9	\$361,612	\$834,381	\$0	\$834,381	2.3	2,392,466
ECM 4	Install LED Exit Signs	12,740	1.1	-0.7	\$2,081	\$6,445	\$0	\$6,445	3.1	12,753
Lighting Control Measures		636,956	126.4	-116.7	\$94,280	\$481,347	\$0	\$481,347	5.1	627,740
ECM 5	Install Occupancy Sensor Lighting Controls	573,262	114.0	-104.5	\$84,933	\$413,622	\$0	\$413,622	4.9	565,030
ECM 6	Install High/Low Lighting Controls	63,694	12.4	-12.2	\$9,347	\$67,725	\$0	\$67,725	7.2	62,710
Motor Upgrades		30,281	6.6	0.0	\$4,739	\$101,865	\$0	\$101,865	21.5	30,492
ECM 7	Premium Efficiency Motors	30,281	6.6	0.0	\$4,739	\$101,865	\$0	\$101,865	21.5	30,492
Variable Frequency Drive (VFD) Measures		920,315	257.0	156.9	\$144,974	\$1,068,162	\$0	\$1,068,162	7.4	945,122
ECM 8	Install VFD on Variable Air Volume (VAV) Fans	22,578	6.6	0.0	\$3,964	\$40,491	\$0	\$40,491	10.2	22,736
ECM 9	Install VFDs on Constant Volume (CV) Fans	650,240	206.1	0.0	\$102,547	\$618,791	\$0	\$618,791	6.0	654,786
ECM 10	Install VFDs on Chilled Water Pumps	94,517	34.5	0.0	\$14,553	\$162,799	\$0	\$162,799	11.2	95,178
ECM 11	Install VFDs on Heating Water Pumps	92,696	11.8	0.0	\$13,320	\$185,876	\$0	\$185,876	14.0	93,344
ECM 12	Install VFDs on Cooling Tower Fans	38,202	-2.2	0.0	\$5,196	\$47,999	\$0	\$47,999	9.2	38,469
ECM 13	Install VFDs on Kitchen Hood Fan Motors	22,082	0.2	156.9	\$5,394	\$12,205	\$0	\$12,205	2.3	40,609
Electric Unitary HVAC Measures		257,564	148.4	0.0	\$41,693	\$2,326,918	\$0	\$2,326,918	55.8	259,364
ECM 14	Install High Efficiency Air Conditioning Units	98,368	67.8	0.0	\$15,526	\$1,130,952	\$0	\$1,130,952	72.8	99,056
ECM 15	Install High Efficiency Heat Pumps	88,573	39.0	0.0	\$14,364	\$589,210	\$0	\$589,210	41.0	89,192
ECM 16	Install High Efficiency PTAC/PTHP	70,623	41.6	0.0	\$11,803	\$606,755	\$0	\$606,755	51.4	71,117

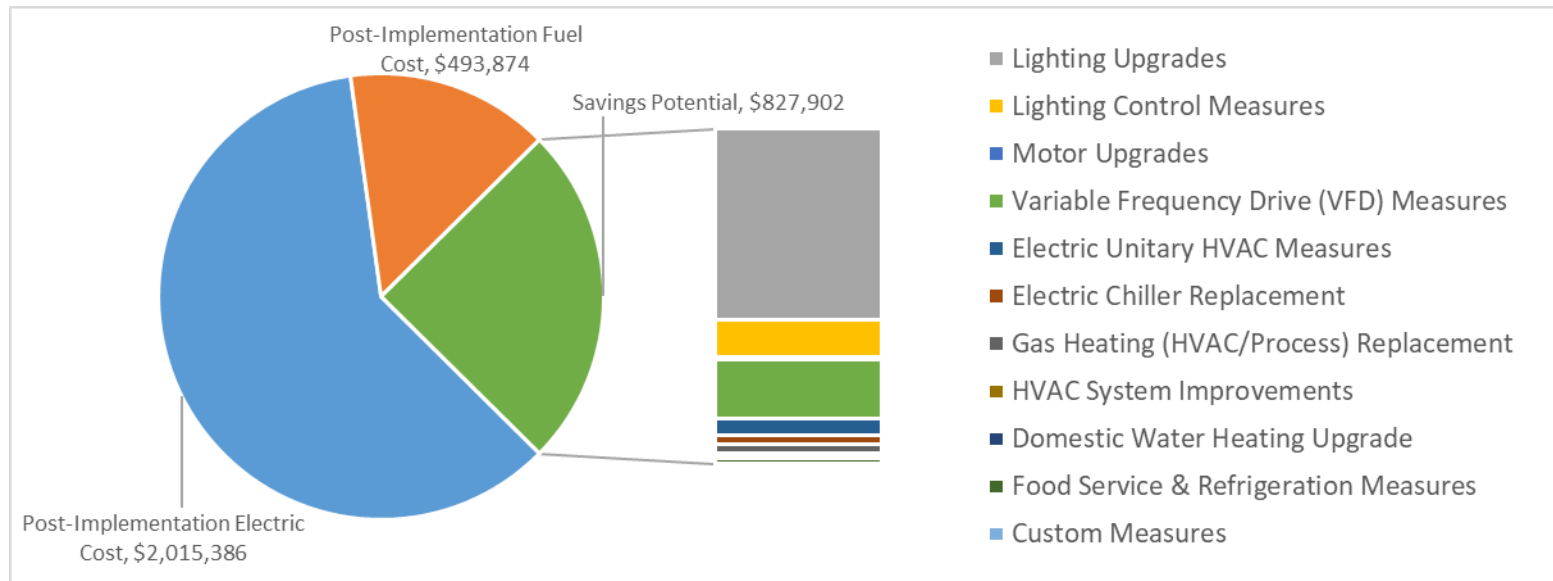


#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Electric Chiller Replacement		150,299	181.4	0.0	\$22,747	\$767,362	\$0	\$767,362	33.7	151,350
ECM 17	Install High Efficiency Chillers	150,299	181.4	0.0	\$22,747	\$767,362	\$0	\$767,362	33.7	151,350
Gas Heating (HVAC/Process) Replacement		0	0.0	1,729.2	\$23,155	\$740,239	\$109,524	\$630,715	27.2	202,462
ECM 18	Install High Efficiency Hot Water Boilers	0	0.0	1,102.2	\$14,679	\$362,199	\$61,954	\$300,245	20.5	129,054
ECM 19	Install High Efficiency Steam Boilers	0	0.0	274.4	\$3,751	\$211,781	\$21,245	\$190,536	50.8	32,129
ECM 20	Install High Efficiency Furnaces	0	0.0	352.5	\$4,726	\$166,260	\$26,325	\$139,934	29.6	41,278
ECM 0	Install High Efficiency Unit Heaters	0	0.0	0.0	\$0	\$0	\$0	\$0	0.0	0
ECM 0	Install Infrared Heaters	0	0.0	0.0	\$0	\$0	\$0	\$0	0.0	0
HVAC System Improvements		25,563	0.0	96.8	\$5,502	\$48,174	\$336	\$47,838	8.7	37,076
ECM 0	Install Programmable Thermostats	0	0.0	0.0	\$0	\$0	\$0	\$0	0.0	0
ECM 0	Install Occupancy-Controlled Thermostats	0	0.0	0.0	\$0	\$0	\$0	\$0	0.0	0
ECM 21	Implement Demand Control Ventilation (DCV)	22,360	0.0	53.9	\$4,414	\$47,580	\$0	\$47,580	10.8	28,822
ECM 22	Install Pipe Insulation	3,203	0.0	42.9	\$1,088	\$595	\$336	\$259	0.2	8,254
Domestic Water Heating Upgrade		18,105	0.0	258.7	\$6,367	\$55,156	\$7,637	\$47,519	7.5	48,522
ECM 23	Install High Efficiency Gas-Fired Water Heater	0	0.0	129.6	\$1,789	\$53,636	\$6,762	\$46,874	26.2	15,180
ECM 0	Install Tankless Water Heater	0	0.0	0.0	\$0	\$0	\$0	\$0	0.0	0
ECM 0	Install Gas-Fired Booster Water Heater	0	0.0	0.0	\$0	\$0	\$0	\$0	0.0	0
ECM 24	Install Low-Flow DHW Devices	18,105	0.0	129.1	\$4,578	\$1,520	\$875	\$645	0.1	33,342
Food Service & Refrigeration Measures		78,323	6.7	13.7	\$11,962	\$96,831	\$4,000	\$92,831	7.8	80,476
ECM 25	Food Service Equipment Replacement	0	0.0	13.7	\$182	\$7,423	\$4,000	\$3,423	18.8	1,605
ECM 0	Dishwasher Replacement	0	0.0	0.0	\$0	\$0	\$0	\$0	0.0	0
ECM 26	Refrigerator/Freezer Case Electrically Commutated Motors	13,361	1.6	0.0	\$2,061	\$13,345	\$0	\$13,345	6.5	13,454
ECM 0	Refrigeration Display Case Doors or Covers	0	0.0	0.0	\$0	\$0	\$0	\$0	0.0	0
ECM 27	Refrigeration Controls	24,609	0.5	0.0	\$3,820	\$44,725	\$0	\$44,725	11.7	24,781
ECM 28	Replace Refrigeration Equipment	11,582	1.3	0.0	\$1,669	\$26,508	\$0	\$26,508	15.9	11,663
ECM 29	Vending Machine Control	28,771	3.3	0.0	\$4,230	\$4,830	\$0	\$4,830	1.1	28,973
Custom Measures		8,319	3.0	0.0	\$1,355	\$142,694	\$0	\$142,694	105.3	8,377
ECM 30	Replace Unit Ventilators and Install EC Motors	8,319	3.0	0.0	\$1,355	\$142,694	\$0	\$142,694	105.3	8,377
TOTALS		5,275,558	1,307.8	1,645.8	\$827,902	\$7,341,264	\$121,496	\$7,219,767	8.7	5,505,152



ALL OPPORTUNITIES

Savings Potential



COST EFFECTIVE OPPORTUNITIES

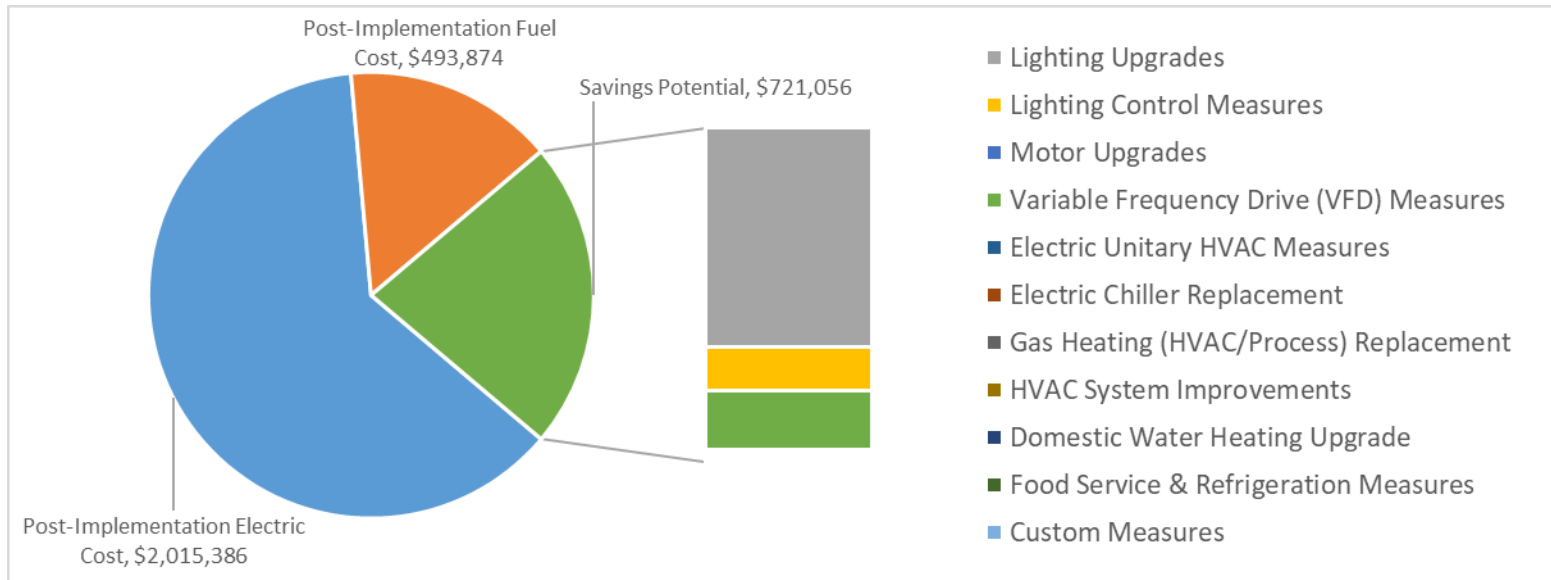
#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		3,149,834	578.3	-492.7	\$471,128	\$1,512,516	\$0	\$1,512,516	3.2	3,114,170
ECM 1	Install LED Fixtures	702,366	57.9	-42.7	\$106,331	\$667,935	\$0	\$667,935	6.3	702,280
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	6,797	2.2	-1.5	\$1,104	\$3,754	\$0	\$3,754	3.4	6,671
ECM 3	Retrofit Fixtures with LED Lamps	2,427,930	517.1	-447.9	\$361,612	\$834,381	\$0	\$834,381	2.3	2,392,466
ECM 4	Install LED Exit Signs	12,740	1.1	-0.7	\$2,081	\$6,445	\$0	\$6,445	3.1	12,753
Lighting Control Measures		636,956	126.4	-116.7	\$94,280	\$481,347	\$0	\$481,347	5.1	627,740
ECM 5	Install Occupancy Sensor Lighting Controls	573,262	114.0	-104.5	\$84,933	\$413,622	\$0	\$413,622	4.9	565,030
ECM 6	Install High/Low Lighting Controls	63,694	12.4	-12.2	\$9,347	\$67,725	\$0	\$67,725	7.2	62,710
Motor Upgrades		3,020	0.8	0.0	\$469	\$4,772	\$0	\$4,772	10.2	3,041
ECM 7	Premium Efficiency Motors	3,020	0.8	0.0	\$469	\$4,772	\$0	\$4,772	10.2	3,041
Variable Frequency Drive (VFD) Measures		809,507	231.2	156.9	\$127,684	\$709,685	\$0	\$709,685	5.6	833,540
ECM 8	Install VFD on Variable Air Volume (VAV) Fans	22,578	6.6	0.0	\$3,964	\$40,491	\$0	\$40,491	10.2	22,736
ECM 9	Install VFDs on Constant Volume (CV) Fans	596,809	191.4	0.0	\$93,772	\$430,079	\$0	\$430,079	4.6	600,982
ECM 10	Install VFDs on Chilled Water Pumps	48,327	26.6	0.0	\$7,859	\$65,223	\$0	\$65,223	8.3	48,665
ECM 11	Install VFDs on Heating Water Pumps	81,510	8.7	0.0	\$11,498	\$113,687	\$0	\$113,687	9.9	82,079
ECM 12	Install VFDs on Cooling Tower Fans	38,202	-2.2	0.0	\$5,196	\$47,999	\$0	\$47,999	9.2	38,469
ECM 13	Install VFDs on Kitchen Hood Fan Motors	22,082	0.2	156.9	\$5,394	\$12,205	\$0	\$12,205	2.3	40,609

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		3,149,834	578.3	-492.7	\$471,128	\$1,512,516	\$0	\$1,512,516	3.2	3,114,170
Electric Unitary HVAC Measures		712	0.5	0.0	\$115	\$4,798	\$0	\$4,798	41.7	717
ECM 15	Install High Efficiency Heat Pumps	712	0.5	0.0	\$115	\$4,798	\$0	\$4,798	41.7	717
Gas Heating (HVAC/Process) Replacement		0	0.0	621.2	\$8,114	\$89,233	\$19,378	\$69,856	8.6	72,731
ECM 18	Install High Efficiency Hot Water Boilers	0	0.0	621.2	\$8,114	\$89,233	\$19,378	\$69,856	8.6	72,731
HVAC System Improvements		21,576	0.0	70.5	\$4,549	\$20,986	\$336	\$20,650	4.5	29,986
ECM 21	Implement Demand Control Ventilation (DCV)	18,374	0.0	27.6	\$3,461	\$20,391	\$0	\$20,391	5.9	21,732
ECM 22	Install Pipe Insulation	3,203	0.0	42.9	\$1,088	\$595	\$336	\$259	0.2	8,254
Domestic Water Heating Upgrade		18,105	0.0	181.7	\$5,288	\$16,553	\$2,975	\$13,578	2.6	39,506
ECM 23	Install High Efficiency Gas-Fired Water Heater	0	0.0	52.6	\$710	\$15,033	\$2,100	\$12,933	18.2	6,164
ECM 24	Install Low-Flow DHW Devices	18,105	0.0	129.1	\$4,578	\$1,520	\$875	\$645	0.1	33,342
Food Service & Refrigeration Measures		62,091	5.6	0.0	\$9,430	\$47,337	\$0	\$47,337	5.0	62,525
ECM 26	Refrigerator/Freezer Case Electrically Commutated Motors	13,361	1.6	0.0	\$2,061	\$13,345	\$0	\$13,345	6.5	13,454
ECM 27	Refrigeration Controls	16,876	0.3	0.0	\$2,637	\$24,755	\$0	\$24,755	9.4	16,994
ECM 28	Replace Refrigeration Equipment	3,082	0.4	0.0	\$502	\$4,406	\$0	\$4,406	8.8	3,104
ECM 29	Vending Machine Control	28,771	3.3	0.0	\$4,230	\$4,830	\$0	\$4,830	1.1	28,973
TOTALS		4,701,801	942.8	420.9	\$721,056	\$2,887,227	\$22,688	\$2,864,539	4.0	4,783,957

COST EFFECTIVE OPPORTUNITIES

Savings Potential



ANTHONY ROSSI INTERMEDIATE SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			172,365	36.7	0	\$31,893	\$73,126	\$0	\$73,126	2.3	173,571
ECM 1	Install LED Fixtures	Yes	30,024	5.1	0	\$5,555	\$21,539	\$0	\$21,539	3.9	30,234
ECM 2	Retrofit Fixtures with LED Lamps	Yes	140,146	31.4	0	\$25,931	\$49,487	\$0	\$49,487	1.9	141,126
ECM 3	Install LED Exit Signs	Yes	2,195	0.2	0	\$406	\$2,100	\$0	\$2,100	5.2	2,210
Lighting Control Measures			41,752	9.3	0	\$7,725	\$43,090	\$0	\$43,090	5.6	42,044
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	38,413	8.6	0	\$7,108	\$38,590	\$0	\$38,590	5.4	38,681
ECM 5	Install High/Low Lighting Controls	Yes	3,339	0.7	0	\$618	\$4,500	\$0	\$4,500	7.3	3,362
Motor Upgrades			6,358	1.3	0	\$1,176	\$25,875	\$0	\$25,875	22.0	6,403
ECM 6	Premium Efficiency Motors	No	6,358	1.3	0	\$1,176	\$25,875	\$0	\$25,875	22.0	6,403
Variable Frequency Drive (VFD) Measures			47,604	12.4	0	\$8,808	\$57,765	\$0	\$57,765	6.6	47,937
ECM 7	Install VFD on Variable Air Volume (VAV) Fans	Yes	13,736	3.9	0	\$2,542	\$23,693	\$0	\$23,693	9.3	13,832
ECM 8	Install VFDs on Constant Volume (CV) Fans	Yes	33,868	8.6	0	\$6,267	\$34,072	\$0	\$34,072	5.4	34,105
Electric Unitary HVAC Measures			28,662	20.8	0	\$5,303	\$431,457	\$0	\$431,457	81.4	28,862
ECM 9	Install High Efficiency Air Conditioning Units	No	311	0.3	0	\$57	\$144,689	\$0	\$144,689	2517.1	313
ECM 10	Install High Efficiency Heat Pumps	No	12,766	3.7	0	\$2,362	\$76,349	\$0	\$76,349	32.3	12,855
ECM 11	Install High Efficiency PTAC/PTHP	No	15,585	16.7	0	\$2,884	\$210,418	\$0	\$210,418	73.0	15,694
HVAC System Improvements			6,865	0.0	0	\$1,270	\$5,438	\$0	\$5,438	4.3	6,913
ECM 12	Implement Demand Control Ventilation (DCV)	Yes	6,865	0.0	0	\$1,270	\$5,438	\$0	\$5,438	4.3	6,913
Domestic Water Heating Upgrade			3,336	0.0	0	\$617	\$172	\$0	\$172	0.3	3,360
ECM 13	Install Low-Flow DHW Devices	Yes	3,336	0.0	0	\$617	\$172	\$0	\$172	0.3	3,360
Food Service & Refrigeration Measures			3,372	0.2	0	\$624	\$5,598	\$0	\$5,598	9.0	3,396
ECM 14	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	1,049	0.1	0	\$194	\$1,213	\$0	\$1,213	6.3	1,056
ECM 15	Refrigeration Controls	Yes	2,324	0.0	0	\$430	\$4,385	\$0	\$4,385	10.2	2,340
TOTALS (COST EFFECTIVE MEASURES)			275,295	58.6	0	\$50,938	\$185,189	\$0	\$185,189	3.6	277,219
TOTALS (ALL MEASURES)			310,314	80.7	0	\$57,417	\$642,520	\$0	\$642,520	11.2	312,484



D'IPPOLITO ELEMENTARY SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			177,575	36.9	0	\$28,573	\$100,329	\$0	\$100,329	3.5	178,816
ECM 1	Install LED Fixtures	Yes	41,477	3.6	0	\$6,674	\$47,632	\$0	\$47,632	7.1	41,767
ECM 2	Retrofit Fixtures with LED Lamps	Yes	128,664	32.7	0	\$20,703	\$50,814	\$0	\$50,814	2.5	129,563
ECM 3	Install LED Exit Signs	Yes	7,434	0.6	0	\$1,196	\$1,883	\$0	\$1,883	1.6	7,486
Lighting Control Measures			37,582	9.5	0	\$6,047	\$45,150	\$0	\$45,150	7.5	37,845
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	35,415	9.0	0	\$5,698	\$42,000	\$0	\$42,000	7.4	35,662
ECM 5	Install High/Low Lighting Controls	Yes	2,168	0.5	0	\$349	\$3,150	\$0	\$3,150	9.0	2,183
Motor Upgrades			9,157	2.1	0	\$1,473	\$37,440	\$0	\$37,440	25.4	9,221
ECM 6	Premium Efficiency Motors	No	9,157	2.1	0	\$1,473	\$37,440	\$0	\$37,440	25.4	9,221
Variable Frequency Drive (VFD) Measures			41,989	11.8	0	\$6,756	\$54,132	\$0	\$54,132	8.0	42,283
ECM 7	Install VFD on Variable Air Volume (VAV) Fans	Yes	8,842	2.7	0	\$1,423	\$16,798	\$0	\$16,798	11.8	8,904
ECM 8	Install VFDs on Constant Volume (CV) Fans	Yes	33,148	9.1	0	\$5,334	\$37,333	\$0	\$37,333	7.0	33,379
Electric Unitary HVAC Measures			47,079	21.2	0	\$7,575	\$434,151	\$0	\$434,151	57.3	47,409
ECM 9	Install High Efficiency Air Conditioning Units	No	7,062	5.9	0	\$1,136	\$158,387	\$0	\$158,387	139.4	7,111
ECM 10	Install High Efficiency Heat Pumps	No	14,294	4.7	0	\$2,300	\$71,722	\$0	\$71,722	31.2	14,394
ECM 11	Install High Efficiency PTAC/PTHP	No	25,723	10.7	0	\$4,139	\$204,042	\$0	\$204,042	49.3	25,903
HVAC System Improvements			12,738	0.0	0	\$2,050	\$5,556	\$72	\$5,484	2.7	12,827
ECM 12	Implement Demand Control Ventilation (DCV)	Yes	9,536	0.0	0	\$1,534	\$5,438	\$0	\$5,438	3.5	9,602
ECM 13	Install Pipe Insulation	Yes	3,203	0.0	0	\$515	\$118	\$72	\$46	0.1	3,225
Domestic Water Heating Upgrade			6,117	0.0	0	\$984	\$315	\$0	\$315	0.3	6,160
ECM 14	Install Low-Flow DHW Devices	Yes	6,117	0.0	0	\$984	\$315	\$0	\$315	0.3	6,160
Food Service & Refrigeration Measures			4,675	0.4	0	\$752	\$5,237	\$0	\$5,237	7.0	4,708
ECM 15	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	786	0.1	0	\$127	\$910	\$0	\$910	7.2	792
ECM 16	Refrigeration Controls	Yes	1,934	0.0	0	\$311	\$3,867	\$0	\$3,867	12.4	1,948
ECM 17	Vending Machine Control	Yes	1,954	0.2	0	\$314	\$460	\$0	\$460	1.5	1,968
TOTALS (COST EFFECTIVE MEASURES)			280,676	58.5	0	\$45,162	\$210,719	\$72	\$210,647	4.7	282,639
TOTALS (ALL MEASURES)			336,912	81.8	0	\$54,211	\$682,310	\$72	\$682,238	12.6	339,268

DANE BARSE ELEMENTARY

#	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			68,164	18.4	-14	\$10,894	\$32,391	\$0	\$32,391	3.0	67,016
ECM 1	Install LED Fixtures	Yes	1,760	0.0	0	\$287	\$2,235	\$0	\$2,235	7.8	1,772
ECM 2	Retrofit Fixtures with LED Lamps	Yes	66,404	18.4	-14	\$10,607	\$30,156	\$0	\$30,156	2.8	65,244
Lighting Control Measures			17,200	4.7	-4	\$2,748	\$17,277	\$0	\$17,277	6.3	16,900
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	14,767	4.1	-3	\$2,359	\$14,352	\$0	\$14,352	6.1	14,509
ECM 4	Install High/Low Lighting Controls	Yes	2,434	0.7	-1	\$389	\$2,925	\$0	\$2,925	7.5	2,391
Variable Frequency Drive (VFD) Measures			3,259	1.1	0	\$531	\$34,359	\$0	\$34,359	64.7	3,282
ECM 5	Install VFDs on Heating Water Pumps	No	3,259	1.1	0	\$531	\$34,359	\$0	\$34,359	64.7	3,282
Electric Unitary HVAC Measures			5,162	4.5	0	\$841	\$87,608	\$0	\$87,608	104.2	5,199
ECM 6	Install High Efficiency Air Conditioning Units	No	5,162	4.5	0	\$841	\$87,608	\$0	\$87,608	104.2	5,199
Gas Heating (HVAC/Process) Replacement			0	0.0	118	\$1,768	\$97,953	\$13,824	\$84,130	47.6	13,814
ECM 7	Install High Efficiency Hot Water Boilers	No	0	0.0	89	\$1,326	\$58,780	\$9,170	\$49,610	37.4	10,364
ECM 8	Install High Efficiency Steam Boilers	No	0	0.0	29	\$442	\$39,173	\$4,654	\$34,520	78.2	3,450
Domestic Water Heating Upgrade			172	0.0	40	\$632	\$15,090	\$1,820	\$13,270	21.0	4,894
ECM 9	Install High Efficiency Gas-Fired Water Heater	No	0	0.0	35	\$519	\$15,025	\$1,820	\$13,205	25.5	4,054
ECM 10	Install Low-Flow DHW Devices	Yes	172	0.0	6	\$113	\$65	\$0	\$65	0.6	840
Food Service & Refrigeration Measures			4,694	0.5	0	\$764	\$4,636	\$0	\$4,636	6.1	4,727
ECM 11	Replace Refrigeration Equipment	Yes	3,082	0.4	0	\$502	\$4,406	\$0	\$4,406	8.8	3,104
ECM 12	Vending Machine Control	Yes	1,612	0.2	0	\$263	\$230	\$0	\$230	0.9	1,623
Custom Measures			8,319	3.0	0	\$1,355	\$142,694	\$0	\$142,694	105.3	8,377
ECM 13	Replace Unit Ventilators and Install EC motor	No	8,319	3.0	0	\$1,355	\$142,694	\$0	\$142,694	105.3	8,377
TOTALS (COST EFFECTIVE MEASURES)			90,230	23.6	-12	\$14,519	\$54,369	\$0	\$54,369	3.7	89,482
TOTALS (ALL MEASURES)			106,970	32.2	141	\$19,533	\$432,008	\$15,644	\$416,364	21.3	124,208



DR. JOHN H. WINSLOW

#	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			98,763	22.2	-17	\$15,653	\$68,529	\$0	\$68,529	4.4	97,462
ECM 1	Install LED Fixtures	Yes	29,711	3.6	-3	\$4,740	\$38,877	\$0	\$38,877	8.2	29,598
ECM 2	Retrofit Fixtures with LED Lamps	Yes	69,053	18.6	-14	\$10,912	\$29,652	\$0	\$29,652	2.7	67,864
Lighting Control Measures			18,617	5.1	-4	\$2,941	\$19,724	\$0	\$19,724	6.7	18,292
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	17,034	4.6	-4	\$2,691	\$17,474	\$0	\$17,474	6.5	16,736
ECM 4	Install High/Low Lighting Controls	Yes	1,584	0.4	0	\$250	\$2,250	\$0	\$2,250	9.0	1,556
Variable Frequency Drive (VFD) Measures			5,286	2.5	0	\$850	\$12,036	\$0	\$12,036	14.2	5,323
ECM 5	Install VFDs on Chilled Water Pumps	Yes	3,847	2.1	0	\$618	\$8,152	\$0	\$8,152	13.2	3,874
ECM 6	Install VFDs on Heating Water Pumps	Yes	1,439	0.4	0	\$231	\$3,884	\$0	\$3,884	16.8	1,449
Electric Unitary HVAC Measures			16,172	10.9	0	\$2,600	\$133,850	\$0	\$133,850	51.5	16,285
ECM 7	Install High Efficiency Air Conditioning Units	No	10,047	7.0	0	\$1,615	\$84,712	\$0	\$84,712	52.4	10,117
ECM 8	Install High Efficiency Heat Pumps	No	64	0.1	0	\$10	\$1,268	\$0	\$1,268	123.4	64
ECM 9	Install High Efficiency PTAC/PTHP	No	6,061	3.8	0	\$974	\$47,870	\$0	\$47,870	49.1	6,103
Gas Heating (HVAC/Process) Replacement			0	0.0	220	\$2,920	\$91,664	\$15,264	\$76,400	26.2	25,748
ECM 10	Install High Efficiency Hot Water Boilers	No	0	0.0	220	\$2,920	\$91,664	\$15,264	\$76,400	26.2	25,748
HVAC System Improvements			0	0.0	7	\$87	\$70	\$32	\$38	0.4	767
ECM 11	Install Pipe Insulation	Yes	0	0.0	7	\$87	\$70	\$32	\$38	0.4	767
Domestic Water Heating Upgrade			0	0.0	12	\$164	\$93	\$93	\$0	0.0	1,444
ECM 12	Install Low-Flow DHW Devices	Yes	0	0.0	12	\$164	\$93	\$93	\$0	0.0	1,444
Food Service & Refrigeration Measures			5,239	0.4	14	\$1,024	\$13,178	\$4,000	\$9,178	9.0	6,881
ECM 13	Food Service Equipment Replacement	No	0	0.0	14	\$182	\$7,423	\$4,000	\$3,423	18.8	1,605
ECM 14	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	791	0.1	0	\$127	\$910	\$0	\$910	7.2	796
ECM 15	Refrigeration Controls	Yes	2,494	0.0	0	\$401	\$4,385	\$0	\$4,385	10.9	2,511
ECM 16	Vending Machine Control	Yes	1,954	0.2	0	\$314	\$460	\$0	\$460	1.5	1,968
TOTALS (COST EFFECTIVE MEASURES)			127,905	30.1	-2	\$20,537	\$106,208	\$125	\$106,083	5.2	128,564
TOTALS (ALL MEASURES)			144,077	41.0	232	\$26,239	\$339,144	\$19,389	\$319,755	12.2	172,203

JOHNSTONE ELEMENTARY SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			106,982	25.4	-18	\$17,276	\$93,459	\$0	\$93,459	5.4	105,675
ECM 1	Install LED Fixtures	Yes	26,485	2.9	-1	\$4,325	\$56,875	\$0	\$56,875	13.1	26,586
ECM 2	Retrofit Fixtures with LED Lamps	Yes	80,497	22.5	-17	\$12,950	\$36,584	\$0	\$36,584	2.8	79,089
Lighting Control Measures			19,130	5.5	-4	\$3,078	\$22,059	\$0	\$22,059	7.2	18,795
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	17,329	5.0	-4	\$2,788	\$19,134	\$0	\$19,134	6.9	17,026
ECM 4	Install High/Low Lighting Controls	Yes	1,800	0.5	0	\$290	\$2,925	\$0	\$2,925	10.1	1,769
Variable Frequency Drive (VFD) Measures			60,831	26.8	0	\$9,957	\$70,666	\$0	\$70,666	7.1	61,256
ECM 5	Install VFDs on Constant Volume (CV) Fans	Yes	28,134	12.7	0	\$4,605	\$30,520	\$0	\$30,520	6.6	28,331
ECM 6	Install VFDs on Chilled Water Pumps	Yes	24,610	11.9	0	\$4,028	\$29,843	\$0	\$29,843	7.4	24,782
ECM 7	Install VFDs on Heating Water Pumps	Yes	8,086	2.1	0	\$1,324	\$10,303	\$0	\$10,303	7.8	8,143
Electric Unitary HVAC Measures			39,503	22.3	0	\$6,466	\$249,217	\$0	\$249,217	38.5	39,780
ECM 8	Install High Efficiency Air Conditioning Units	No	16,016	11.8	0	\$2,622	\$103,425	\$0	\$103,425	39.5	16,128
ECM 9	Install High Efficiency Heat Pumps	No	234	0.1	0	\$38	\$1,367	\$0	\$1,367	35.7	235
ECM 10	Install High Efficiency PTAC/PTHP	No	23,253	10.4	0	\$3,806	\$144,425	\$0	\$144,425	37.9	23,416
Electric Chiller Replacement			25,431	43.2	0	\$4,163	\$177,251	\$0	\$177,251	42.6	25,609
ECM 11	Install High Efficiency Chillers	No	25,431	43.2	0	\$4,163	\$177,251	\$0	\$177,251	42.6	25,609
Gas Heating (HVAC/Process) Replacement			0	0.0	242	\$3,241	\$132,646	\$20,773	\$111,873	34.5	28,339
ECM 12	Install High Efficiency Hot Water Boilers	No	0	0.0	143	\$1,922	\$96,149	\$14,373	\$81,777	42.6	16,801
ECM 13	Install High Efficiency Furnaces	No	0	0.0	99	\$1,320	\$36,496	\$6,400	\$30,096	22.8	11,538
HVAC System Improvements			1,312	0.0	10	\$352	\$4,078	\$0	\$4,078	11.6	2,520
ECM 14	Implement Demand Control Ventilation (DCV)	Yes	1,312	0.0	10	\$352	\$4,078	\$0	\$4,078	11.6	2,520
Domestic Water Heating Upgrade			0	0.0	39	\$521	\$8,963	\$1,179	\$7,784	14.9	4,559
ECM 15	Install High Efficiency Gas-Fired Water Heater	No	0	0.0	23	\$305	\$8,841	\$1,057	\$7,784	25.5	2,670
ECM 16	Install Low-Flow DHW Devices	Yes	0	0.0	16	\$216	\$122	\$122	\$0	0.0	1,889
Food Service & Refrigeration Measures			1,612	0.2	0	\$264	\$230	\$0	\$230	0.9	1,623
ECM 17	Vending Machine Control	Yes	1,612	0.2	0	\$264	\$230	\$0	\$230	0.9	1,623
TOTALS (COST EFFECTIVE MEASURES)			189,867	57.9	5	\$31,142	\$190,614	\$122	\$190,492	6.1	191,758
TOTALS (ALL MEASURES)			254,801	123.4	270	\$45,317	\$758,568	\$21,952	\$736,616	16.3	288,156



LANDIS ADMINISTRATIVE BLDG

#	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			71,279	22.8	-13	\$11,526	\$50,035	\$0	\$50,035	4.3	70,212
ECM 1	Install LED Fixtures	Yes	21,259	4.8	-3	\$3,452	\$24,852	\$0	\$24,852	7.2	21,066
ECM 2	Retrofit Fixtures with LED Lamps	Yes	48,275	17.8	-10	\$7,792	\$23,807	\$0	\$23,807	3.1	47,431
ECM 3	Install LED Exit Signs	Yes	1,745	0.2	0	\$282	\$1,376	\$0	\$1,376	4.9	1,715
Lighting Control Measures			18,045	6.5	-4	\$2,913	\$25,101	\$0	\$25,101	8.6	17,729
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	15,822	5.7	-3	\$2,554	\$21,726	\$0	\$21,726	8.5	15,545
ECM 5	Install High/Low Lighting Controls	Yes	2,223	0.8	0	\$359	\$3,375	\$0	\$3,375	9.4	2,184
Variable Frequency Drive (VFD) Measures			72,891	27.9	0	\$11,971	\$221,339	\$0	\$221,339	18.5	73,401
ECM 6	Install VFDs on Constant Volume (CV) Fans	No	53,430	14.8	0	\$8,775	\$188,712	\$0	\$188,712	21.5	53,804
ECM 7	Install VFDs on Chilled Water Pumps	Yes	15,380	11.5	0	\$2,526	\$23,151	\$0	\$23,151	9.2	15,488
ECM 8	Install VFDs on Heating Water Pumps	No	4,080	1.6	0	\$670	\$9,476	\$0	\$9,476	14.1	4,109
Electric Unitary HVAC Measures			7,872	4.2	0	\$1,293	\$47,445	\$0	\$47,445	36.7	7,927
ECM 9	Install High Efficiency Air Conditioning Units	No	4,166	2.9	0	\$684	\$31,563	\$0	\$31,563	46.1	4,195
ECM 10	Install High Efficiency Heat Pumps	No	3,706	1.3	0	\$609	\$15,883	\$0	\$15,883	26.1	3,732
Electric Chiller Replacement			43,950	61.3	0	\$7,218	\$275,723	\$0	\$275,723	38.2	44,258
ECM 11	Install High Efficiency Chillers	No	43,950	61.3	0	\$7,218	\$275,723	\$0	\$275,723	38.2	44,258
Gas Heating (HVAC/Process) Replacement			0	0.0	180	\$2,423	\$124,967	\$13,447	\$111,520	46.0	21,032
ECM 12	Install High Efficiency Steam Boilers	No	0	0.0	180	\$2,423	\$124,967	\$13,447	\$111,520	46.0	21,032
HVAC System Improvements			0	0.0	16	\$217	\$180	\$100	\$80	0.4	1,880
ECM 13	Install Pipe Insulation	Yes	0	0.0	16	\$217	\$180	\$100	\$80	0.4	1,880
Domestic Water Heating Upgrade			0	0.0	65	\$877	\$15,126	\$2,193	\$12,933	14.8	7,608
ECM 14	Install High Efficiency Gas-Fired Water Heater	Yes	0	0.0	53	\$710	\$15,033	\$2,100	\$12,933	18.2	6,164
ECM 15	Install Low-Flow DHW Devices	Yes	0	0.0	12	\$166	\$93	\$93	\$0	0.0	1,444
Food Service & Refrigeration Measures			402	0.0	0	\$66	\$1,280	\$0	\$1,280	19.4	404
ECM 16	Replace Refrigeration Equipment	No	402	0.0	0	\$66	\$1,280	\$0	\$1,280	19.4	404
TOTALS (COST EFFECTIVE MEASURES)			104,704	40.8	64	\$18,058	\$113,593	\$2,293	\$111,300	6.2	112,917

PETWAY ELEMENTARY SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			144,434	34.2	-26	\$22,583	\$86,694	\$0	\$86,694	3.8	142,406
ECM 1	Install LED Fixtures	Yes	17,820	0.0	0	\$2,829	\$28,847	\$0	\$28,847	10.2	17,944
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	229	0.1	0	\$36	\$101	\$0	\$101	2.8	225
ECM 3	Retrofit Fixtures with LED Lamps	Yes	126,386	34.2	-26	\$19,718	\$57,746	\$0	\$57,746	2.9	124,237
Lighting Control Measures			14,545	3.3	-3	\$2,268	\$12,860	\$0	\$12,860	5.7	14,291
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	12,426	2.8	-3	\$1,938	\$10,610	\$0	\$10,610	5.5	12,209
ECM 5	Install High/Low Lighting Controls	Yes	2,119	0.5	0	\$330	\$2,250	\$0	\$2,250	6.8	2,082
Variable Frequency Drive (VFD) Measures			17,241	28.2	0	\$2,738	\$46,712	\$0	\$46,712	17.1	17,362
ECM 6	Install VFDs on Constant Volume (CV) Fans	Yes	17,241	28.2	0	\$2,738	\$46,712	\$0	\$46,712	17.1	17,362
Electric Unitary HVAC Measures			4,932	3.7	0	\$783	\$53,394	\$0	\$53,394	68.2	4,966
ECM 7	Install High Efficiency Heat Pumps	No	4,932	3.7	0	\$783	\$53,394	\$0	\$53,394	68.2	4,966
Gas Heating (HVAC/Process) Replacement			0	0.0	69	\$930	\$20,392	\$6,400	\$13,992	15.1	8,046
ECM 8	Install High Efficiency Furnaces	No	0	0.0	69	\$930	\$20,392	\$6,400	\$13,992	15.1	8,046
Food Service & Refrigeration Measures			1,612	0.2	0	\$256	\$230	\$0	\$230	0.9	1,623
ECM 9	Vending Machine Control	Yes	1,612	0.2	0	\$256	\$230	\$0	\$230	0.9	1,623
TOTALS (COST EFFECTIVE MEASURES)			177,832	65.9	-29	\$27,845	\$146,497	\$0	\$146,497	5.3	175,682
TOTALS (ALL MEASURES)			182,764	69.6	40	\$29,557	\$220,282	\$6,400	\$213,882	7.2	188,694

CASIMER DALLAGO & GLORIA M. SABATER

#	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			197,046	50.9	-31	\$30,152	\$143,830	\$0	\$143,830	4.8	194,794
ECM 1	Install LED Fixtures	Yes	61,383	6.5	-5	\$9,455	\$68,190	\$0	\$68,190	7.2	61,217
ECM 2	Retrofit Fixtures with LED Lamps	Yes	135,663	44.4	-26	\$20,697	\$75,640	\$0	\$75,640	3.7	133,577
Lighting Control Measures			14,144	3.7	-3	\$2,154	\$18,012	\$0	\$18,012	8.4	13,897
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	14,144	3.7	-3	\$2,154	\$18,012	\$0	\$18,012	8.4	13,897
Motor Upgrades			3,020	0.8	0	\$469	\$4,772	\$0	\$4,772	10.2	3,041
ECM 4	Premium Efficiency Motors	Yes	3,020	0.8	0	\$469	\$4,772	\$0	\$4,772	10.2	3,041
Variable Frequency Drive (VFD) Measures			106,063	29.1	0	\$16,456	\$52,577	\$0	\$52,577	3.2	106,805
ECM 5	Install VFDs on Constant Volume (CV) Fans	Yes	106,063	29.1	0	\$16,456	\$52,577	\$0	\$52,577	3.2	106,805
Electric Unitary HVAC Measures			26,942	13.5	0	\$4,180	\$272,037	\$0	\$272,037	65.1	27,131
ECM 6	Install High Efficiency Air Conditioning Units	No	26,942	13.5	0	\$4,180	\$272,037	\$0	\$272,037	65.1	27,131
Gas Heating (HVAC/Process) Replacement			0	0.0	64	\$871	\$56,054	\$6,400	\$49,654	57.0	7,521
ECM 7	Install High Efficiency Furnaces	No	0	0.0	64	\$871	\$56,054	\$6,400	\$49,654	57.0	7,521
Food Service & Refrigeration Measures			3,224	0.4	0	\$500	\$460	\$0	\$460	0.9	3,246
ECM 8	Vending Machine Control	Yes	3,224	0.4	0	\$500	\$460	\$0	\$460	0.9	3,246
TOTALS (COST EFFECTIVE MEASURES)			323,497	84.8	-34	\$49,732	\$219,652	\$0	\$219,652	4.4	321,782
TOTALS (ALL MEASURES)			350,439	98.3	30	\$54,783	\$547,743	\$6,400	\$541,343	9.9	356,434

* - 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).

VETERANS MEMORIAL

#	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			282,834	47.9	-55	\$44,914	\$101,367	\$0	\$101,367	2.3	278,357
ECM 1	Install LED Fixtures	Yes	31,320	2.5	-3	\$5,014	\$27,345	\$0	\$27,345	5.5	31,184
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	2,830	0.5	-1	\$449	\$1,030	\$0	\$1,030	2.3	2,781
ECM 3	Retrofit Fixtures with LED Lamps	Yes	248,202	44.8	-51	\$39,375	\$72,630	\$0	\$72,630	1.8	243,919
ECM 4	Install LED Exit Signs	Yes	482	0.0	0	\$76	\$362	\$0	\$362	4.7	473
Lighting Control Measures			71,981	12.9	-15	\$11,417	\$48,090	\$0	\$48,090	4.2	70,722
ECM 5	Install Occupancy Sensor Lighting Controls	Yes	65,628	11.8	-14	\$10,410	\$39,090	\$0	\$39,090	3.8	64,481
ECM 6	Install High/Low Lighting Controls	Yes	6,352	1.1	-1	\$1,008	\$9,000	\$0	\$9,000	8.9	6,241
Variable Frequency Drive (VFD) Measures			234,153	62.9	0	\$37,778	\$162,461	\$0	\$162,461	4.3	235,791
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	214,051	59.6	0	\$34,535	\$95,778	\$0	\$95,778	2.8	215,548
ECM 8	Install VFDs on Chilled Water Pumps	No	16,255	2.9	0	\$2,623	\$38,331	\$0	\$38,331	14.6	16,369
ECM 9	Install VFDs on Heating Water Pumps	No	3,847	0.4	0	\$621	\$28,353	\$0	\$28,353	45.7	3,874
Electric Unitary HVAC Measures			7,109	7.4	0	\$1,147	\$81,678	\$0	\$81,678	71.2	7,158
ECM 10	Install High Efficiency Air Conditioning Units	No	6,396	6.9	0	\$1,032	\$76,880	\$0	\$76,880	74.5	6,441
ECM 11	Install High Efficiency Heat Pumps	Yes	712	0.5	0	\$115	\$4,798	\$0	\$4,798	41.7	717
Electric Chiller Replacement			9,143	13.1	0	\$1,475	\$59,084	\$0	\$59,084	40.1	9,207
ECM 12	Install High Efficiency Chillers	No	9,143	13.1	0	\$1,475	\$59,084	\$0	\$59,084	40.1	9,207
Gas Heating (HVAC/Process) Replacement			0	0.0	64	\$832	\$26,257	\$1,600	\$24,657	29.6	7,480
ECM 13	Install High Efficiency Hot Water Boilers	No	0	0.0	8	\$102	\$10,170	\$800	\$9,370	91.9	917
ECM 14	Install High Efficiency Furnaces	No	0	0.0	56	\$730	\$16,087	\$800	\$15,287	20.9	6,563
Domestic Water Heating Upgrade			0	0.0	20	\$255	\$14,736	\$1,785	\$12,951	50.8	2,291
ECM 15	Install High Efficiency Gas-Fired Water Heater	No	0	0.0	20	\$255	\$14,736	\$1,785	\$12,951	50.8	2,291
Food Service & Refrigeration Measures			8,287	0.6	0	\$1,337	\$5,080	\$0	\$5,080	3.8	8,345
ECM 16	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	3,647	0.4	0	\$588	\$1,213	\$0	\$1,213	2.1	3,673
ECM 17	Refrigeration Controls	Yes	4,639	0.2	0	\$749	\$3,867	\$0	\$3,867	5.2	4,672
TOTALS (COST EFFECTIVE MEASURES)			577,865	121.5	-70	\$92,318	\$255,112	\$0	\$255,112	2.8	573,689
TOTALS (ALL MEASURES)			613,507	144.8	13	\$99,156	\$498,753	\$3,385	\$495,368	5.0	619,351

VINELAND HIGH SCHOOL NORTH

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Natural Gas 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			496,908	70.0	-94	\$66,358	\$187,030	\$0	\$187,030	2.8	489,382
ECM 1	Install LED Fixtures	Yes	88,113	6.2	-8	\$11,874	\$70,586	\$0	\$70,586	5.9	87,737
ECM 2	Retrofit Fixtures with LED Lamps	Yes	408,024	63.8	-85	\$54,381	\$115,865	\$0	\$115,865	2.1	400,888
ECM 3	Install LED Exit Signs	Yes	771	0.1	0	\$103	\$579	\$0	\$579	5.6	757
Lighting Control Measures			155,255	24.3	-32	\$20,692	\$76,680	\$0	\$76,680	3.7	152,539
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	137,531	21.6	-29	\$18,330	\$61,830	\$0	\$61,830	3.4	135,125
ECM 5	Install High/Low Lighting Controls	Yes	17,724	2.7	-4	\$2,362	\$14,850	\$0	\$14,850	6.3	17,414
Motor Upgrades			10,377	2.0	0	\$1,411	\$23,751	\$0	\$23,751	16.8	10,449
ECM 6	Premium Efficiency Motors	No	10,377	2.0	0	\$1,411	\$23,751	\$0	\$23,751	16.8	10,449
Variable Frequency Drive (VFD) Measures			217,208	24.0	39	\$30,055	\$229,968	\$0	\$229,968	7.7	223,320
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	77,453	16.1	0	\$10,534	\$32,935	\$0	\$32,935	3.1	77,994
ECM 8	Install VFDs on Chilled Water Pumps	No	29,935	5.0	0	\$4,071	\$59,246	\$0	\$59,246	14.6	30,144
ECM 9	Install VFDs on Heating Water Pumps	Yes	62,987	5.1	0	\$8,567	\$85,712	\$0	\$85,712	10.0	63,427
ECM 10	Install VFDs on Cooling Tower Fans	Yes	38,202	-2.2	0	\$5,196	\$47,999	\$0	\$47,999	9.2	38,469
ECM 11	Install VFDs on Kitchen Hood Fan Motors	Yes	8,632	0.1	39	\$1,686	\$4,076	\$0	\$4,076	2.4	13,285
Electric Unitary HVAC Measures			3,583	2.3	0	\$487	\$19,974	\$0	\$19,974	41.0	3,608
ECM 12	Install High Efficiency Air Conditioning Units	No	3,175	2.1	0	\$432	\$17,575	\$0	\$17,575	40.7	3,197
ECM 13	Install High Efficiency Heat Pumps	No	407	0.2	0	\$55	\$2,399	\$0	\$2,399	43.3	410
Electric Chiller Replacement			64,170	57.3	0	\$8,728	\$225,054	\$0	\$225,054	25.8	64,619
ECM 14	Install High Efficiency Chillers	No	64,170	57.3	0	\$8,728	\$225,054	\$0	\$225,054	25.8	64,619
Gas Heating (HVAC/Process) Replacement			0	0.0	621	\$8,114	\$89,233	\$19,378	\$69,856	8.6	72,731
ECM 15	Install High Efficiency Hot Water Boilers	Yes	0	0.0	621	\$8,114	\$89,233	\$19,378	\$69,856	8.6	72,731
HVAC System Improvements			0	0.0	42	\$553	\$8,337	\$100	\$8,237	14.9	4,955
ECM 16	Implement Demand Control Ventilation (DCV)	No	0	0.0	26	\$343	\$8,157	\$0	\$8,157	23.8	3,075
ECM 17	Install Pipe Insulation	Yes	0	0.0	16	\$210	\$180	\$100	\$80	0.4	1,880
Domestic Water Heating Upgrade			7,368	0.0	0	\$1,002	\$380	\$380	\$0	0.0	7,419
ECM 18	Install Low-Flow DHW Devices	Yes	7,368	0.0	0	\$1,002	\$380	\$380	\$0	0.0	7,419
Food Service & Refrigeration Measures			9,798	0.8	0	\$1,333	\$13,773	\$0	\$13,773	10.3	9,866
ECM 19	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	1,377	0.2	0	\$187	\$1,517	\$0	\$1,517	8.1	1,386
ECM 20	Refrigeration Controls	Yes	3,017	0.1	0	\$410	\$7,215	\$0	\$7,215	17.6	3,039
ECM 21	Replace Refrigeration Equipment	No	1,837	0.2	0	\$250	\$4,352	\$0	\$4,352	17.4	1,850
ECM 22	Vending Machine Control	Yes	3,566	0.4	0	\$485	\$690	\$0	\$690	1.4	3,591
TOTALS (COST EFFECTIVE MEASURES)			854,764	113.9	550	\$123,441	\$533,647	\$19,858	\$513,789	4.2	925,144



VINELAND HIGH SCHOOL SOUTH

#	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			686,756	83.1	-113	\$91,868	\$218,947	\$0	\$218,947	2.4	678,354
ECM 1	Install LED Fixtures	Yes	150,563	0.5	-1	\$20,469	\$91,916	\$0	\$91,916	4.5	151,539
ECM 2	Retrofit Fixtures with LED Lamps	Yes	536,193	82.6	-112	\$71,399	\$127,031	\$0	\$127,031	1.8	526,815
Lighting Control Measures			134,498	20.1	-28	\$17,910	\$68,112	\$0	\$68,112	3.8	132,146
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	119,758	17.9	-25	\$15,947	\$57,762	\$0	\$57,762	3.6	117,664
ECM 4	Install High/Low Lighting Controls	Yes	14,740	2.2	-3	\$1,963	\$10,350	\$0	\$10,350	5.3	14,482
Electric Unitary HVAC Measures			7,200	3.9	0	\$979	\$54,460	\$0	\$54,460	55.6	7,251
ECM 5	Install High Efficiency Air Conditioning Units	No	7,200	3.9	0	\$979	\$54,460	\$0	\$54,460	55.6	7,251
Domestic Water Heating Upgrade			0	0.0	74	\$1,009	\$186	\$186	\$0	0.0	8,666
ECM 6	Install Low-Flow DHW Devices	Yes	0	0.0	74	\$1,009	\$186	\$186	\$0	0.0	8,666
Food Service & Refrigeration Measures			22,120	2.3	0	\$3,008	\$21,544	\$0	\$21,544	7.2	22,274
ECM 7	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	2,108	0.3	0	\$287	\$2,426	\$0	\$2,426	8.5	2,123
ECM 8	Refrigeration Controls	Yes	2,468	0.0	0	\$336	\$1,037	\$0	\$1,037	3.1	2,485
ECM 9	Replace Refrigeration Equipment	No	6,261	0.7	0	\$852	\$16,470	\$0	\$16,470	19.3	6,304
ECM 10	Vending Machine Control	Yes	11,283	1.3	0	\$1,535	\$1,610	\$0	\$1,610	1.0	11,362
TOTALS (COST EFFECTIVE MEASURES)			837,114	104.7	-67	\$112,943	\$292,319	\$186	\$292,132	2.6	835,137
TOTALS (ALL MEASURES)			850,574	109.4	-67	\$114,774	\$363,248	\$186	\$363,062	3.2	848,692

THOMAS WALLACE MIDDLE

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Natural Gas Savings (MMBtu)	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			343,671	53.9	-58	-58	\$51,758	\$776,377	\$185,058	\$0	\$185,058	3.6	339,303
ECM 1	Install LED Fixtures	Yes	116,857	9.8	-11	-11	\$17,726	\$265,891	\$113,526	\$0	\$113,526	6.4	116,431
ECM 2	Retrofit Fixtures with LED Lamps	Yes	226,814	44.1	-47	-47	\$34,032	\$510,485	\$71,532	\$0	\$71,532	2.1	222,872
Lighting Control Measures			71,053	13.8	-15	-15	\$10,660	\$85,281	\$48,420	\$0	\$48,420	4.5	69,810
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	65,997	12.8	-14	-14	\$9,902	\$79,214	\$42,120	\$0	\$42,120	4.3	64,843
ECM 4	Install High/Low Lighting Controls	Yes	5,055	1.0	-1	-1	\$758	\$6,068	\$6,300	\$0	\$6,300	8.3	4,967
Motor Upgrades			1,370	0.4	0	0	\$210	\$3,143	\$10,027	\$0	\$10,027	47.9	1,379
ECM 5	Premium Efficiency Motors	No	1,370	0.4	0	0	\$210	\$3,143	\$10,027	\$0	\$10,027	47.9	1,379
Variable Frequency Drive (VFD) Measures			68,165	15.7	118	118	\$12,077	\$181,159	\$77,530	\$0	\$77,530	6.4	82,421
ECM 6	Install VFDs on Constant Volume (CV) Fans	Yes	41,228	13.5	0	0	\$6,306	\$94,596	\$51,536	\$0	\$51,536	8.2	41,516
ECM 7	Install VFDs on Chilled Water Pumps	Yes	4,490	1.0	0	0	\$687	\$10,302	\$4,076	\$0	\$4,076	5.9	4,521
ECM 8	Install VFDs on Heating Water Pumps	Yes	8,997	1.1	0	0	\$1,376	\$20,644	\$13,788	\$0	\$13,788	10.0	9,060
ECM 9	Install VFDs on Kitchen Hood Fan Motors	Yes	13,450	0.1	118	118	\$3,708	\$55,618	\$8,129	\$0	\$8,129	2.2	27,324
Electric Unitary HVAC Measures			28,531	11.5	0	0	\$4,364	\$65,463	\$250,632	\$0	\$250,632	57.4	28,730
ECM 10	Install High Efficiency Air Conditioning Units	No	2,384	1.4	0	0	\$365	\$5,471	\$17,955	\$0	\$17,955	49.2	2,401
ECM 11	Install High Efficiency Heat Pumps	No	26,146	10.1	0	0	\$3,999	\$59,992	\$232,677	\$0	\$232,677	58.2	26,329
ECM 0	Install High Efficiency PTAC/PTHP	Yes	0	0.0	0	0	\$0	\$0	\$0	\$0	\$0	0.0	0
Electric Chiller Replacement			7,604	6.4	0	0	\$1,163	\$23,263	\$30,251	\$0	\$30,251	26.0	7,657
ECM 12	Install High Efficiency Chillers	No	7,604	6.4	0	0	\$1,163	\$23,263	\$30,251	\$0	\$30,251	26.0	7,657
Gas Heating (HVAC/Process) Replacement			0	0.0	37	37	\$515	\$10,297	\$28,095	\$2,400	\$25,695	49.9	4,298
ECM 13	Install High Efficiency Furnaces	No	0	0.0	37	37	\$515	\$10,297	\$28,095	\$2,400	\$25,695	49.9	4,298
HVAC System Improvements			3,987	0.0	0	0	\$610	\$9,148	\$19,032	\$0	\$19,032	31.2	4,015
ECM 14	Implement Demand Control Ventilation (DCV)	No	3,987	0.0	0	0	\$610	\$9,148	\$19,032	\$0	\$19,032	31.2	4,015
Food Service & Refrigeration Measures			13,290	0.8	0	0	\$2,033	\$28,687	\$25,586	\$0	\$25,586	12.6	13,383
ECM 15	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	3,603	0.4	0	0	\$551	\$8,267	\$5,156	\$0	\$5,156	9.4	3,628
ECM 16	Refrigeration Controls	No	7,733	0.2	0	0	\$1,183	\$18,925	\$19,970	\$0	\$19,970	16.9	7,787
ECM 17	Vending Machine Control	Yes	1,954	0.2	0	0	\$299	\$1,495	\$460	\$0	\$460	1.5	1,968

CUNNINGHAM SCHOOL (ACADEMY)

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Natural Gas 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			43,023	11.6	-8	\$6,848	\$102,727	\$26,366	\$0	\$26,366	3.8	42,425
ECM 1	Install LED Fixtures	Yes	5,105	0.0	0	\$825	\$12,378	\$5,950	\$0	\$5,950	7.2	5,141
ECM 2	Retrofit Fixtures with LED Lamps	Yes	37,918	11.6	-8	\$6,023	\$90,348	\$20,416	\$0	\$20,416	3.4	37,285
Lighting Control Measures			9,966	3.1	-2	\$1,582	\$12,657	\$14,130	\$0	\$14,130	8.9	9,792
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	8,533	2.7	-2	\$1,355	\$10,838	\$11,880	\$0	\$11,880	8.8	8,384
ECM 4	Install High/Low Lighting Controls	Yes	1,433	0.4	0	\$227	\$1,820	\$2,250	\$0	\$2,250	9.9	1,408
Electric Unitary HVAC Measures			25,950	15.2	0	\$4,195	\$62,924	\$135,338	\$0	\$135,338	32.3	26,132
ECM 5	Install High Efficiency Air Conditioning Units	No	639	0.7	0	\$103	\$1,550	\$5,985	\$0	\$5,985	57.9	644
ECM 6	Install High Efficiency Heat Pumps	No	25,311	14.5	0	\$4,092	\$61,375	\$129,353	\$0	\$129,353	31.6	25,488
Gas Heating (HVAC/Process) Replacement			0	0.0	21	\$295	\$5,906	\$16,202	\$2,970	\$13,232	44.8	2,493
ECM 7	Install High Efficiency Hot Water Boilers	No	0	0.0	21	\$295	\$5,906	\$16,202	\$2,970	\$13,232	44.8	2,493
HVAC System Improvements			0	0.0	4	\$59	\$653	\$46	\$32	\$14	0.2	501
ECM 8	Install Pipe Insulation	Yes	0	0.0	4	\$59	\$653	\$46	\$32	\$14	0.2	501
Domestic Water Heating Upgrade			0	0.0	9	\$118	\$1,185	\$65	\$0	\$65	0.5	1,000
ECM 9	Install Low-Flow DHW Devices	Yes	0	0.0	9	\$118	\$1,185	\$65	\$0	\$65	0.5	1,000
TOTALS (COST EFFECTIVE MEASURES)			52,989	14.7	3	\$8,608	\$117,222	\$40,607	\$32	\$40,575	4.7	53,719
TOTALS (ALL MEASURES)			78,940	29.9	24	\$13,099	\$186,053	\$192,147	\$3,002	\$189,145	14.4	82,343

MAINTENANCE TRANSPORTATION BUILDING

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	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			73,023	13.0	\$11,699	\$175,483	\$55,627	\$0	\$55,627	4.8	72,546
ECM 1	Install LED Fixtures	Yes	51,406	5.7	\$8,264	\$123,963	\$44,593	\$0	\$44,593	5.4	51,316
ECM 2	Retrofit Fixtures with LED Lamps	Yes	21,504	7.3	\$3,417	\$51,249	\$10,889	\$0	\$10,889	3.2	21,118
ECM 3	Install LED Exit Signs	Yes	114	0.0	\$18	\$271	\$145	\$0	\$145	8.0	111
Lighting Control Measures			4,583	1.6	\$728	\$5,825	\$6,975	\$0	\$6,975	9.6	4,500
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	4,507	1.6	\$716	\$5,729	\$6,750	\$0	\$6,750	9.4	4,426
ECM 5	Install High/Low Lighting Controls	Yes	76	0.0	\$12	\$96	\$225	\$0	\$225	18.7	74
Electric Unitary HVAC Measures			2,264	1.5	\$366	\$5,493	\$7,347	\$0	\$7,347	20.1	2,280
ECM 6	Install High Efficiency Air Conditioning Units	No	2,264	1.5	\$366	\$5,493	\$7,347	\$0	\$7,347	20.1	2,280
Gas Heating (HVAC/Process) Replacement			0	0.0	\$886	\$17,723	\$47,641	\$3,144	\$44,497	50.2	7,647
ECM 7	Install High Efficiency Steam Boilers	No	0	0.0	\$886	\$17,723	\$47,641	\$3,144	\$44,497	50.2	7,647
TOTALS (COST EFFECTIVE MEASURES)			77,606	14.6	\$12,427	\$181,308	\$62,602	\$0	\$62,602	5.0	77,046
TOTALS (ALL MEASURES)			79,869	16.2	\$13,679	\$204,524	\$117,590	\$3,144	\$114,446	8.4	86,973

CENTRAL WAREHOUSE

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	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			60,283	18.1	\$10,009	\$150,128	\$36,188	\$0	\$36,188	3.6	59,342
ECM 1	Install LED Fixtures	Yes	29,084	6.8	\$4,842	\$72,623	\$24,972	\$0	\$24,972	5.2	28,748
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	3,738	1.6	\$619	\$9,285	\$2,624	\$0	\$2,624	4.2	3,665
ECM 3	Retrofit Fixtures with LED Lamps	Yes	27,461	9.6	\$4,548	\$68,219	\$8,592	\$0	\$8,592	1.9	26,928
Lighting Control Measures			7,972	2.8	\$1,320	\$10,562	\$14,722	\$0	\$14,722	11.2	7,817
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	5,746	2.1	\$952	\$7,613	\$12,022	\$0	\$12,022	12.6	5,635
ECM 5	Install High/Low Lighting Controls	Yes	2,226	0.7	\$369	\$2,949	\$2,700	\$0	\$2,700	7.3	2,182
Electric Unitary HVAC Measures			6,603	5.5	\$1,112	\$16,687	\$68,330	\$0	\$68,330	61.4	6,649
ECM 6	Install High Efficiency Air Conditioning Units	No	6,603	5.5	\$1,112	\$16,687	\$68,330	\$0	\$68,330	61.4	6,649
Gas Heating (HVAC/Process) Replacement			0	0.0	\$360	\$7,208	\$9,135	\$3,925	\$5,210	14.5	3,313
ECM 7	Install High Efficiency Furnaces	No	0	0.0	\$360	\$7,208	\$9,135	\$3,925	\$5,210	14.5	3,313
Domestic Water Heating Upgrade			1,112	0.0	\$187	\$1,874	\$29	\$0	\$29	0.2	1,120
ECM 8	Install Low-Flow DHW Devices	Yes	1,112	0.0	\$187	\$1,874	\$29	\$0	\$29	0.2	1,120
TOTALS (COST EFFECTIVE MEASURES)			69,368	20.9	\$11,516	\$162,563	\$50,939	\$0	\$50,939	4.4	68,279
TOTALS (ALL MEASURES)			75,970	26.4	\$12,989	\$186,458	\$128,404	\$3,925	\$124,479	9.6	78,240

SGT. DOMINICK PILLA MIDDLE SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			126,726	33.4	-26	\$19,125	\$53,539	\$53,539	2.8	124,510
ECM 1	Retrofit Fixtures with LED Lamps	Yes	126,726	33.4	-26	\$19,125	\$53,539	\$53,539	2.8	124,510
Lighting Control Measures			632	0.1	0	\$95	\$945	\$945	9.9	621
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	211	0.0	0	\$32	\$270	\$270	8.5	207
ECM 3	Install High/Low Lighting Controls	Yes	422	0.1	0	\$64	\$675	\$675	10.6	414
Variable Frequency Drive (VFD) Measures			45,623	14.5	0	\$6,997	\$48,616	\$48,616	6.9	45,942
ECM 4	Install VFDs on Constant Volume (CV) Fans	Yes	45,623	14.5	0	\$6,997	\$48,616	\$48,616	6.9	45,942
HVAC System Improvements			661	0.0	17	\$305	\$5,438	\$5,438	17.8	2,698
ECM 5	Implement Demand Control Ventilation (DCV)	Yes	661	0.0	17	\$305	\$5,438	\$5,438	17.8	2,698
TOTALS (COST EFFECTIVE MEASURES)			173,643	48.0	-9	\$26,523	\$108,537	\$108,537	4.1	173,771
TOTALS (ALL MEASURES)			173,643	48.0	-9	\$26,523	\$108,537	\$108,537	4.1	173,771

SOLAR ENERGY GENERATION POTENTIAL

	Anthony Rossi School	D'Ippolito School	Dane Barse Elementary School	Dr. John H Winslow School	Johnstone Elementary School
<i>Potential:</i>	HIGH	HIGH	HIGH	HIGH	HIGH
<i>System Potential: (kW)</i>	640	600	127	210	235
<i>Electric Generation: (kWh per year)</i>	762,477	714,822	151,304	250,188	279,972
<i>Displaced Cost: (per year)</i>	\$141,080	\$115,020	\$300,200	\$40,220	\$45,830

SREC Registration Program (SRP):

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

Community Solar Energy Pilot Program:

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



SOLAR ENERGY GENERATION POTENTIAL

	Landis Admin. Building	Petway Elementary School	Casimer Dallago ECC/Gloria M. Sabater Elementary School	Veterans Memorial Intermediate School	Vineland HS South
<i>Potential:</i>	HIGH	HIGH	HIGH	HIGH	HIGH
<i>System Potential: (kW)</i>	117	161	429	550	716
<i>Electric Generation: (kWh per year)</i>	139,391	191,811	511,098	655,254	853,021
<i>Displaced Cost: (per year)</i>	\$22,890	\$30,460	\$79,300	\$105,720	\$116,020

SREC Registration Program (SRP):
<http://www.NJCleanEnergy.com/SREC>

Community Solar Energy Pilot Program:
<http://www.NJCleanEnergy.com/CommunitySolar>



SOLAR ENERGY GENERATION POTENTIAL

	Thomas Wallace School	Cunningham Academy	Maint./Transportation Building	Central Warehouse	Sgt. Dominick Pilla School
<i>Potential:</i>	HIGH	HIGH	HIGH	HIGH	HIGH
<i>System Potential: (kW)</i>	450	98	42	63	268
<i>Electric Generation: (kWh per year)</i>	536,116	116,754	50,037	75,057	319,287
<i>Displaced Cost: (per year)</i>	\$82,010	\$18,870	\$8,090	\$12,650	\$696,800

SREC Registration Program (SRP):

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

Community Solar Energy Pilot Program:

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



ENERGY EFFICIENT BEST PRACTICES

- Reduce Air Leakage
- Close Doors and Windows
- Develop a Lighting Maintenance Schedule
- Ensure Lighting Controls Are Operating Properly
- Use Fans to Reduce Cooling Load
- Use Window Treatments/Coverings
- Clean and/or Replace HVAC filters
- Check and Seal Duct Leakage
- Perform Proper Boiler Maintenance
- Perform Proper Water Heater Maintenance
- Plug Load Controls
- Water Conservation

See individual reports for specific EE practices by building

CLEAN ENERGY PROGRAM PORTFOLIO

ELIGIBLE SECTORS

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

INCENTIVE PROGRAMS

Equipment Rebates:

- **SmartStart**
- **Customer Tailored Energy Efficiency Pilot (CTEEP)**
- **Direct Install**
- Large Energy Users

Whole Buildings:

- **Pay for Performance**

Energy Generation:

- Combined Heat and Power – Fuel Cells

OTHER PROGRAMS

Renewable Energy Generation:

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

RECOMMENDED NJCEP INCENTIVES PER BUILDING

Vineland Public School District	Pay For Performance	Direct Install	SmartStart	CTEEP
Anthony Rossi Intermediate School			X	X
D'Ippolito Elementary School			X	X
Dane Barse Elementary School		X	X	X
Dr. John H. Winslow Elementary School			X	X
Johnstone Elementary School	X		X	X
Landis Administrative Bldg.	X		X	X
Petway Elementary School			X	X
Casimer Dallago Early Childhood Center/Gloria M. Sabater Elementary School	X		X	X

RECOMMENDED NJCEP INCENTIVES PER BUILDING

Vineland Public School District	Pay For Performance	Direct Install	SmartStart	CTEEP
Veterans Memorial Intermediate School	X		X	X
Vineland High School North	X		X	X
Vineland High School South			X	X
Thomas Wallace Middle School			X	X
Cunningham School (Academy)		X	X	X
Maintenance/Transportation Building		X	X	X
Central Warehouse		X	X	X
Sgt. Dominick Pilla Middle School			X	X

LARGE ENERGY USERS

NJCleanEnergy.com/LEUP

What is LEUP: The Large Energy Users Program (LEUP) encourages large C&I utility customers to self-invest in energy efficiency and combined heat & power projects and fuel cells.

- Qualifications:**
- Applicants qualify into the program as an entity (not specific buildings)
 - Applicants contribute at least \$200,000 in NJCEP funds within the prior fiscal year.
 - For applicants who have not used LEUP in the prior fiscal year, and additional years' worth of energy can be utilized to increase their overall incentive cap.

Incentive Cap: Maximum incentive* is:

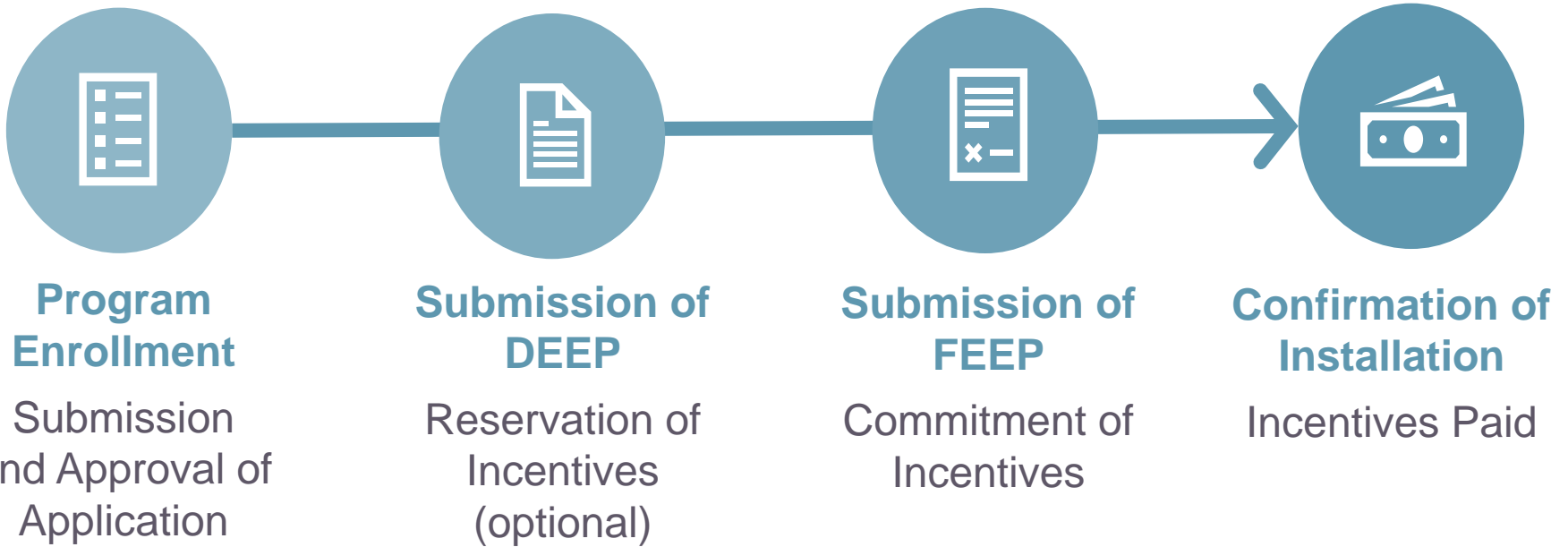
- \$4 million
- 75% of total project
- 90% of NJCEP contribution
- Annual energy saving cap (\$0.33/kWh and \$3.75/Therm)



*Maximum incentive is whichever is less

LARGE ENERGY USERS

NJCleanEnergy.com/LEUP

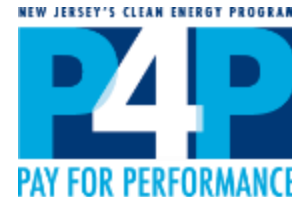


Customers may submit up to three Draft Energy Efficiency Plans (DEEPs) or Final Energy Efficiency Plans (FEEDs) within the fiscal year enrolled



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

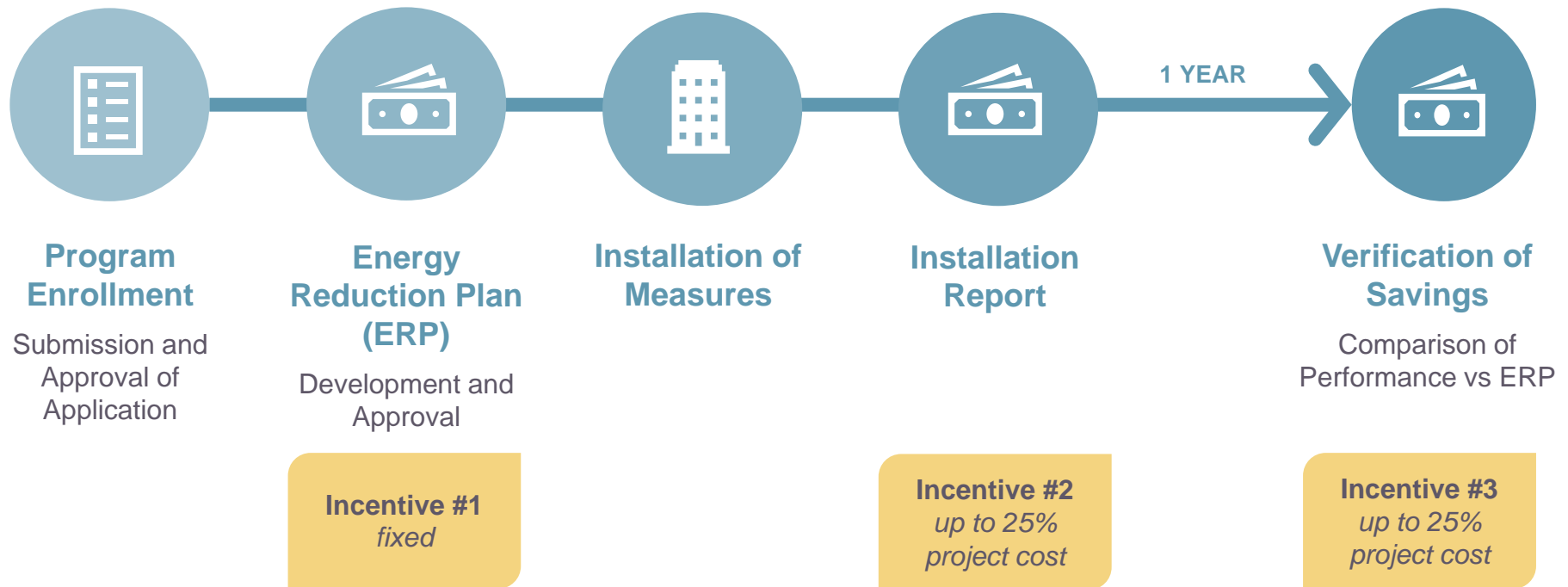
About: Customer choose from a network of pre-approved *Participating Partners*

- 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 (or 80% for UEZ/OZ/ MUNI/K-12 Public Schools) up to \$2MM per project / \$4MM per entity annually
 - Incentive #2 & #3 are doubles for UEZ/OZ/ MUNI/K-12 Public Schools



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/MUNI/K-12 Public Schools), or
 - \$250,000 entity cap (\$4MM UEZ/OZ/MUNI/K-12 Public Schools)

DIRECT INSTALL

NJCleanEnergy.com/DI

Facilities in Urban Enterprise Zones (UEZ), Opportunity Zones (OZ), municipalities, 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/ MUNI/K-12
PUBLIC SCHOOLS**

Custom Incentives

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



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**

SMARTSTART, CTEEP, & P4P: FINANCING OPTION

- NJNG provides 0% financing options that will cover up to \$130,000 per year.
- 10 year term-repayments made on regular monthly gas bill
- Need to review project with NJNG to confirm project qualifies.
- The SAVEGREEN program can help with a consultation to discuss your Commercial Energy Efficiency Project.

- Questions? Contact:

Peter Druckenmiller
Program Manager
South Jersey Gas
609-572-4271

wdruckenmiller@sjindustries.com

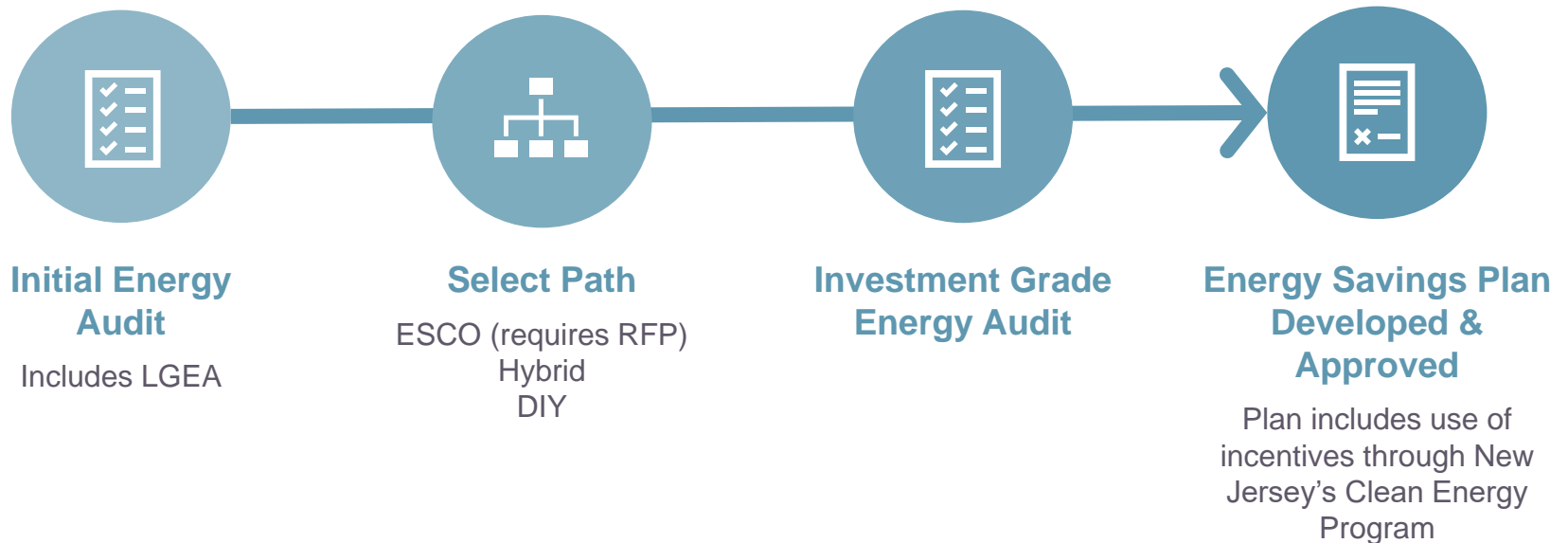


FINANCING MECHANISM: ESIP

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

Michelle Rossi

ESIP Coordinator

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ESIP@bpu.nj.gov



FOR MORE INFORMATION

Visit NJCleanEnergy.com

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QUESTIONS

