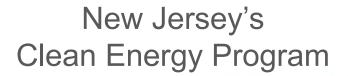


LGEA Presentation Plainfield Board of Education

January 3, 2023



TRC

Lighting the way to New Jersey's Clean Energy Future

INTRODUCTIONS

- Plainfield Board of Education
 - Rashon Hasan Superintendent of Plainfield Public Schools
 - Sean Sutton Director of Facilities & Grounds
 - Cameron Cox CFO/Acting Business Administrator
 - Juan Pinas Assistant Director of Facilities & Grounds
 - Andrew Conte Director, Gable Associates
- NJ Clean Energy Program
 - Sarah Walters LGEA Project Manager
 - Moussa Traore LGEA Lead Auditor
 - Ryan Knippenberg LGEA Project Auditor



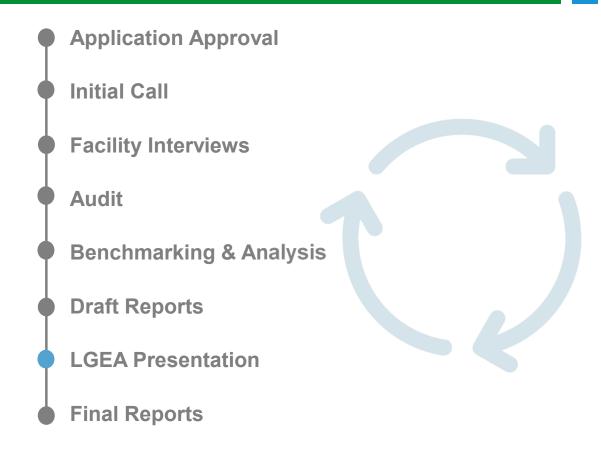
AGENDA

- The audit process overview
- Energy use & existing conditions
- Review of Energy Conservation Measures (ECMs) identified & other recommendations
- Energy Savings Improvement Program (ESIP)
- Energy Efficiency Incentive Programs
- Questions regarding the draft audit report
- Next steps for Plainfield Board of Education



LGEA PROCESS





SITE VISIT & UTILITY ANALYSIS

Overview of Systems, Baseline & Existing Conditions:

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

Utility Consumption:

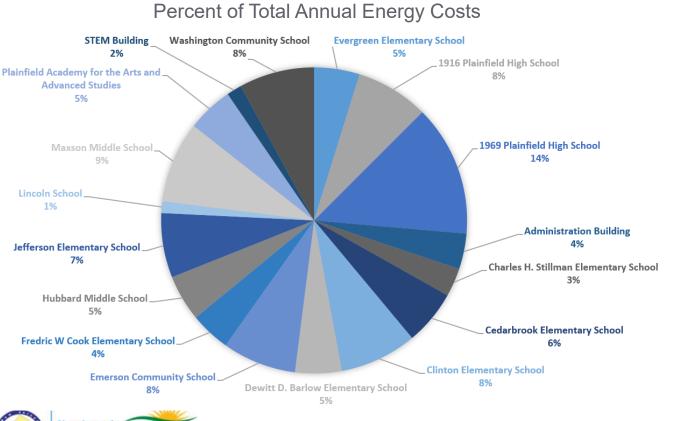
- Electric Consumption and Costs
- Natural Gas Consumption and Costs
- Solar Consumption and Costs



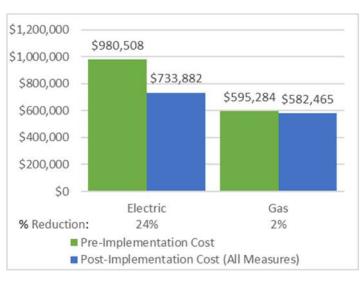
Sites Visited/Analyzed

- Cedarbrook Elementary School
- Charles H. Stillman Elementary School
- Clinton Elementary School
- Dewitt D. Barlow Elementary School
- Emerson Community School
- Evergreen Elementary School
- Frederic W. Cook ES & Trailer
- Hubbard Middle School
- Jefferson Elementary School
- Maxson Middle School
- PAAAS
- Plainfield High School 1916
 - Garage
 - Transportation Building
- Plainfield High School 1969
- Washington Community School
- Administration Building
- STEM Building
- Lincoln High School

UTILITY BREAKOUT

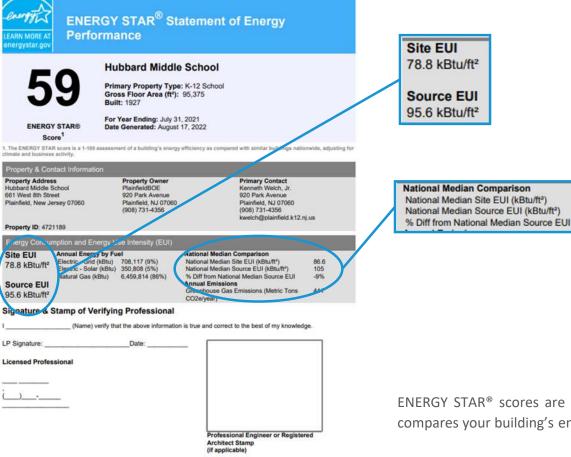


Pre & Post Implementation Cost





BENCHMARKING



Site Name	ENERGY STAR Score
Evergreen Elementary School	28
1916 Plainfield High School	68
1969 Plainfield High School	68
Administration Building	N/A
Charles H. Stillman Elementary School	51
Cedarbrook Elementary School	20
Clinton Elementary School	19
Dewitt D. Barlow Elementary School	27
Emerson Community School	32
Fredric W Cook Elementary School	17
Hubbard Middle School	59
Jefferson Elementary School	33
Lincoln School	N/A
Maxson Middle School	21
Plainfield Academy for the Arts and Advanced Studies	64
STEM Building	8
Washington Community School	61

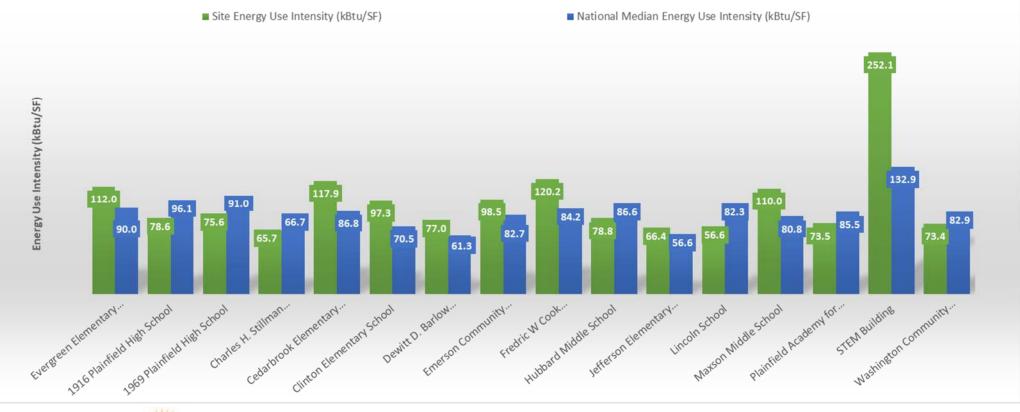
ENERGY STAR[®] scores are percentile ranking from 1 (least efficient) to 100 (most efficient). It compares your building's energy performance to similar buildings nationwide.

86.6

105

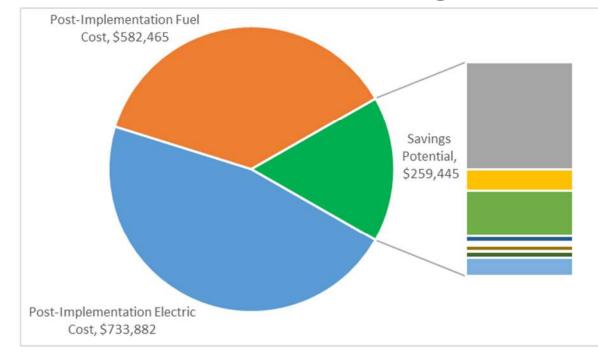
-9%

Benchmarking





ALL OPPORTUNITIES





- Lighting Upgrades
- Lighting Control Measures
- Motor Upgrades
- Variable Frequency Drive (VFD) Measures
- Electric Unitary HVAC Measures
- Electric Chiller Replacement
- Gas Heating (HVAC/Process) Replacement
- HVAC System Improvements
- Domestic Water Heating Upgrade
- Food Service & Refrigeration Measures
- Custom Measures



ALL OPPORTUNITIES

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (Ibs)
Lighting	Upgrades	1,178,585	317.9	-243.4	\$130,069	\$536,657	\$139,798	\$396,859	3.1	1,158,321
ECM 1	Install LED Fixtures	11,975	0.0	0.0	\$1,652	\$7,911	\$1,700	\$6,211	3.8	12,059
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	2,455	1.1	-0.5	\$298	\$2,744	\$344	\$2,400	8.0	2,412
ECM 3	Retrofit Fixtures with LED Lamps	1,163,788	316.8	-242.9	\$128,066	\$525 <i>,</i> 495	\$137,754	\$387,741	3.0	1,143,490
ECM 4	Install LED Exit Signs	366	0.0	-0.1	\$53	\$507	\$0	\$507	9.6	360
Lighting	Control Measures	233,006	60.5	-48.9	\$25,540	\$289,233	\$56,420	\$232,813	9.1	228,905
ECM 5	Install Occupancy Sensor Lighting Controls	206,836	55.0	-43.5	\$22,563	\$245,808	\$30,690	\$215,118	9.5	203,192
ECM 6	Install High/Low Lighting Controls	26,170	5.5	-5.5	\$2,977	\$43,425	\$25,730	\$17,695	5.9	25,713
Motor U	pgrades	2,286	0.6	0.0	\$226	\$7,754	\$0	\$7,754	34.4	2,302
ECM 7	Premium Efficiency Motors	2,286	0.6	0.0	\$226	\$7,754	\$0	\$7,754	34.4	2,302
Variable	Frequency Drive (VFD) Measures	395,667	78.1	58.7	\$54,709	\$364,950	\$36,475	\$328,475	6.0	405,310
ECM 8	Install VFDs on Constant Volume (CV) Fans	267,908	60.4	0.0	\$36,454	\$157,692	\$23,400	\$134,292	3.7	269,781
ECM 9	Install VFDs on Chilled Water Pumps	38,960	5.8	0.0	\$5 <i>,</i> 830	\$14,082	\$2,400	\$11,682	2.0	39,232
ECM 10	Install VFDs on Heating Water Pumps	67,643	7.3	0.0	\$9,686	\$177,590	\$8,550	\$169,040	17.5	68,116
ECM 11	Install Boiler Draft Fan VFDs	16,079	4.5	0.0	\$1,603	\$9 <i>,</i> 819	\$2,000	\$7,819	4.9	16,191
ECM 12	Install VFDs on Kitchen Hood Fan Motors	5,077	0.2	58.7	\$1,136	\$5,766	\$125	\$5,641	5.0	11,990
Electric U	Jnitary HVAC Measures	68,366	60.0	0.0	\$7,211	\$387,364	\$32,271	\$355,093	49.2	68,844
ECM 13	Install High Efficiency Air Conditioning Units	68,366	60.0	0.0	\$7,211	\$387,364	\$32,271	\$355,093	49.2	68,844
Electric C	Chiller Replacement	20,894	0.0	0.0	\$3,126	\$155,018	\$14,720	\$140,298	44.9	21,040
ECM 14	Install High Efficiency Chillers	20,894	0.0	0.0	\$3,126	\$155,018	\$14,720	\$140,298	44.9	21,040

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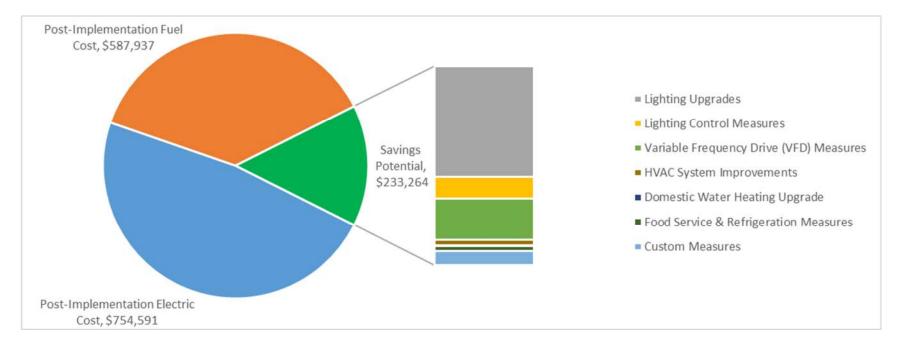
ALL OPPORTUNITIES

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)		CO ₂ e Emissions Reduction (lbs)
Gas Heat	ting (HVAC/Process) Replacement	0	0.0	204.5	\$1,898	\$81,665	\$9,568	\$72,097	38.0	23,944
ECM 15	Install High Efficiency Hot Water Boilers	0	0.0	204.5	\$1,898	\$81,665	\$9,568	\$72,097	38.0	23,944
HVAC Sy	stem Improvements	11,762	0.0	633.7	\$6,168	\$15,748	\$1,026	\$14,722	2.4	86,041
ECM 16	Implement Demand Control Ventilation (DCV)	7,132	0.0	186.2	\$2,031	\$10,875	\$0	\$10,875	5.4	28,984
ECM 17	Install Pipe Insulation	4,630	0.0	447.5	\$4,137	\$4,872	\$1,026	\$3,846	0.9	57,057
Domesti	c Water Heating Upgrade	6,264	0.0	33.4	\$915	\$1,595	\$385	\$1,210	1.3	10,224
ECM 18	Install Low-Flow DHW Devices	6,264	0.0	33.4	\$915	\$1,595	\$385	\$1,210	1.3	10,224
Food Ser	vice & Refrigeration Measures	50,680	5.3	125.9	\$6,910	\$41,249	\$4,730	\$36,519	5.3	65,774
ECM 19	Food Service Equipment Replacement	0	0.0	125.9	\$946	\$14,129	\$3,000	\$11,129	11.8	14,739
ECM 20	Refrigerator/Freezer Case Electrically Commutated Motors	7,054	0.8	0.0	\$725	\$2,123	\$280	\$1,843	2.5	7,103
ECM 21	Refrigeration Controls	5,843	0.2	0.0	\$612	\$4,637	\$300	\$4,337	7.1	5 <i>,</i> 883
ECM 22	Replace Refrigeration Equipment	8,388	1.0	0.0	\$1,365	\$14,610	\$250	\$14,360	10.5	8,446
ECM 23	Vending Machine Control	29,396	3.4	0.0	\$3,262	\$5,750	\$900	\$4,850	1.5	29,601
Custom	Measures	126,175	0.0	902.4	\$22,674	\$315,937	\$0	\$315,937	13.9	232,717
ECM 24	Optimize HVAC Schedule	3,892	0.0	26.4	\$548	\$1,200	\$0	\$1,200	2.2	7,011
ECM 25	Installation of an Energy Management System	65,093	0.0	876.0	\$13,288	\$305 <i>,</i> 925	\$0	\$305,925	23.0	168,118
ECM 26	Install Heat Pump Water Heater	57,189	0.0	0.0	\$8,838	\$8,812	\$0	\$8,812	1.0	57,589
	TOTALS	2,093,685	522.5	1,666.3	\$259,445	\$2,197,169	\$295,393	\$1,901,776	7.3	2,303,422

* - All incentives presented in this table are included as placesholders and are based on previously run state rebate programs. Contact your utility provider for details on current programs

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 M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting	Upgrades	1,178,585	317.9	-243.4	\$130,069	\$536,657	\$139,798	\$396,859	3.1	1,158,321
ECM 1	Install LED Fixtures	11,975	0.0	0.0	\$1,652	\$7,911	\$1,700	\$6,211	3.8	12,059
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	2,455	1.1	-0.5	\$298	\$2,744	\$344	\$2,400	8.0	2,412
ECM 3	Retrofit Fixtures with LED Lamps	1,163,788	316.8	-242.9	\$128,066	\$525,495	\$137,754	\$387,741	3.0	1,143,490
ECM 4	Install LED Exit Signs	366	0.0	-0.1	\$53	\$507	\$0	\$507	9.6	360
Lighting	Control Measures	230,205	58.9	-48.4	\$25,047	\$280,951	\$55,230	\$225,721	9.0	226,153
ECM 5	Install Occupancy Sensor Lighting Controls	204,136	53.4	-42.9	\$22,088	\$237,976	\$29,640	\$208,336	9.4	200,540
ECM 6	Install High/Low Lighting Controls	26,069	5.4	-5.5	\$2,959	\$42,975	\$25,590	\$17,385	5.9	25,613
Variable	Frequency Drive (VFD) Measures	358,023	74.4	58.7	\$48,944	\$207,139	\$32,125	\$175,014	3.6	367,403
ECM 8	Install VFDs on Constant Volume (CV) Fans	267,908	60.4	0.0	\$36,454	\$157,692	\$23,400	\$134,292	3.7	269,781
ECM 9	Install VFDs on Chilled Water Pumps	38,960	5.8	0.0	\$5,830	\$14,082	\$2,400	\$11,682	2.0	39,232
ECM 10	Install VFDs on Heating Water Pumps	30,000	3.5	0.0	\$3,922	\$19,779	\$4,200	\$15,579	4.0	30,209
ECM 11	Install Boiler Draft Fan VFDs	16,079	4.5	0.0	\$1,603	\$9,819	\$2,000	\$7,819	4.9	16,191
ECM 12	Install VFDs on Kitchen Hood Fan Motors	5,077	0.2	58.7	\$1,136	\$5,766	\$125	\$5,641	5.0	11,990
HVAC Sy	stem Improvements	11,762	0.0	633.7	\$6,168	\$15,748	\$1,026	\$14,722	2.4	86,041
ECM 16	Implement Demand Control Ventilation (DCV)	7,132	0.0	186.2	\$2,031	\$10,875	\$0	\$10,875	5.4	28,984
ECM 17	Install Pipe Insulation	4,630	0.0	447.5	\$4,137	\$4,872	\$1,026	\$3,846	0.9	57,057
Domesti	ic Water Heating Upgrade	6,264	0.0	33.4	\$915	\$1,595	\$385	\$1,210	1.3	10,224
ECM 18	Install Low-Flow DHW Devices	6,264	0.0	33.4	\$915	\$1,595	\$385	\$1,210	1.3	10,224
Food Ser	rvice & Refrigeration Measures	49,421	5.2	0.0	\$5,775	\$23,920	\$1,480	\$22,440	3.9	49,767
ECM 20	Refrigerator/Freezer Case Electrically Commutated Motors	7,054	0.8	0.0	\$725	\$2,123	\$280	\$1,843	2.5	7,103
ECM 21	Refrigeration Controls	5,843	0.2	0.0	\$612	\$4,637	\$300	\$4,337	7.1	5,883
ECM 22	Replace Refrigeration Equipment	7,128	0.8	0.0	\$1,176	\$11,410	\$0	\$11,410	9.7	7,178
ECM 23	Vending Machine Control	29,396	3.4	0.0	\$3,262	\$5,750	\$900	\$4,850	1.5	29,601
Custom	Measures	96,579	0.0	527.4	\$16,346	\$106,371	\$0	\$106,371	6.5	159,006
ECM 24	Optimize HVAC Schedule	3,892	0.0	26.4	\$548	\$1,200	\$0	\$1,200	2.2	7,011
ECM 25	Installation of an Energy Management System	35,497	0.0	501.0	\$6,960	\$96,359	\$0	\$96,359	13.8	94,406
ECM 26	Install Heat Pump Water Heater	57,189	0.0	0.0	\$8,838	\$8,812	\$0	\$8,812	1.0	57,589
	TOTALS	1,930,839	456.4	961.5	\$233,264	\$1,172,381	\$230,044	\$942,337	4.0	2,056,915

* - All incentives presented in this table are included as placesholders and are based on previously run state rebate programs. Contact your utility provider for details on current programs

CEDARBROOK ELEMENTARY SCHOOL

	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting l	Jpgrades		42,808	11.3	-9	\$3,852	\$17,883	\$4,831	\$13,052	3.4	42,067
ECM1	Retrofit Fixtures with LED Lamps	Yes	42,808	11.3	-9	\$3,852	\$17,883	\$4,831	\$13,052	3.4	42,067
Lighting (Control Measures		12,193	3.3	-3	\$1,097	\$16,872	\$4,850	\$12,022	11.0	11,980
ECM2	Install Occupancy Sensor Lighting Controls	Yes	7,929	2.6	-2	\$713	\$11,922	\$1,525	\$10,397	14.6	7,790
ECM3	Install High/Low Lighting Controls	Yes	4,264	0.7	-1	\$384	\$4,950	\$3,325	\$1,625	4.2	4,190
Variable	Frequency Drive (VFD) Measures		26,980	11.0	0	\$2,470	\$33,734	\$5,000	\$28,734	11.6	27,169
ECM4	Install VFDs on Constant Volume (CV) Fans	Yes	17,218	9.1	0	\$1,576	\$23,431	\$2,800	\$20,631	13.1	17,338
ECM5	Install VFDs on Heating Water Pumps	Yes	9,762	1.9	0	\$894	\$10,303	\$2,200	\$8,103	9.1	9,831
Unitary H	IVAC Measures		4,692	6.0	0	\$429	\$33,248	\$2,152	\$31,096	72.4	4,725
ECM6	Install High Efficiency Air Conditioning Units	No	4,692	6.0	0	\$429	\$33,248	\$2,152	\$31,096	72.4	4,725
HVAC Sys	stem Improvements		2,300	0.0	85	\$836	\$3,008	\$70	\$2,938	3.5	12,211
ECM7	Implement Demand Control Ventilation (DCV)	Yes	717	0.0	63	\$529	\$2,719	\$0	\$2,719	5.1	8,054
ECM8	Install Pipe Insulation	Yes	1,583	0.0	22	\$307	\$290	\$70	\$220	0.7	4,157
Domestic	c Water Heating Upgrade		4,571	0.0	0	\$418	\$244	\$74	\$169	0.4	4,603
ECM9	Install Low-Flow DHW Devices	Yes	4,571	0.0	0	\$418	\$244	\$74	\$169	0.4	4,603
Food Ser	vice & Refrigeration Measures		2,002	0.2	0	\$183	\$837	\$130	\$707	3.9	2,016
ECM 10	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	390	0.0	0	\$36	\$607	\$80	\$527	14.8	393
ECM 11	Vending Machine Control	Yes	1,612	0.2	0	\$148	\$230	\$50	\$180	1.2	1,623
Custom I	Measures		35,497	0.0	501	\$6,960	\$96,359	\$0	\$96,359	13.8	94,406
ECM 12	Installation of an Energy Management System	Yes	35,497	0.0	501	\$6,960	\$96,359	\$0	\$96,359	13.8	94,406
	TOTALS (COST EFFECTIVE MEASURES)		126,352	25.9	574	\$15,817	\$168,937	\$14,955	\$153,982	9.7	194,452
6	TOTALS (ALL MEASURES)		131,043	31.8	574	\$16,247	\$202,185	\$17,107	\$185,078	11.4	199,177

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

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

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CHARLES H. STILLMAN ELEMENTARY SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO2e Emissions Reduction (Ibs)
Lighting	Upgrades		31,446	10.1	-6	\$5,011	\$19,382	\$4,818	\$14,564	2.9	30,949
ECM 1	Install LED Fixtures	Yes	1,927	0.0	0	\$310	\$941	\$100	\$841	2.7	1,941
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	39	0.0	0	\$6	\$324	\$30	\$294	47.0	39
	Retrofit Fixtures with LED Lamps	Yes	29,249	10.1	-6	\$4,657	\$17,682	\$4,688	\$12,994	2.8	28,742
ECM 4	Install LED Exit Signs	Yes	231	0.0	0	\$37	\$434	\$0	\$434	11.8	227
Lighting	Control Measures		3,908	1.1	-1	\$622	\$7,062	\$925	\$6,137	9.9	3,839
ECM 5	Install Occupancy Sensor Lighting Controls	Yes	2,907	1.0	-1	\$463	\$5,712	\$365	\$5,347	11.6	2,856
ECM 6	Install High/Low Lighting Controls	Yes	1,000	0.1	0	\$159	\$1,350	\$560	\$790	5.0	983
Variable	Frequency Drive (VFD) Measures		4,611	2.1	0	\$742	\$4,738	\$1,000	\$3,738	5.0	4,644
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	4,611	2.1	0	\$742	\$4,738	\$1,000	\$3,738	5.0	4,644
Unitary	HVAC Measures		4,311	2.7	0	\$694	\$21,945	\$1,440	\$20,505	29.6	4,341
ECM 8	Install High Efficiency Air Conditioning Units	No	4,311	2.7	0	\$694	\$21,945	\$1,440	\$20,505	29.6	4,341
HVAC S	ystem Improvements		828	0.0	7	\$192	\$193	\$52	\$141	0.7	1,674
ECM 9	Install Pipe Insulation	Yes	828	0.0	7	\$192	\$193	\$52	\$141	0.7	1,674
Domest	ic Water Heating Upgrade		319	0.0	0	\$51	\$22	\$9	\$12	0.2	321
ECM 10	Install Low-Flow DHW Devices	Yes	319	0.0	0	\$51	\$22	\$9	\$12	0.2	321
Custom	Measures		10,176	0.0	158	\$2,934	\$98,990	\$0	\$98,990	33.7	28,746
ECM 11	Installation of an Energy Management System	No	6,483	0.0	158	\$2,340	\$96,607	\$0	\$96,607	41.3	25,027
ECM 12	Install Heat Pump Water Heater	Yes	3,693	0.0	0	\$594	\$2,383	\$0	\$2,383	4.0	3,719
	TOTALS (COST EFFECTIVE MEASURES)		44,805	13.4	0	\$7,213	\$33,780	\$6,804	\$26,976	3.7	45,146
	TOTALS (ALL MEASURES)		55,599	16.0	158	\$10,246	\$152,332	\$8,244	\$144,088	14.1	74,514

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

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

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CLINTON ELEMENTARY SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	a second second	CO2e Emissions Reduction (Ibs)
Lighting	Upgrades		46,972	23.3	-10	\$7,287	\$37,069	\$9,316	\$27,753	3.8	46,167
ECM 1	Install LED Fixtures	Yes	648	0.0	0	\$101	\$1,035	\$50	\$985	9.7	653
ECM 2	Retrofit Fixtures with LED Lamps	Yes	46,324	23.3	-10	\$7,185	\$36,034	\$9,266	\$26,768	3.7	45,515
Lighting	Control Measures		1,916	0.7	0	\$297	\$4,777	\$1,440	\$3,337	11.2	1,883
ECM 3	Install Occupancy Sensor Lighting Controls	No	1,342	0.5	0	\$208	\$3,202	\$425	\$2,777	13.3	1,318
ECM 4	Install High/Low Lighting Controls	Yes	575	0.2	0	\$89	\$1,575	\$1,015	\$560	6.3	565
Variable	Frequency Drive (VFD) Measures		152,334	22.0	30	\$24,011	\$145,583	\$10,075	\$135,508	5.6	156,891
ECM 5	Install VFDs on Constant Volume (CV) Fans	Yes	127,733	20.0	0	\$19,978	\$57,270	\$7,800	\$49,470	2.5	128,626
ECM 6	Install VFDs on Heating Water Pumps	No	20,690	1.9	0	\$3,236	\$85,303	\$2,200	\$83,103	25.7	20,835
ECM 7	Install VFDs on Kitchen Hood Fan Motors	Yes	3,911	0.1	30	\$797	\$3,010	\$75	\$2,935	3.7	7,430
Domest	ic Water Heating Upgrade		0	0.0	10	\$65	\$450	\$91	\$360	5.6	1,221
ECM 8	Install Low-Flow DHW Devices	Yes	0	0.0	10	\$65	\$450	\$91	\$360	5.6	1,221
Food Se	rvice & Refrigeration Measures		1,954	0.2	0	\$306	\$460	\$50	\$410	1.3	1,968
ECM 9	Vending Machine Control	Yes	1,954	0.2	0	\$306	\$460	\$50	\$410	1.3	1,968
	TOTALS (COST EFFECTIVE MEASURES)		181,145	43.8	30	\$28,521	\$99,834	\$18,347	\$81,488	2.9	185,977
	TOTALS (ALL MEASURES)		203,177	46.2	30	\$31,965	\$188,339	\$20,972	\$167,368	5.2	208,130

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

DEWITT D. BARLOW ELEMENTARY SCHOOL

	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (Ibs)
Lighting	Upgrades		42,324	8.1	-9	\$4,943	\$12,606	\$3,398	\$9,208	1.9	41,587
ECM1	Retrofit Fixtures with LED Lamps	Yes	42,189	8.1	-9	\$4,927	\$12,533	\$3,398	\$9,135	1.9	41,455
ECM2	Install LED Exit Signs	Yes	135	0.0	0	\$16	\$72	\$0	\$72	4.6	133
Lighting	Control Measures		13,685	2.5	-3	\$1,598	\$15,033	\$2,325	\$12,708	8.0	13,446
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	12,961	2.4	-3	\$1,514	\$13,108	\$1,660	\$11,448	7.6	12,734
ECM4	Install Photocell Controls	Yes	0	0.0	0	\$0	\$800	\$0	\$800	0.0	0
ECM5	Install High/Low Lighting Controls	Yes	725	0.1	0	\$85	\$1,125	\$665	\$460	5.4	712
Variable	Frequency Drive (VFD) Measures		73,907	19.7	0	\$8,721	\$52,975	\$7,650	\$45,325	5.2	74,424
ECM6	Install VFDs on Constant Volume (CV) Fans	Yes	73,209	19.4	0	\$8,638	\$46,194	\$7,500	\$38,694	4.5	73,721
ECM7	Install VFDs on Heating Water Pumps	No	699	0.3	0	\$82	\$6,781	\$150	\$6,631	80.5	703
Unitary	HVAC Measures		3,428	2.2	0	\$405	\$26,902	\$1,335	\$25,567	63.2	3,452
ECM8	Install High Efficiency Air Conditioning Units	No	3,428	2.2	0	\$405	\$26,902	\$1,335	\$25,567	63.2	3,452
HVAC S	ystem Improvements		1,769	0.0	81	\$680	\$2,753	\$6	\$2,747	4.0	11,275
ECM9	Implement Demand Control Ventilation (DCV)	Yes	1,769	0.0	79	\$670	\$2,719	\$0	\$2,719	4.1	11,076
ECM 10	Install Pipe Insulation	Yes	0	0.0	2	\$10	\$35	\$6	\$29	2.9	199
Domest	ic Water Heating Upgrade		0	0.0	2	\$10	\$50	\$16	\$35	3.4	203
ECM 11	Install Low-Flow DHW Devices	Yes	0	0.0	2	\$10	\$50	\$16	\$35	3.4	203
Food Se	rvice & Refrigeration Measures		3,005	0.3	0	\$355	\$1,140	\$170	\$970	2.7	3,026
ECM 12	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	1,393	0.1	0	\$164	\$910	\$120	\$790	4.8	1,403
ECM 13	Vending Machine Control	Yes	1,612	0.2	0	\$190	\$230	\$50	\$180	0.9	1,623
Custom	Measures		23,113	0.0	217	\$3,988	\$112,959	\$0	\$112,959	28.3	48,684
ECM 14	Installation of an Energy Management System	No	23,113	0.0	217	\$3,988	\$112,959	\$0	\$112,959	28.3	48,684
	TOTALS (COST EFFECTIVE MEASURES)		133,992	30.3	71	\$16,224	\$77,776	\$13,415	\$64,361	4.0	143,258
	TOTALS (ALL MEASURES)		161,232	32.8	288	\$20,698	\$224,418	\$14,900	\$209,519	10.1	196,098
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* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

EMERSON COMMUNITY SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)		CO2e Emissions Reduction (lbs)
Lighting	Upgrades		118,135	24.7	-25	\$12,768	\$36,328	\$9,695	\$26,633	2.1	116,069
ECM 1	Retrofit Fixtures with LED Lamps	Yes	118,135	24.7	-25	\$12,768	\$36,328	\$9,695	\$26,633	2.1	116,069
Lighting	Control Measures		21,817	5.8	-5	\$2,358	\$18,952	\$4,035	\$14,917	6.3	21,435
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	19,949	5.3	-4	\$2,156	\$16,477	\$2,000	\$14,477	6.7	19,600
ECM 3	Install High/Low Lighting Controls	Yes	1,868	0.5	0	\$202	\$2,475	\$2,035	\$440	2.2	1,835
Motor L	lpgrades		676	0.2	0	\$74	\$1,239	\$0	\$1,239	16.7	680
ECM 4	Premium Efficiency Motors	No	676	0.2	0	\$74	\$1,239	\$0	\$1,239	16.7	680
Variable	Frequency Drive (VFD) Measures		1,166	0.1	29	\$339	\$2,756	\$50	\$2,706	8.0	4,559
ECM 5	Install VFDs on Kitchen Hood Fan Motors	Yes	1,166	0.1	29	\$339	\$2,756	\$50	\$2,706	8.0	4,559
HVAC Sy	stem Improvements		4,646	0.0	44	\$832	\$5,438	\$0	\$5,438	6.5	9,854
ECM 6	Implement Demand Control Ventilation (DCV)	Yes	4,646	0.0	44	\$832	\$5,438	\$0	\$5,438	6.5	9,854
Domest	ic Water Heating Upgrade		0	0.0	4	\$33	\$239	\$32	\$207	6.3	524
ECM 7	Install Low-Flow DHW Devices	Yes	0	0.0	4	\$33	\$239	\$32	\$207	6.3	524
Food Se	rvice & Refrigeration Measures		1,612	0.2	0	\$177	\$230	\$50	\$180	1.0	1,623
ECM 8	Vending Machine Control	Yes	1,612	0.2	0	\$177	\$230	\$50	\$180	1.0	1,623
	TOTALS (COST EFFECTIVE MEASURES)		147,376	30.8	48	\$16,506	\$63,943	\$13,862	\$50,081	3.0	154,065
	TOTALS (ALL MEASURES)		148,052	31.0	48	\$16,580	\$65,182	\$13,862	\$51,320	3.1	154,745

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

EVERGREEN ELEMENTARY SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	10 10 10 10 10 10 10 10 10 10 10 10 10 1	CO2e Emissions Reduction (Ibs)
Lighting	Upgrades		38,720	16.2	-8	\$6,815	\$26,738	\$7,032	\$19,706	2.9	38,048
ECM 1	Retrofit Fixtures with LED Lamps	Yes	38,720	16.2	-8	\$6,815	\$26,738	\$7,032	\$19,706	2.9	38,048
Lighting	Control Measures		9,182	3.4	-2	\$1,616	\$22,052	\$2,975	\$19,077	11.8	9,022
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	9,081	3.3	-2	\$1,598	\$21,602	\$2,835	\$18,767	11.7	8,922
ECM 3	Install High/Low Lighting Controls	No	101	0.0	0	\$18	\$450	\$140	\$310	17.4	100
Motor L	Ipgrades		77	0.1	0	\$14	\$1,064	\$0	\$1,064	77.9	78
ECM 4	Premium Efficiency Motors	No	77	0.1	0	\$14	\$1,064	\$0	\$1,064	77.9	78
HVAC S	stem Improvements		2,220	0.0	o	\$394	\$138	\$48	\$90	0.2	2,235
ECM 5	Install Pipe Insulation	Yes	2,220	0.0	0	\$394	\$138	\$48	\$90	0.2	2,235
Domest	ic Water Heating Upgrade		229	0.0	0	\$41	\$29	\$8	\$21	0.5	231
ECM 6	Install Low-Flow DHW Devices	Yes	229	0.0	0	\$41	\$29	\$8	\$21	0.5	231
Food Se	rvice & Refrigeration Measures		5,685	0.6	0	\$1,009	\$6,750	\$50	\$6,700	6.6	5,725
ECM 7	Replace Refrigeration Equipment	Yes	4,073	0.5	0	\$723	\$6,520	\$0	\$6,520	9.0	4,102
ECM 8	Vending Machine Control	Yes	1,612	0.2	0	\$286	\$230	\$50	\$180	0.6	1,623
Custom	Measures		6,155	0.0	0	\$1,092	\$2,289	\$0	\$2,289	2.1	6,198
ECM 9	Install Heat Pump Water Heater	Yes	6,155	0.0	0	\$1,092	\$2,289	\$0	\$2,289	2.1	6,198
	TOTALS (COST EFFECTIVE MEASURES)		62,089	20.2	-10	\$10,948	\$57,546	\$9,973	\$47,573	4.3	61,358
	TOTALS (ALL MEASURES)		62,268	20.3	-10	\$10,979	\$59,060	\$10,113	\$48,947	4.5	61,535

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

FREDERIC W. COOK ELEMENTARY SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (S)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (Ibs)
Lighting	Upgrades		26,108	8.9	-5	\$4,232	\$16,892	\$4,520	\$12,372	2.9	25,709
ECM 1	Install LED Fixtures	Yes	2,269	0.0	0	\$371	\$1,443	\$350	\$1,093	2.9	2,285
ECM 2	Retrofit Fixtures with LED Lamps	Yes	23,839	8.9	-5	\$3,861	\$15,449	\$4,170	\$11,279	2.9	23,424
Lighting	Control Measures		7,371	2.8	-2	\$1,194	\$8,933	\$2,045	\$6,888	5.8	7,242
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	5,437	2.5	-1	\$880	\$6,908	\$820	\$6,088	6.9	5,342
ECM 4	Install High/Low Lighting Controls	Yes	1,934	0.3	0	\$313	\$2,025	\$1,225	\$800	2.6	1,900
Unitary	HVAC Measures		84	0.2	0	\$14	\$5,327	\$0	\$5,327	389.4	84
ECM 5	Install High Efficiency Air Conditioning Units	No	84	0.2	0	\$14	\$5,327	\$0	\$5,327	389.4	84
HVAC S	ystem Improvements		0	0.0	3	\$20	\$46	\$16	\$30	1.5	321
ECM 6	Install Pipe Insulation	Yes	0	0.0	3	\$20	\$46	\$16	\$30	1.5	321
Domest	ic Water Heating Upgrade		0	0.0	4	\$32	\$136	\$41	\$95	3.0	500
ECM 7	Install Low-Flow DHW Devices	Yes	0	0.0	4	\$32	\$136	\$41	\$95	3.0	500
Food Se	rvice & Refrigeration Measures		1,612	0.2	0	\$264	\$230	\$50	\$180	0.7	1,623
ECM 8	Vending Machine Control	Yes	1,612	0.2	0	\$264	\$230	\$50	\$180	0.7	1,623
Custom	Measures		4,924	0.0	0	\$805	\$2,070	\$0	\$2,070	2.6	4,958
ECM 9	Install Heat Pump Water Heater	Yes	4,924	0.0	0	\$805	\$2,070	\$0	\$2,070	2.6	4,958
	TOTALS (COST EFFECTIVE MEASURES)		40,014	11.9	1	\$6,546	\$28,307	\$6,672	\$21,635	3.3	40,353
	TOTALS (ALL MEASURES)		40,098	12.1	1	\$6,560	\$33,635	\$6,672	\$26,963	4.1	40,437

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

HUBBARD MIDDLE SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)		CO2e Emissions Reduction (Ibs)
Lighting	Upgrades		75,008	26.3	-16	\$6,371	\$44,999	\$11,808	\$33,191	5.2	73,712
ECM 1	Install LED Fixtures	Yes	635	0.0	0	\$55	\$346	\$50	\$296	5.4	640
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	250	0.1	0	\$21	\$206	\$30	\$176	8.3	246
ECM 3	Retrofit Fixtures with LED Lamps	Yes	74,123	26.2	-15	\$6,295	\$44,447	\$11,728	\$32,719	5.2	72,826
Lighting	Control Measures		14,819	5.2	-3	\$1,259	\$17,474	\$2,880	\$14,594	11.6	14,560
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	14,161	5.1	-3	\$1,203	\$16,124	\$2,110	\$14,014	11.7	13,914
ECM 5	Install High/Low Lighting Controls	Yes	658	0.1	0	\$56	\$1,350	\$770	\$580	10.4	647
Motor L	Jpgrades		345	0.1	0	\$30	\$1,057	\$0	\$1,057	35.4	348
ECM 6	Premium Efficiency Motors	No	345	0.1	0	\$30	\$1,057	\$0	\$1,057	35.4	348
Unitary	HVAC Measures		378	0.5	0	\$33	\$1,185	\$0	\$1,185	36.2	381
ECM 7	Install High Efficiency Air Conditioning Units	No	378	0.5	0	\$33	\$1,185	\$0	\$1,185	36.2	381
Domest	ic Water Heating Upgrade		0	0.0	1	\$4	\$22	\$6	\$16	3.5	69
ECM 8	Install Low-Flow DHW Devices	Yes	0	0.0	1	\$4	\$22	\$6	\$16	3.5	69
Food Se	rvice & Refrigeration Measures		3,163	0.4	0	\$274	\$690	\$100	\$590	2.2	3,185
ECM 9	Vending Machine Control	Yes	3,163	0.4	0	\$274	\$690	\$100	\$590	2.2	3,185
	TOTALS (COST EFFECTIVE MEASURES)		92,991	31.9	-18	\$7,908	\$63,185	\$14,794	\$48,391	6.1	91,526
	TOTALS (ALL MEASURES)		93,714	32.5	-18	\$7,970	\$65,427	\$14,794	\$50,633	6.4	92,254

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

JEFFERSON ELEMENTARY SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (Ibs)
Lighting	Upgrades		56,868	12.7	-12	\$8,393	\$20, 143	\$5,359	\$14,784	1.8	55,873
ECM 1	Retrofit Fixtures with LED Lamps	Yes	56,868	12.7	-12	\$8,393	\$20,143	\$5,359	\$14,784	1.8	55,873
Lighting	Control Measures		1,622	0.3	0	\$239	\$2,096	\$650	\$1,446	6.0	1,594
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	1,082	0.2	0	\$160	\$1,196	\$160	\$1,036	6.5	1,063
ECM 3	Install High/Low Lighting Controls	Yes	541	0.1	0	\$80	\$900	\$490	\$410	5.1	531
Variable	Frequency Drive (VFD) Measures		78,621	11.8	0	\$11,764	\$33,035	\$6,400	\$26,635	2.3	79,171
ECM 4	Install VFDs on Constant Volume (CV) Fans	Yes	19,424	4.4	0	\$2,906	\$9,476	\$2,000	\$7,476	2.6	19,560
ECM 5	Install VFDs on Chilled Water Pumps	Yes	38,960	5.8	0	\$5,830	\$14,082	\$2,400	\$11,682	2.0	39,232
ECM 6	Install VFDs on Heating Water Pumps	Yes	20,237	1.6	0	\$3,028	\$9,476	\$2,000	\$7,476	2.5	20,379
Electric	Chiller Replacement		20,894	0.0	0	\$3,126	\$155,018	\$14,720	\$140,298	44.9	21,040
ECM 7	Install High Efficiency Chillers	No	20,894	0.0	0	\$3,126	\$155,018	\$14,720	\$140,298	44.9	21,040
Gas Hea	ating (HVAC/Process) Replacement		0	0.0	71	\$690	\$65,702	\$7,568	\$58,134	84.2	8,284
ECM 8	Install High Efficiency Hot Water Boilers	No	0	0.0	71	\$690	\$65,702	\$7,568	\$58,134	84.2	8,284
Domest	ic Water Heating Upgrade		1,145	0.0	0	\$171	\$72	\$26	\$45	0.3	1,153
ECM 9	Install Low-Flow DHW Devices	Yes	1,145	0.0	0	\$171	\$72	\$26	\$45	0.3	1,153
Food Se	rvice & Refrigeration Measures		1,612	0.2	0	\$241	\$230	\$50	\$180	0.7	1,623
ECM 10	Vending Machine Control	Yes	1,612	0.2	0	\$241	\$230	\$50	\$180	0.7	1,623
Custom	Measures		42,417	0.0	0	\$6,347	\$2,070	\$0	\$2,070	0.3	42,714
ECM 11	Install Heat Pump Water Heater	Yes	42,417	0.0	0	\$6,347	\$2,070	\$0	\$2,070	0.3	42,714
	TOTALS (COST EFFECTIVE MEASURES)		182,285	25.0	-12	\$27,156	\$57,646	\$12,485	\$45,161	1.7	182,128
	TOTALS (ALL MEASURES)		203,180	25.0	59	\$30,973	\$278,366	\$34,773	\$243,592	7.9	211,453

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

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

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MAXSON MIDDLE SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting	Upgrades		85,154	21.8	-20	\$8,342	\$48,747	\$12,867	\$35,880	4.3	83,460
ECM 1	Retrofit Fixtures with LED Lamps	Yes	85,154	21.8	-20	\$8,342	\$48,747	\$12,867	\$35 <i>,</i> 880	4.3	83,460
Lighting	Control Measures		11,232	2.0	-3	\$1,100	\$14,356	\$1,930	\$12,426	11.3	11,008
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	11,232	2.0	-3	\$1,100	\$14,356	\$1,930	\$12,426	11.3	11,008
Variable	Frequency Drive (VFD) Measures		25,517	7.6	0	\$2,543	\$21,663	\$3,300	\$18,363	7.2	25,695
ECM 3	Install VFDs on Constant Volume (CV) Fans	Yes	9,438	3.1	0	\$941	\$11,844	\$1,300	\$10,544	11.2	9,504
ECM 4	Install Boiler Draft Fan VFDs	Yes	16,079	4.5	0	\$1,603	\$9,819	\$2,000	\$7,819	4.9	16,191
Unitary	HVAC Measures		2,652	2.8	0	\$264	\$7,326	\$1,672	\$5,654	21.4	2,671
ECM 5	Install High Efficiency Air Conditioning Units	No	2,652	2.8	0	\$264	\$7,326	\$1,672	\$5,654	21.4	2,671
Domesti	c Water Heating Upgrade		0	0.0	3	\$21	\$43	\$22	\$22	1.0	333
ECM 6	Install Low-Flow DHW Devices	Yes	0	0.0	3	\$21	\$43	\$22	\$22	1.0	333
Food Se	rvice & Refrigeration Measures		12,114	1.1	0	\$1,207	\$5,222	\$380	\$4,842	4.0	12,198
ECM 7	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	5,271	0.7	0	\$525	\$607	\$80	\$527	1.0	5,308
ECM 8	Refrigeration Controls	Yes	5,231	0.2	0	\$521	\$4,385	\$250	\$4,135	7.9	5,268
ECM 9	Vending Machine Control	Yes	1,612	0.2	0	\$161	\$230	\$50	\$180	1.1	1,623
	TOTALS (COST EFFECTIVE MEASURES)			32.5	-19	\$13,214	\$90,031	\$18,499	\$71,532	5.4	132,694
	TOTALS (ALL MEASURES)		136,668	35.3	-19	\$13,478	\$97,356	\$20,170	\$77,186	5.7	135,365

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

PLAINFIELD ACADEMY FOR THE ARTS & ADVANCED STUDIES

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)		CO2e Emissions Reduction (Ibs)
Lighting	Upgrades		61,325	18.9	-13	\$5,193	\$33,490	\$8,084	\$25,406	4.9	60,253
ECM 1	Retrofit Fixtures with LED Lamps	Yes	61,325	18.9	-13	\$5,193	\$33,490	\$8,084	\$25,406	4.9	60,253
Lighting	Control Measures		475	0.2	0	\$40	\$926	\$125	\$801	19.9	466
ECM 2	Install Occupancy Sensor Lighting Controls	No	475	0.2	0	\$40	\$926	\$125	\$801	19.9	466
Domest	ic Water Heating Upgrade		0	0.0	2	\$18	\$43	\$17	\$26	1.4	265
ECM 3	Install Low-Flow DHW Devices	Yes	0	0.0	2	\$18	\$43	\$17	\$26	1.4	265
Food Se	rvice & Refrigeration Measures		3,163	0.4	0	\$273	\$690	\$100	\$590	2.2	3,185
ECM 4	Vending Machine Control	Yes	3,163	0.4	0	\$273	\$690	\$100	\$590	2.2	3,185
Custom	Measures		3,892	0.0	26	\$548	\$1,200	\$0	\$1,200	2.2	7,011
ECM 5	Optimize HVAC Schedule	Yes	3,892	0.0	26	\$548	\$1,200	\$0	\$1,200	2.2	7,011
	TOTALS (COST EFFECTIVE MEASURES)		68,381	19.2	16	\$6,032	\$35,423	\$8,201	\$27,222	4.5	70,713
	TOTALS (ALL MEASURES)		68,856	19.4	16	\$6,073	\$36,349	\$8,326	\$28,023	4.6	71,180

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

PLAINFIELD HIGH SCHOOL - 1969

*	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MIMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*			CO2e Emissions Reduction (Ibs)
Lighting I	Upgrades		307,158	53.8	-64	\$20,088	\$85,445	\$22,740	\$62,705	3.1	301,862
ECM 1	Install LED Fixtures	Yes	1,927	0.0	0	\$129	\$891	\$200	\$691	5.4	1,941
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	606	0.2	0	\$40	\$444	\$55	\$389	9.8	595
ECM 3	Retrofit Fixtures with LED Lamps	Yes	304,624	53.6	-63	\$19,920	\$84,110	\$22,485	\$61,625	3.1	299,326
Lighting	Control Measures		71,330	11.3	-15	\$4,664	\$58,953	\$10,770	\$48,183	10.3	70,083
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	64,528	10.3	-13	\$4,219	\$49,728	\$5,940	\$43,788	10.4	63,399
ECM 5	Install High/Low Lighting Controls	Yes	6,802	1.0	-1	\$445	\$9,225	\$4,830	\$4,395	9.9	6,683
Motor U	pgrades		837	0.2	0	\$56	\$3,043	\$0	\$3,043	54.4	843
ECM 6	Premium Efficiency Motors	No	837	0.2	0	\$56	\$3,043	\$0	\$3,043	54.4	843
Unitary H	IVAC Measures		30,772	12.5	0	\$2,056	\$33,367	\$5,115	\$28,252	13.7	30,987
ECM 7	Install High Efficiency Air Conditioning Units	No	30,772	12.5	0	\$2,056	\$33,367	\$5,115	\$28,252	13.7	30,987
HVAC Sys	stem Improvements		0	0.0	60	\$414	\$1,044	\$290	\$754	1.8	7,032
ECM 8	Install Pipe Insulation	Yes	0	0.0	60	\$414	\$1,044	\$290	\$754	1.8	7,032
Domestic	c Water Heating Upgrade		0	0.0	4	\$25	\$182	\$19	\$163	6.5	426
ECM 9	Install Low-Flow DHW Devices	Yes	0	0.0	4	\$25	\$182	\$19	\$163	6.5	426
Food Ser	vice & Refrigeration Measures		6,609	0.8	0	\$442	\$1,840	\$200	\$1,640	3.7	6,655
ECM 10	Vending Machine Control	Yes	6,609	0.8	0	\$442	\$1,840	\$200	\$1,640	3.7	6,655
	TOTALS (COST EFFECTIVE MEASURES)		385,096	65.9	-15	\$25,633	\$147,464	\$34,019	\$113,445	4.4	386,057
	TOTALS (ALL MEASURES)		416,705	78.5	-15	\$27,745	\$183,874	\$39,134	\$144,740	5.2	417,887

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

WASHINGTON COMMUNITY SCHOOL

# Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)		CO2e Emissions Reduction (Ibs)
Lighting Upgrades		100,073	31.6	-19	\$14,915	\$55,479	\$13,822	\$41,657	2.8	98,517
ECM 1 Retrofit Fixtures with LED Lamps	Yes	100,073	31.6	-19	\$14,915	\$55,479	\$13,822	\$41,657	2.8	98,517
Lighting Control Measures		25,981	8.9	-5	\$3,869	\$34,812	\$8,240	\$26,572	6.9	25,526
ECM 2 Install Occupancy Sensor Lighting Controls	Yes	22,811	7.8	-5	\$3,397	\$27,162	\$3,305	\$23,857	7.0	22,412
ECM 3 Install High/Low Lighting Controls	Yes	3,170	1.0	-1	\$472	\$7,650	\$4,935	\$2,715	5.8	3,115
Variable Frequency Drive (VFD) Measures		16,255	1.5	0	\$2,446	\$65,726	\$2,000	\$63,726	26.1	16,369
ECM 4 Install VFDs on Heating Water Pumps	No	16,255	1.5	0	\$2,446	\$65,726	\$2,000	\$63,726	26.1	16,369
Unitary HVAC Measures		20,261	30.5	0	\$3,049	\$251,541	\$19,768	\$231,773	76.0	20,403
ECM 5 Install High Efficiency Air Conditioning Units	No	20,261	30.5	0	\$3,049	\$251,541	\$19,768	\$231,773	76.0	20,403
Food Service & Refrigeration Measures		2,871	0.3	126	\$1,378	\$17,559	\$3,300	\$14,259	10.3	17,630
ECM 6 Food Service Equipment Replacement	No	0	0.0	126	\$946	\$14,129	\$3,000	\$11,129	11.8	14,739
ECM 7 Replace Refrigeration Equipment	No	1,259	0.1	0	\$190	\$3,200	\$250	\$2,950	15.6	1,268
ECM 8 Vending Machine Control	Yes	1,612	0.2	0	\$243	\$230	\$50	\$180	0.7	1,623
TOTALS (COST EFFECTIVE MEASURES)		127,666	40.7	-25	\$19,027	\$90,521	\$22,112	\$68,409	3.6	125,666
TOTALS (ALL MEASURES)		165,442	72.9	101	\$25,657	\$425,117	\$47,130	\$377,987	14.7	178,446

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

ADMINISTRATION BUILDING

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO2e Emissions Reduction (Ibs)
Lighting	Upgrades		44,398	13.8	-9	\$7,068	\$22,342	\$5,958	\$16,384	2.3	43,638
ECM 1	Install LED Fixtures	Yes	670	0.0	0	\$108	\$497	\$150	\$347	3.2	675
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	182	0.1	0	\$29	\$259	\$24	\$235	8.1	178
ECM 3	Retrofit Fixtures with LED Lamps	Yes	43,546	13.7	-9	\$6,931	\$21,586	\$5,784	\$15,802	2.3	42,784
Lighting	Control Measures		11,434	3.5	-2	\$1,820	\$19,930	\$4,195	\$15,735	8.6	11,234
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	9,458	3.1	-2	\$1,505	\$16,105	\$2,025	\$14,080	9.4	9,292
ECM 5	Install High/Low Lighting Controls	Yes	1,977	0.4	0	\$315	\$3,825	\$2,170	\$1,655	5.3	1,942
Unitary	HVAC Measures		121	0.2	0	\$19	\$872	\$0	\$872	44.8	122
ECM 6	Install High Efficiency Air Conditioning Units	No	121	0.2	0	\$19	\$872	\$0	\$872	44.8	122
HVAC S	stem Improvements		0	0.0	205	\$1,609	\$1,475	\$246	\$1,229	0.8	24,031
ECM 7	Install Pipe Insulation	Yes	0	0.0	205	\$1,609	\$1,475	\$246	\$1,229	0.8	24,031
Domest	ic Water Heating Upgrade		0	0.0	2	\$15	\$29	\$13	\$16	1.1	219
ECM 8	Install Low-Flow DHW Devices	Yes	0	0.0	2	\$15	\$29	\$13	\$16	1.1	219
Food Se	rvice & Refrigeration Measures		1,612	0.2	0	\$259	\$230	\$50	\$ 1 80	0.7	1,623
ECM 9	Vending Machine Control	Yes	1,612	0.2	0	\$259	\$230	\$50	\$180	0.7	1,623
	TOTALS (COST EFFECTIVE MEASURES)		57,444	17.5	196	\$10,770	\$44,005	\$10,462	\$33,544	3.1	80,745
	TOTALS (ALL MEASURES)		57,565	17.6	196	\$10,790	\$44,878	\$10,462	\$34,416	3.2	80,867

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

STEM BUILDING

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO2e Emissions Reduction (Ibs)
Lighting	Upgrades		12,619	4.3	-3	\$1,273	\$5,952	\$1,630	\$4,322	3.4	12,399
ECM 1	Retrofit Fixtures with LED Lamps	Yes	12,619	4.3	-3	\$1,273	\$5,952	\$1,630	\$4,322	3.4	12,399
Lighting	Control Measures		3,926	1.3	-1	\$396	\$4,978	\$930	\$4,048	10.2	3,857
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	2,990	1.1	-1	\$302	\$3,628	\$510	\$3,118	10.3	2,938
ECM 3	Install High/Low Lighting Controls	Yes	936	0.2	0	\$94	\$1,350	\$420	\$930	9.8	920
Variable	e Frequency Drive (VFD) Measures		16,274	2.2	0	\$1,673	\$4,738	\$1,000	\$3,738	2.2	16,388
ECM 4	Install VFDs on Constant Volume (CV) Fans	Yes	16,274	2.2	0	\$1,673	\$4,738	\$1,000	\$3,738	2.2	16,388
Gas Hea	ting (HVAC/Process) Replacement		0	0.0	112	\$1,047	\$10,562	\$1,000	\$9,562	9.1	13,116
ECM 5	Install High Efficiency Hot Water Boilers	No	0	0.0	112	\$1,047	\$10,562	\$1,000	\$9,562	9.1	13,116
HVAC Sy	ystem Improvements		0	0.0	4	\$38	\$44	\$10	\$34	0.9	479
ECM 6	Install Pipe Insulation	Yes	0	0.0	4	\$38	\$44	\$10	\$34	0.9	479
Domest	ic Water Heating Upgrade		0	0.0	0	\$2	\$7	\$2	\$5	2.8	23
ECM 7	Install Low-Flow DHW Devices	Yes	0	0.0	0	\$2	\$7	\$2	\$5	2.8	23
	TOTALS (COST EFFECTIVE MEASURES)		32,820	7.9	1	\$3,382	\$15,719	\$3,572	\$12,147	3.6	33,147
	TOTALS (ALL MEASURES)		32,820	7.9	113	\$4,429	\$26,281	\$4,572	\$21,709	4.9	46,262

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

LINCOLN SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)		Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)		CO₂e Emissions Reduction (lbs)
Lighting	Upgrades		3,497	3.9	-1	\$896	\$6,877	\$1,809	\$5,068	5.7	3,436
ECM 1	Retrofit Fixtures with LED Lamps	Yes	3,497	3.9	-1	\$896	\$6,877	\$1,809	\$5,068	5.7	3,436
Lighting	Control Measures		1,138	1.1	0	\$292	\$4,829	\$990	\$3,839	13.2	1,118
ECM 2	Install Occupancy Sensor Lighting Controls	No	883	1.0	0	\$226	\$3,704	\$500	\$3,204	14.2	868
ECM 3	Install High/Low Lighting Controls	Yes	255	0.1	0	\$65	\$1,125	\$490	\$635	9.7	251
HVAC S	ystem Improvements		0	0.0	82	\$691	\$712	\$118	\$594	0.9	9,637
ECM 4	Install Pipe Insulation	Yes	0	0.0	82	\$691	\$712	\$118	\$594	0.9	9,637
	TOTALS (COST EFFECTIVE MEASURES)		3,753	4.0	82	\$1,653	\$8,714	\$2,417	\$6,297	3.8	13,324
	TOTALS (ALL MEASURES)		4,636	5.0	81	\$1,879	\$12,418	\$2,917	\$9,501	5.1	14,191

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.



PLAINFIELD HIGH SCHOOL - 1916

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting	, Upgrades		85,971	28.2	-17	\$12,623	\$46,285	\$12,111	\$34,174	2.7	84,576
ECM 1	Install LED Fixtures	Yes	3,898	0.0	0	\$578	\$2,758	\$800	\$1,958	3.4	3,925
	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	1,378	0.7	0	\$202	\$1,511	\$205	\$1,306	6.5	1,354
ECM 3	Retrofit Fixtures with LED Lamps	Yes	80,695	27.5	-17	\$11,843	\$42,016	\$11,106	\$30,910	2.6	79,297
Lighting	control Measures		20,976	7.1	-4	\$3,078	\$37,998	\$7,115	\$30,883	10.0	20,610
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	19,612	6.6	-4	\$2,878	\$33,948	\$4,455	\$29,493	10.2	19,270
ECM 5	Install High/Low Lighting Controls	Yes	1,364	0.5	0	\$200	\$4,050	\$2,660	\$1,390	6.9	1,340
Motor I	Jpgrades		351	0.1	0	\$52	\$1,350	\$0	\$1,350	25.9	354
ECM 6	Pre mium Efficiency Motors	No	351	0.1	0	\$52	\$1,350	\$0	\$1,350	25.9	354
Unitary	HVAC Measures		1,666	2.5	0	\$247	\$5,651	\$790	\$4,861	19.7	1,678
ECM 7	Install High Efficiency Air Conditioning Units	No	1,666	2.5	0	\$247	\$5,651	\$790	\$4,861	19.7	1,678
Gas Hea	ting (HVAC/Process) Replacement		0	0.0	22	\$161	\$5,401	\$1,000	\$4,401	27.3	2,544
ECM 8	Install High Efficiency Hot Water Boilers	No	0	0.0	22	\$161	\$5,401	\$1,000	\$4,401	27.3	2,544
HVAC S	ystem Improvements		0	0.0	62	\$461	\$896	\$170	\$726	1.6	7,292
ECM 9	Install Pipe Insulation	Yes	0	0.0	62	\$461	\$896	\$170	\$726	1.6	7,292
Domest	tic Water Heating Upgrade		0	0.0	1	\$8	\$29	\$10	\$19	2.3	134
ECM 10	Install Low-Flow DHW Devices	Yes	0	0.0	1	\$8	\$29	\$10	\$19	2.3	134
Food Se	rvice & Refrigeration Measures		3,666	0.3	0	\$544	\$5,142	\$50	\$5,092	9.4	3,692
ECM 11	Refrigeration Controls	Yes	611	0.0	0	\$91	\$252	\$50	\$202	2.2	616
ECM 12	Replace Refrigeration Equipment	Yes	3,055	0.3	0	\$453	\$4,890	\$0	\$4,890	10.8	3,076
	TOTALS (COST EFFECTIVE MEASURES)		110,613	35.6	42	\$16,715	\$90, 3 50	\$19,456	\$70,894	4.2	116,305
	TOTALS (ALL MEASURES)		112,630	38.2	64	\$17,175	\$102,753	\$21,246	\$81,507	4.7	120,880

* - All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

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

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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

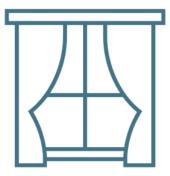
- VRF Systems
- Install High Efficiency Energy Recovery Units (ERUs)
- Upgrade/Replace Energy Management System

- Eliminate Oversized Domestic Hot Water Heating Systems
- Heating System Conversion from Steam to Hot Water
- Window Replacements

Electric Sub Metering









SOLAR ENERGY GENERATION POTENTIAL

NJCleanEnergy.com/renewable-energy

	Cedarbrook	Stillman	Clinton	Barlow	1916 HS	Evergreen	Cook
Potential:	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
System Potential: (kW)	136	61	158	104	107	72	59
Electric Generation: (kWh per year)	162,026	72,674	188237	123,903	127,477	85,778	70,291
Displaced Cost: (per year)	\$14,830	\$11,700	\$29,440	\$14,620	\$18,900	\$15,220	\$11,490

	Hubbard	Maxson	1969 HS	Washington	Admin Bldg	Emerson
Potential:	Medium	Medium	Medium	Medium	Medium	Medium
System Potential: (kW)	77	114	321	138	67	144
Electric Generation: (kWh per year)	57,938	135,816	382,430	164,409	79,822	171,558
Displaced Cost: (per year)	\$5,010	\$13,540	\$25,560	\$24,740	\$12,840	\$18,800

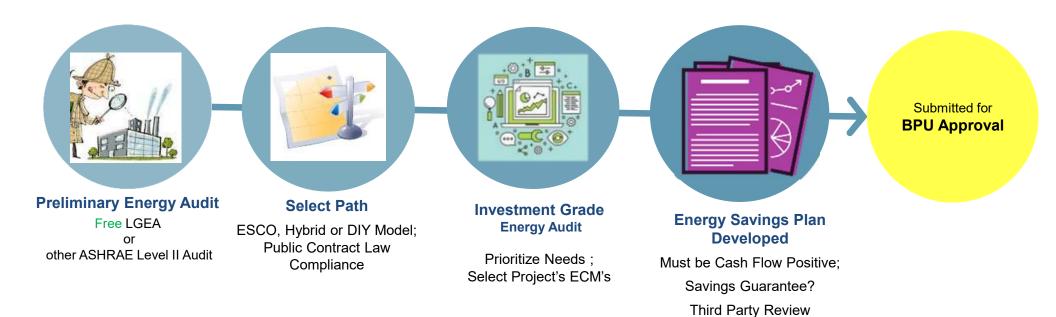
FINANCING MECHANISM: ESIP

ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- Energy Performance Contracting = NJ ESIP
- A creative tool and financing mechanism that allows public entities to make energy efficiency improvements without impacting their budgets
- Administered by the NJBPU
- Project is paid for with the value of its own energy savings
- 15 or 20 year pay back; self funding
- NJBPU Approved Incentive Programs
 - Utility or NJCEP
- Can be combined with Federal/State Pandemic Relief Funds (ESSER)
- No upfront capital expenses
- No referendum or impact to tax payers



ENERGY SAVINGS IMPROVEMENT PROGRAM NJCleanEnergy.com/ESIP



New Jersey's cleanenergy program"

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ENERGY SAVINGS IMPROVEMENT PROGRAM NJCleanEnergy.com/ESIP

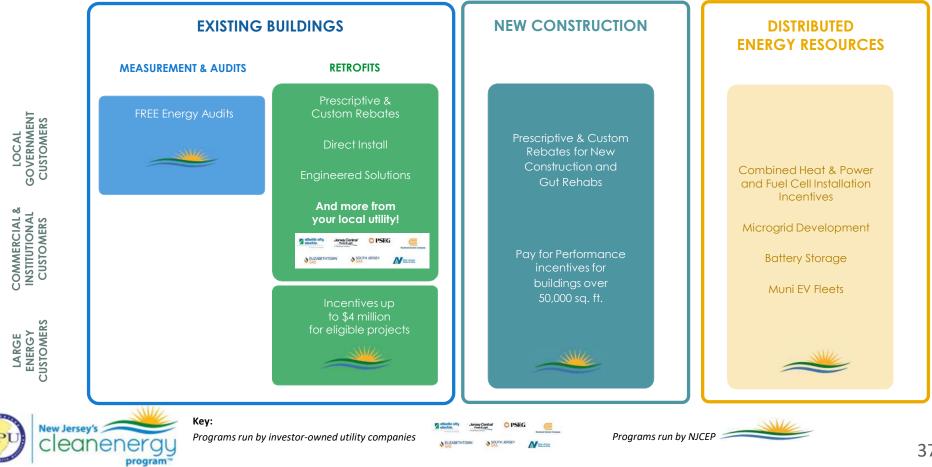
FOR MORE INFORMATION

Michelle Rossi ESIP Coordinator ESIP@bpu.nj.gov o: 609.913.6295 c: 609.915.0903



C&I TRANSITION OF ENERGY EFFICIENCY PROGRAMS

NJCleanEnergy.com/Transition



UTILITY RUN ENERGY EFFICIENCY PROGRAMS

NJCleanEnergy.com/Transition

PRESCRIPTIVE & CUSTOM REBATES:

- Individual high efficiency equipment rebates for renovation, remodeling, and equipment replacement
- Flexibility to do a little or a lot
- No size requirement

DIRECT INSTALL:

- Turn-key retrofit program to replace outdated and inefficient equipment including, lighting, HVAC, refrigeration, etc.
- The facility must have an average electric peak demand <200kW in the previous year to qualify

ENGINEERED SOLUTIONS:

- Comprehensive, whole-building approach to saving energy
- The facility must have an average electric peak demand >200kW in the previous year to qualify

UTILITY RUN ENERGY EFFICIENCY PROGRAMS

PSE&G

David Kirsch – <u>David.Kirsch@pseg.com</u> Steve Barba – <u>Steven.T.Barba@pseg.com</u>



SCHOOL & SMALL BUSINESS ENERGY EFFICIENCY STIMULUS PROGRAM NUClean Energy.com/SSBEE

ABOUT Provides grants to ensure facilities have functional HVAC systems that are tested, adjusted, and, if necessary or cost effective, repaired, upgraded or replaced to improve performance. *(SSB-VEEVR)*

Provides grants to replace noncompliant plumbing fixtures and appliances that fail to meet water efficiency standards. *(SSB-NPFA)*

- **REQUIREMENTS** Assessment verified by a Certified Energy Auditor or TAB Technician and proof of noncompliant equipment.
 - INCENTIVEGrants shall provide no more than 75% of the approved project cost upCAPto \$5 million.





FOR MORE INFORMATION

Sarah Walters – LGEA Project Manager

SWalters@trccompanies.com (732) 589-7372

Amanda Muench – LGEA Account Manager

AMuench@trccompanies.com (732) 612-9381

Moussa Traore – LGEA Lead Energy Auditor

MTraore@trccompanies.com (732) 902-1797

Ryan Knippenberg – LGEA Energy Auditor

RKnippenberg@trccompanies.com (732) 439-7184



