



*LGEA Presentation
Florence Township
Board of Education*

August 9, 2022



New Jersey's
Clean Energy Program

Lighting the way to New Jersey's Clean Energy Future

INTRODUCTIONS

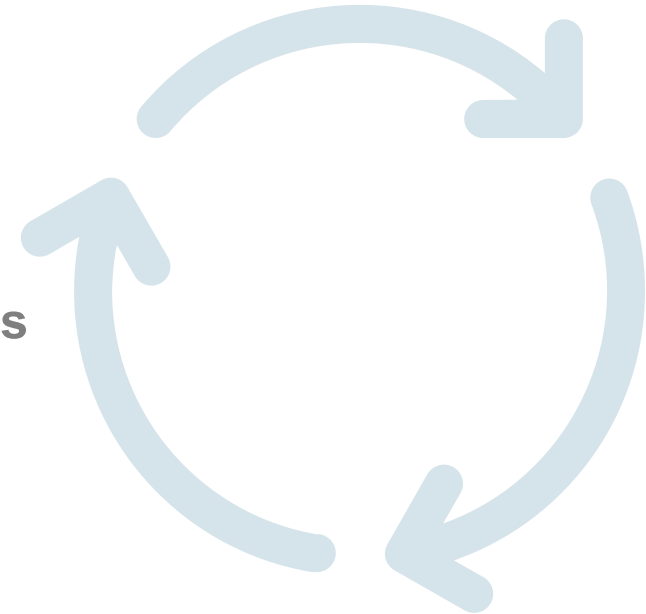
- *Florence Township Board of Education*
 - Luis Valencia – Business Administrator
 - Brian Richardson – Facilities Director
- *NJ Clean Energy Program*
 - Sarah Walters – LGEA Project Manager
 - Moussa Traore – LGEA Lead Auditor
 - Meredith Coley – LGEA Account Manager
 - Michelle Rossi – ESIP Coordinator (BPU)
 - Arif Welcher – Government/Business Manager (BPU)

AGENDA

- The audit process overview
- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**easures (ECMs) identified & other recommendations
- Energy Savings Improvement Program (ESIP)
- Energy Efficiency Incentive Programs
- Questions regarding the draft audit report
- Next steps for Florence Township Board of Education

LGEA PROCESS

- Application Approval
- Initial Call
- Facility Interviews
- Audit
- Benchmarking & Analysis
- Draft Reports
- LGEA Presentation
- Final Reports



SITE VISIT & UTILITY ANALYSIS

Overview of Systems, Baseline & Existing Conditions:

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

Utility Consumption:

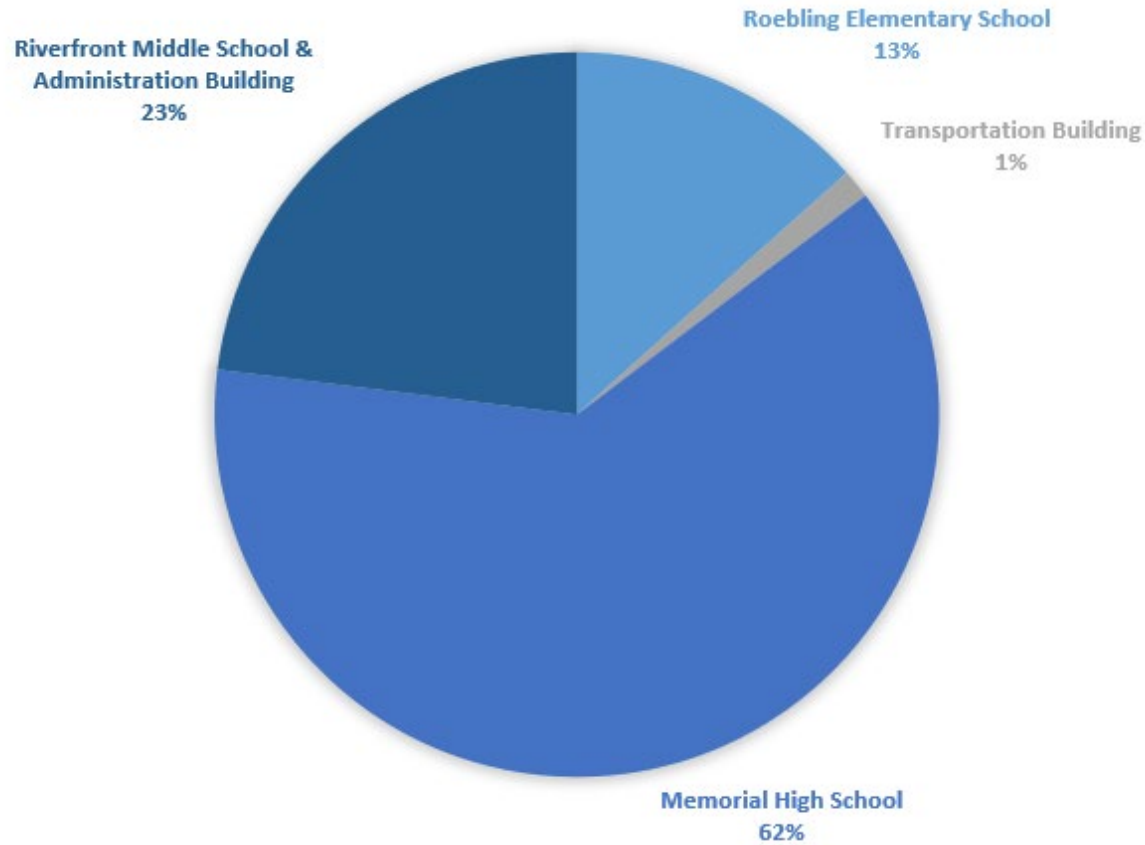
- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Sites Visited/Analyzed

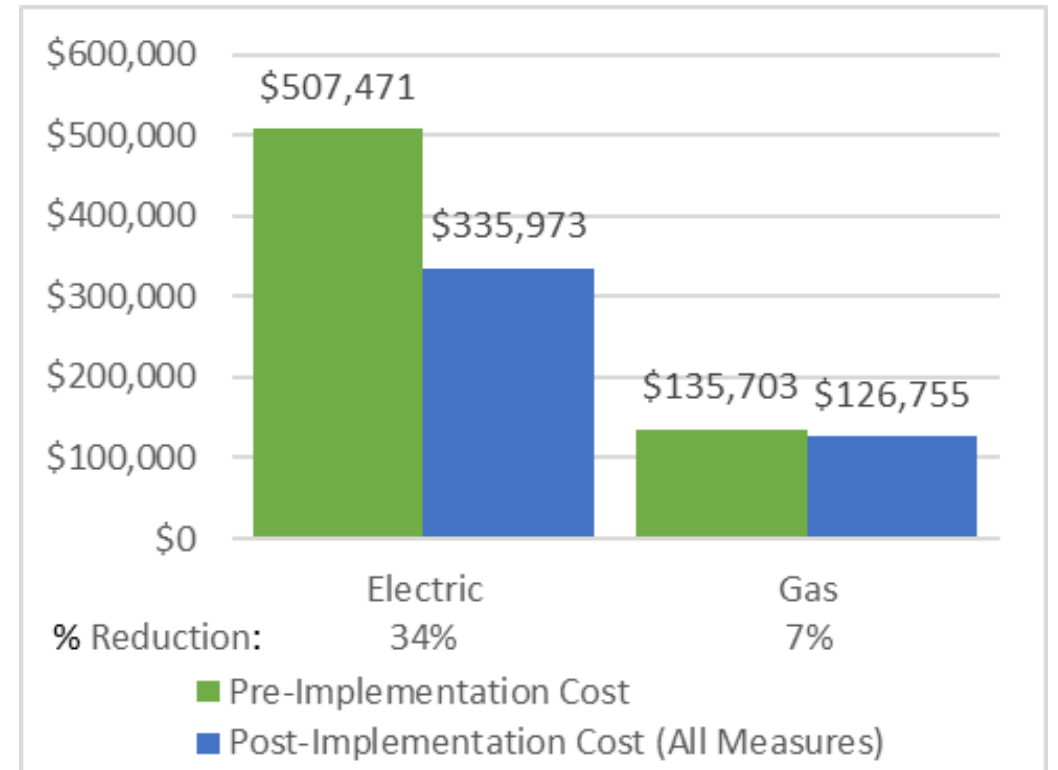
- Memorial High School
- Riverfront Middle School
- Roebling Elementary School
- Administration Building
- Transportation Building

UTILITY BREAKOUT

Percent of Total Annual Energy Costs



Pre & Post Implementation Cost



BENCHMARKING

ENERGY STAR® Statement of Energy Performance

10 **Memorial High School**

Primary Property Type: K-12 School
Gross Floor Area (ft²): 132,702
Built: 2005

For Year Ending: December 31, 2021
Date Generated: July 11, 2022

ENERGY STAR® Score ¹

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 Memorial High School 1050 Cedar Lane Burlington, New Jersey 08018	Property Owner Florence Township Board of Education 201 Cedar Street Florence, NJ 08518 (800) 499-4600	Primary Contact Luis Valenc 201 Cedar Street Florence, NJ 08518 (800) 499-4600 Ext. 1007 lvalencia@florence.k12.nj.us
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Property ID: 20588190

Energy Consumption and Energy Use Intensity (EUI)

Site EUI 120.5 kBtu/ft²	Annual Energy by Fuel	National Median Comparison
Source EUI 234.8 kBtu/ft²	Electric - Solar (kBtu) 0 (0%)	National Median Site EUI (kBtu/ft²) 75.3
	Natural Gas (kBtu) 7,787,188 (49%)	National Median Source EUI (kBtu/ft²) 146.7
	Electric - Grid (kBtu) 8,206,148 (51%)	% Diff from National Median Source EUI 60%
		Annual Emissions
		Greenhouse Gas Emissions (Metric Tons CO2e/year) 1,178

Signature & Stamp of Verifying Professional

I _____ (Name) verify that the above information is true and correct to the best of my knowledge.

LP Signature: _____ Date: _____

Licensed Professional

Professional Engineer or Registered Architect Stamp (if applicable)

Site EUI
120.5 kBtu/ft²

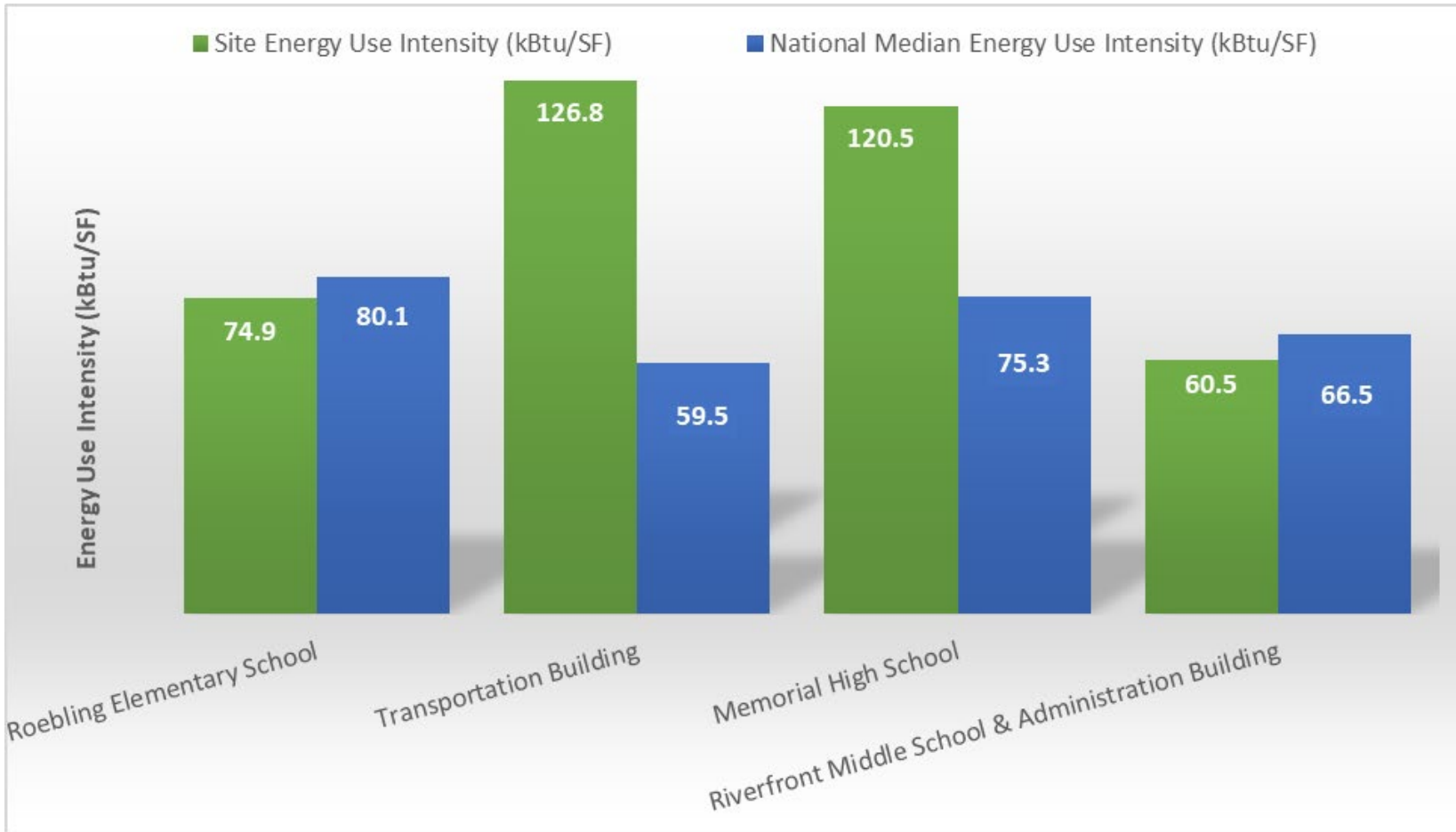
Source EUI
234.8 kBtu/ft²

National Median Comparison
 National Median Site EUI (kBtu/ft²) 75.3
 National Median Source EUI (kBtu/ft²) 146.7
 % Diff from National Median Source EUI 60%

Site Name	ENERGY STAR® Score
Memorial High School	10
Riverfront Middle School & Admin Bldg.	59
Roebeling Elementary School	56
Transportation Building	N/A

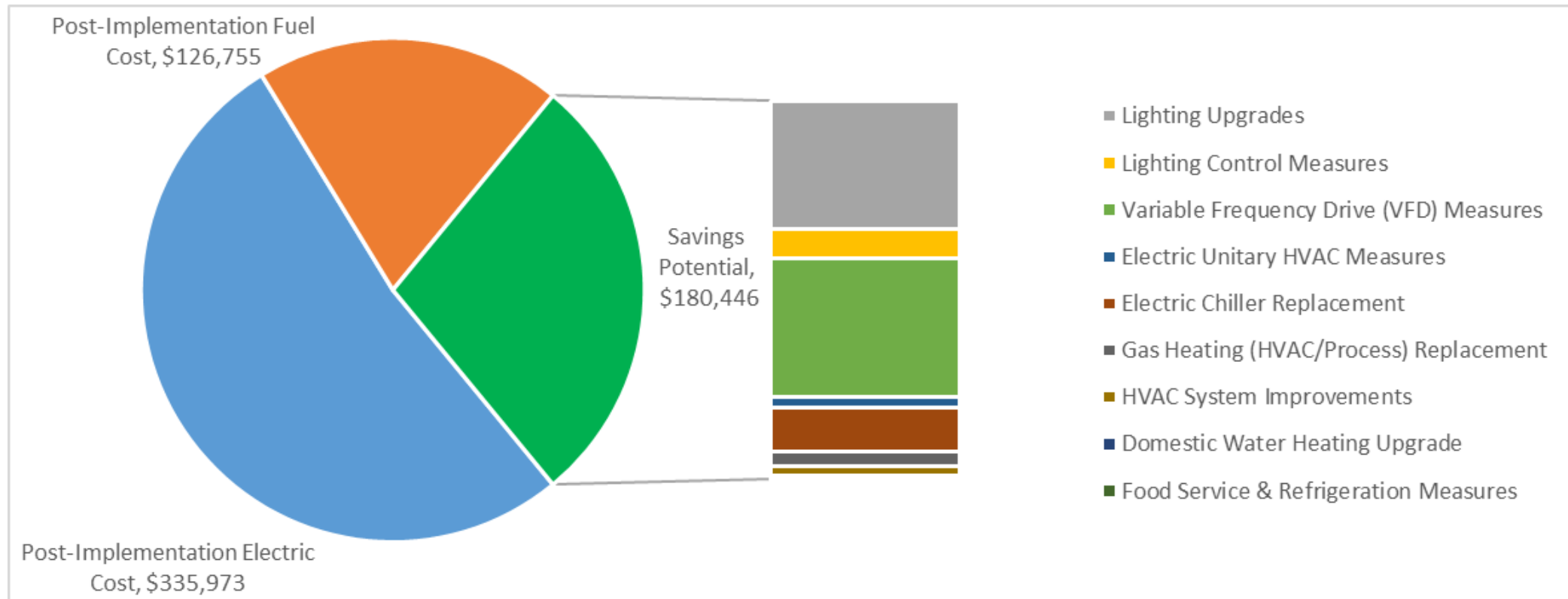
ENERGY STAR® scores are percentile ranking from 1 (least efficient) to 100 (most efficient). It compares your building's energy performance to similar buildings nationwide.

BENCHMARKING



ALL OPPORTUNITIES

Savings Potential



ALL OPPORTUNITIES

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		431,902	99.3	-90.8	\$61,172	\$164,538	\$39,714	\$124,824	2.0	424,295
ECM 1	Install LED Fixtures	8,917	1.6	-1.2	\$1,270	\$9,032	\$910	\$8,122	6.4	8,837
ECM 2	Retrofit Fixtures with LED Lamps	422,986	97.7	-89.6	\$59,902	\$155,506	\$38,804	\$116,702	1.9	415,457
Lighting Control Measures		97,825	22.5	-20.9	\$13,856	\$91,785	\$20,485	\$71,300	5.1	96,060
ECM 3	Install Occupancy Sensor Lighting Controls	89,370	20.5	-19.1	\$12,659	\$77,430	\$9,725	\$67,705	5.3	87,759
ECM 4	Install High/Low Lighting Controls	8,455	2.1	-1.8	\$1,197	\$14,355	\$10,760	\$3,595	3.0	8,301
Variable Frequency Drive (VFD) Measures		463,059	105.7	29.8	\$66,247	\$313,558	\$42,900	\$270,658	4.1	469,790
ECM 5	Install VFD on Variable Air Volume (VAV) Fans	96,767	21.4	0.0	\$13,783	\$72,092	\$7,925	\$64,167	4.7	97,443
ECM 6	Install VFDs on Constant Volume (CV) Fans	283,272	70.0	0.0	\$40,396	\$184,833	\$26,075	\$158,758	3.9	285,253
ECM 7	Install VFDs on Chilled Water Pumps	41,561	9.3	0.0	\$5,920	\$21,690	\$2,800	\$18,890	3.2	41,852
ECM 8	Install VFDs on Heating Water Pumps	18,782	3.8	0.0	\$2,697	\$19,537	\$4,000	\$15,537	5.8	18,913
ECM 9	Install VFDs on Kitchen Hood Fan Motors	13,147	0.2	29.8	\$2,094	\$7,145	\$300	\$6,845	3.3	16,733
ECM 10	Install VFDs on Water Supply Pump	9,529	1.1	0.0	\$1,357	\$8,260	\$1,800	\$6,460	4.8	9,596
Electric Unitary HVAC Measures		37,221	33.7	0.0	\$5,340	\$298,863	\$20,190	\$278,674	52.2	37,481
ECM 11	Install High Efficiency Air Conditioning Units	34,693	32.2	0.0	\$4,976	\$294,994	\$20,150	\$274,844	55.2	34,936
ECM 12	Install High Efficiency PTAC/PTHP	2,528	1.5	0.0	\$363	\$3,869	\$40	\$3,829	10.5	2,546
Electric Chiller Replacement		145,264	-17.1	0.0	\$20,691	\$246,181	\$22,500	\$223,681	10.8	146,280
ECM 13	Install High Efficiency Chillers	145,264	-17.1	0.0	\$20,691	\$246,181	\$22,500	\$223,681	10.8	146,280

ALL OPPORTUNITIES

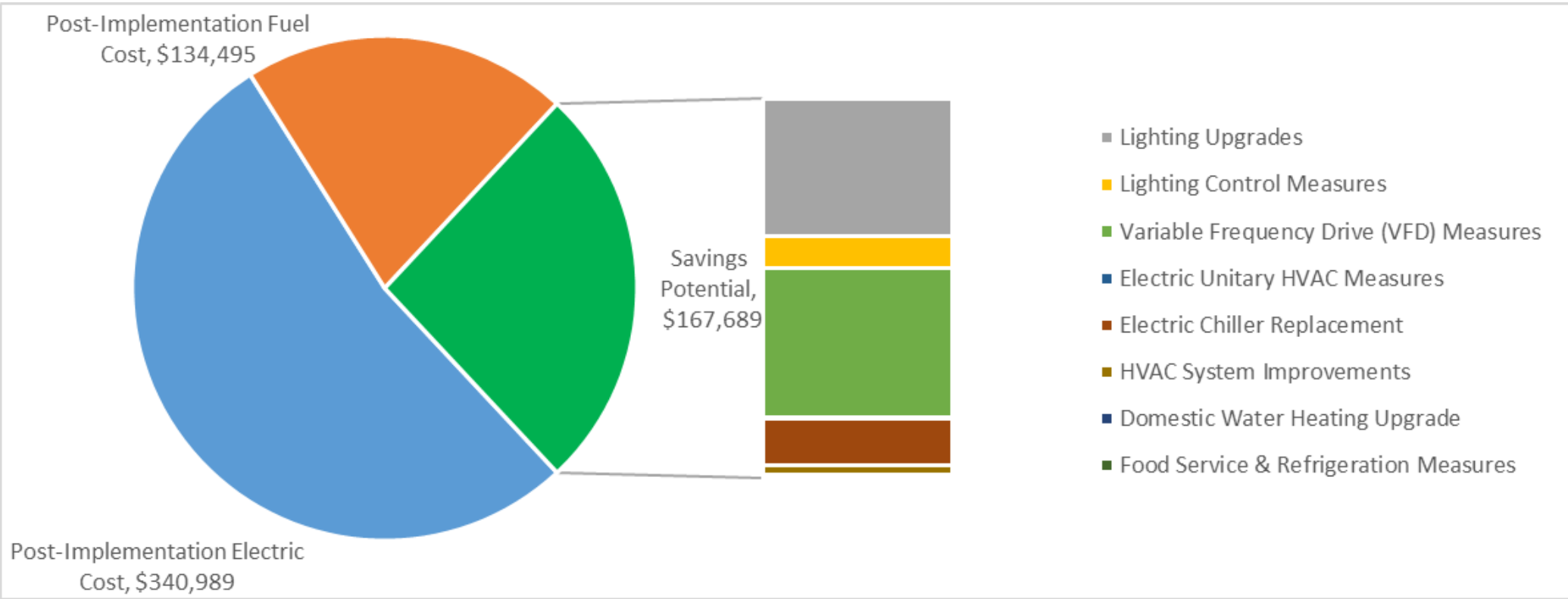
#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Gas Heating (HVAC/Process) Replacement		0	0.0	944.2	\$7,349	\$502,331	\$20,420	\$481,911	65.6	110,558
ECM 14	Install High Efficiency Hot Water Boilers	0	0.0	657.7	\$5,120	\$323,270	\$18,920	\$304,350	59.4	77,011
ECM 15	Install High Efficiency Steam Boilers	0	0.0	175.3	\$1,360	\$159,016	\$0	\$159,016	116.9	20,523
ECM 16	Install High Efficiency Furnaces	0	0.0	111.2	\$869	\$20,045	\$1,500	\$18,545	21.3	13,024
HVAC System Improvements		16,931	0.0	197.9	\$3,933	\$36,168	\$208	\$35,960	9.1	40,224
ECM 17	Implement Demand Control Ventilation (DCV)	16,931	0.0	116.1	\$3,293	\$35,345	\$0	\$35,345	10.7	30,641
ECM 18	Install Pipe Insulation	0	0.0	81.8	\$639	\$824	\$208	\$616	1.0	9,583
Domestic Water Heating Upgrade		0	0.0	88.0	\$682	\$26,847	\$1,582	\$25,264	37.0	10,301
ECM 19	Install High Efficiency Gas-Fired Water Heater	0	0.0	49.1	\$381	\$26,517	\$1,418	\$25,099	65.9	5,746
ECM 20	Install Low-Flow DHW Devices	0	0.0	38.9	\$301	\$330	\$165	\$165	0.5	4,555
Food Service & Refrigeration Measures		8,229	0.4	0.0	\$1,176	\$12,440	\$875	\$11,565	9.8	8,287
ECM 21	Refrigerator/Freezer Case Electrically Commutated Motors	2,517	0.3	0.0	\$360	\$3,033	\$400	\$2,633	7.3	2,535
ECM 22	Refrigeration Controls	5,712	0.1	0.0	\$817	\$9,407	\$475	\$8,932	10.9	5,752
TOTALS		1,200,431	244.5	1,148.3	\$180,446	\$1,692,712	\$168,874	\$1,523,838	8.4	1,343,276

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

COST EFFECTIVE OPPORTUNITIES

Savings Potential



COST EFFECTIVE OPPORTUNITIES

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		431,902	99.3	-90.8	\$61,172	\$164,538	\$39,714	\$124,824	2.0	424,295
ECM 1	Install LED Fixtures	8,917	1.6	-1.2	\$1,270	\$9,032	\$910	\$8,122	6.4	8,837
ECM 2	Retrofit Fixtures with LED Lamps	422,986	97.7	-89.6	\$59,902	\$155,506	\$38,804	\$116,702	1.9	415,457
Lighting Control Measures		97,825	22.5	-20.9	\$13,856	\$91,785	\$20,485	\$71,300	5.1	96,060
ECM 3	Install Occupancy Sensor Lighting Controls	89,370	20.5	-19.1	\$12,659	\$77,430	\$9,725	\$67,705	5.3	87,759
ECM 4	Install High/Low Lighting Controls	8,455	2.1	-1.8	\$1,197	\$14,355	\$10,760	\$3,595	3.0	8,301
Variable Frequency Drive (VFD) Measures		463,059	105.7	29.8	\$66,247	\$313,558	\$42,900	\$270,658	4.1	469,790
ECM 5	Install VFD on Variable Air Volume (VAV) Fans	96,767	21.4	0.0	\$13,783	\$72,092	\$7,925	\$64,167	4.7	97,443
ECM 6	Install VFDs on Constant Volume (CV) Fans	283,272	70.0	0.0	\$40,396	\$184,833	\$26,075	\$158,758	3.9	285,253
ECM 7	Install VFDs on Chilled Water Pumps	41,561	9.3	0.0	\$5,920	\$21,690	\$2,800	\$18,890	3.2	41,852
ECM 8	Install VFDs on Heating Water Pumps	18,782	3.8	0.0	\$2,697	\$19,537	\$4,000	\$15,537	5.8	18,913
ECM 9	Install VFDs on Kitchen Hood Fan Motors	13,147	0.2	29.8	\$2,094	\$7,145	\$300	\$6,845	3.3	16,733
ECM 10	Install VFDs on Water Supply Pump	9,529	1.1	0.0	\$1,357	\$8,260	\$1,800	\$6,460	4.8	9,596
Electric Unitary HVAC Measures		2,528	1.5	0.0	\$363	\$3,869	\$40	\$3,829	10.5	2,546
ECM 12	Install High Efficiency PTAC/PTHP	2,528	1.5	0.0	\$363	\$3,869	\$40	\$3,829	10.5	2,546
Electric Chiller Replacement		145,264	-17.1	0.0	\$20,691	\$246,181	\$22,500	\$223,681	10.8	146,280
ECM 13	Install High Efficiency Chillers	145,264	-17.1	0.0	\$20,691	\$246,181	\$22,500	\$223,681	10.8	146,280
HVAC System Improvements		16,931	0.0	197.9	\$3,933	\$36,168	\$208	\$35,960	9.1	40,224
ECM 17	Implement Demand Control Ventilation (DCV)	16,931	0.0	116.1	\$3,293	\$35,345	\$0	\$35,345	10.7	30,641
ECM 18	Install Pipe Insulation	0	0.0	81.8	\$639	\$824	\$208	\$616	1.0	9,583
Domestic Water Heating Upgrade		0	0.0	38.9	\$301	\$330	\$165	\$165	0.5	4,555
ECM 20	Install Low-Flow DHW Devices	0	0.0	38.9	\$301	\$330	\$165	\$165	0.5	4,555
Food Service & Refrigeration Measures		7,880	0.4	0.0	\$1,126	\$10,766	\$800	\$9,966	8.8	7,935
ECM 21	Refrigerator/Freezer Case Electrically Commutated Motors	2,517	0.3	0.0	\$360	\$3,033	\$400	\$2,633	7.3	2,535
ECM 22	Refrigeration Controls	5,363	0.1	0.0	\$767	\$7,733	\$400	\$7,333	9.6	5,400
TOTALS		1,165,390	212.3	155.0	\$167,689	\$867,197	\$126,812	\$740,385	4.4	1,191,686

* - All incentives presented in this table are included as placeholders 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).

MEMORIAL HIGH 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			205,970	34.8	-43	\$29,020	\$51,891	\$11,921	\$39,970	1.4	202,408
ECM 1	Install LED Fixtures	Yes	1,255	0.2	0	\$177	\$594	\$10	\$584	3.3	1,233
ECM 2	Retrofit Fixtures with LED Lamps	Yes	204,716	34.6	-42	\$28,843	\$51,296	\$11,911	\$39,385	1.4	201,175
Lighting Control Measures			43,114	7.1	-9	\$6,074	\$26,691	\$4,360	\$22,331	3.7	42,360
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	41,342	6.8	-9	\$5,824	\$25,116	\$3,240	\$21,876	3.8	40,619
ECM 4	Install High/Low Lighting Controls	Yes	1,772	0.3	0	\$250	\$1,575	\$1,120	\$455	1.8	1,741
Variable Frequency Drive (VFD) Measures			404,149	87.2	30	\$57,786	\$255,906	\$31,925	\$223,981	3.9	410,469
ECM 5	Install VFD on Variable Air Volume (VAV) Fans	Yes	96,767	21.4	0	\$13,783	\$72,092	\$7,925	\$64,167	4.7	97,443
ECM 6	Install VFDs on Constant Volume (CV) Fans	Yes	243,145	55.3	0	\$34,632	\$146,719	\$19,100	\$127,619	3.7	244,845
ECM 7	Install VFDs on Chilled Water Pumps	Yes	41,561	9.3	0	\$5,920	\$21,690	\$2,800	\$18,890	3.2	41,852
ECM 8	Install VFDs on Kitchen Hood Fan Motors	Yes	13,147	0.2	30	\$2,094	\$7,145	\$300	\$6,845	3.3	16,733
ECM 9	Install VFDs on Water Supply Pump	Yes	9,529	1.1	0	\$1,357	\$8,260	\$1,800	\$6,460	4.8	9,596
Unitary HVAC Measures			5,575	2.8	0	\$794	\$37,644	\$735	\$36,909	46.5	5,614
ECM 10	Install High Efficiency Air Conditioning Units	No	5,575	2.8	0	\$794	\$37,644	\$735	\$36,909	46.5	5,614
Electric Chiller Replacement			145,264	-17.1	0	\$20,691	\$246,181	\$22,500	\$223,681	10.8	146,280
ECM 11	Install High Efficiency Chillers	Yes	145,264	-17.1	0	\$20,691	\$246,181	\$22,500	\$223,681	10.8	146,280
Gas Heating (HVAC/Process) Replacement			0	0.0	553	\$4,106	\$177,964	\$19,920	\$158,044	38.5	64,798
ECM 12	Install High Efficiency Hot Water Boilers	No	0	0.0	467	\$3,462	\$164,254	\$18,920	\$145,334	42.0	54,641
ECM 13	Install High Efficiency Furnaces	No	0	0.0	87	\$644	\$13,710	\$1,000	\$12,710	19.7	10,158
HVAC System Improvements			12,979	0.0	70	\$2,368	\$21,751	\$0	\$21,751	9.2	21,273
ECM 14	Implement Demand Control Ventilation (DCV)	Yes	12,979	0.0	70	\$2,368	\$21,751	\$0	\$21,751	9.2	21,273
Domestic Water Heating Upgrade			0	0.0	15	\$113	\$115	\$57	\$57	0.5	1,778
ECM 15	Install Low-Flow DHW Devices	Yes	0	0.0	15	\$113	\$115	\$57	\$57	0.5	1,778
Food Service & Refrigeration Measures			4,738	0.3	0	\$675	\$5,686	\$440	\$5,246	7.8	4,771
ECM 16	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	1,572	0.2	0	\$224	\$1,820	\$240	\$1,580	7.1	1,583
ECM 17	Refrigeration Controls	Yes	3,165	0.1	0	\$451	\$3,867	\$200	\$3,667	8.1	3,188
TOTALS (COST EFFECTIVE MEASURES)			816,215	112.2	63	\$116,727	\$608,221	\$71,203	\$537,018	4.6	829,338
TOTALS (ALL MEASURES)			821,790	115.0	617	\$121,627	\$823,829	\$91,858	\$731,971	6.0	899,751

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RIVERFRONT MS & ADMIN BLDG.

#	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			153,414	47.0	-31	\$21,798	\$69,193	\$16,113	\$53,080	2.4	150,807
ECM 1	Install LED Fixtures	Yes	7,662	1.4	-1	\$1,094	\$8,438	\$900	\$7,538	6.9	7,605
ECM 2	Retrofit Fixtures with LED Lamps	Yes	145,752	45.6	-30	\$20,705	\$60,755	\$15,213	\$45,542	2.2	143,203
Lighting Control Measures			32,189	10.0	-7	\$4,573	\$42,474	\$11,140	\$31,334	6.9	31,626
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	27,939	8.8	-6	\$3,969	\$34,374	\$4,300	\$30,074	7.6	27,450
ECM 4	Install High/Low Lighting Controls	Yes	4,250	1.2	-1	\$604	\$8,100	\$6,840	\$1,260	2.1	4,176
Variable Frequency Drive (VFD) Measures			48,719	16.0	0	\$7,000	\$44,342	\$8,275	\$36,067	5.2	49,060
ECM 5	Install VFDs on Constant Volume (CV) Fans	Yes	35,838	13.3	0	\$5,149	\$34,039	\$6,075	\$27,964	5.4	36,088
ECM 6	Install VFDs on Heating Water Pumps	Yes	12,881	2.7	0	\$1,851	\$10,303	\$2,200	\$8,103	4.4	12,971
Unitary HVAC Measures			27,164	27.1	0	\$3,903	\$221,947	\$16,096	\$205,852	52.7	27,354
ECM 7	Install High Efficiency Air Conditioning Units	No	24,636	25.7	0	\$3,540	\$218,078	\$16,056	\$202,022	57.1	24,808
ECM 8	Install High Efficiency PTAC/PTHP	Yes	2,528	1.5	0	\$363	\$3,869	\$40	\$3,829	10.5	2,546
Gas Heating (HVAC/Process) Replacement			0	0.0	175	\$1,360	\$159,016	\$0	\$159,016	116.9	20,523
ECM 9	Install High Efficiency Steam Boilers	No	0	0.0	175	\$1,360	\$159,016	\$0	\$159,016	116.9	20,523
HVAC System Improvements			3,952	0.0	123	\$1,526	\$14,360	\$188	\$14,172	9.3	18,437
ECM 10	Implement Demand Control Ventilation (DCV)	Yes	3,952	0.0	46	\$925	\$13,594	\$0	\$13,594	14.7	9,367
ECM 11	Install Pipe Insulation	Yes	0	0.0	77	\$601	\$766	\$188	\$578	1.0	9,069
Domestic Water Heating Upgrade			0	0.0	68	\$528	\$26,660	\$1,489	\$25,171	47.7	7,968
ECM 12	Install High Efficiency Gas-Fired Water Heater	No	0	0.0	49	\$381	\$26,517	\$1,418	\$25,099	65.9	5,746
ECM 13	Install Low-Flow DHW Devices	Yes	0	0.0	19	\$147	\$143	\$72	\$72	0.5	2,222
Food Service & Refrigeration Measures			2,946	0.1	0	\$423	\$4,777	\$320	\$4,457	10.5	2,967
ECM 14	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	748	0.1	0	\$108	\$910	\$120	\$790	7.3	754
ECM 15	Refrigeration Controls	Yes	2,197	0.0	0	\$316	\$3,867	\$200	\$3,667	11.6	2,213
TOTALS (COST EFFECTIVE MEASURES)			243,748	74.6	104	\$35,831	\$179,158	\$36,148	\$143,010	4.0	257,664
TOTALS (ALL MEASURES)			268,383	100.2	329	\$41,111	\$582,769	\$53,621	\$529,148	12.9	308,740

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

ROEBLING 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 Upgrades			69,953	16.4	-16	\$9,892	\$41,957	\$11,270	\$30,687	3.1	68,559
ECM 1	Retrofit Fixtures with LED Lamps	Yes	69,953	16.4	-16	\$9,892	\$41,957	\$11,270	\$30,687	3.1	68,559
Lighting Control Measures			21,873	5.1	-5	\$3,093	\$21,540	\$4,845	\$16,695	5.4	21,437
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	19,440	4.5	-4	\$2,749	\$16,860	\$2,045	\$14,815	5.4	19,053
ECM 3	Install High/Low Lighting Controls	Yes	2,433	0.6	-1	\$344	\$4,680	\$2,800	\$1,880	5.5	2,384
Variable Frequency Drive (VFD) Measures			10,191	2.6	0	\$1,461	\$13,310	\$2,700	\$10,610	7.3	10,262
ECM 4	Install VFDs on Constant Volume (CV) Fans	Yes	4,290	1.4	0	\$615	\$4,076	\$900	\$3,176	5.2	4,320
ECM 5	Install VFDs on Heating Water Pumps	Yes	5,901	1.1	0	\$846	\$9,234	\$1,800	\$7,434	8.8	5,942
Unitary HVAC Measures			4,482	3.7	0	\$643	\$39,272	\$3,359	\$35,913	55.9	4,514
ECM 6	Install High Efficiency Air Conditioning Units	No	4,482	3.7	0	\$643	\$39,272	\$3,359	\$35,913	55.9	4,514
Gas Heating (HVAC/Process) Replacement			0	0.0	191	\$1,657	\$159,016	\$0	\$159,016	95.9	22,371
ECM 7	Install High Efficiency Hot Water Boilers	No	0	0.0	191	\$1,657	\$159,016	\$0	\$159,016	95.9	22,371
HVAC System Improvements			0	0.0	4	\$38	\$58	\$20	\$38	1.0	514
ECM 8	Install Pipe Insulation	Yes	0	0.0	4	\$38	\$58	\$20	\$38	1.0	514
Domestic Water Heating Upgrade			0	0.0	5	\$41	\$72	\$36	\$36	0.9	556
ECM 9	Install Low-Flow DHW Devices	Yes	0	0.0	5	\$41	\$72	\$36	\$36	0.9	556
Food Service & Refrigeration Measures			545	0.0	0	\$78	\$1,977	\$115	\$1,862	23.8	549
ECM 10	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	197	0.0	0	\$28	\$303	\$40	\$263	9.3	198
ECM 11	Refrigeration Controls	No	349	0.0	0	\$50	\$1,674	\$75	\$1,599	32.0	351
TOTALS (COST EFFECTIVE MEASURES)			102,213	24.1	-12	\$14,554	\$77,240	\$18,911	\$58,329	4.0	101,525
TOTALS (ALL MEASURES)			107,044	27.8	179	\$16,904	\$277,202	\$22,345	\$254,857	15.1	128,760

* - 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).

TRANSPORTATION 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)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			2,565	1.2	-1	\$461	\$1,497	\$410	\$1,087	2.4	2,521
ECM 1	Retrofit Fixtures with LED Lamps	Yes	2,565	1.2	-1	\$461	\$1,497	\$410	\$1,087	2.4	2,521
Lighting Control Measures			649	0.3	0	\$117	\$1,080	\$140	\$940	8.1	638
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	649	0.3	0	\$117	\$1,080	\$140	\$940	8.1	638
Gas Heating (HVAC/Process) Replacement			0	0.0	24	\$226	\$6,335	\$500	\$5,835	25.8	2,866
ECM 3	Install High Efficiency Furnaces	No	0	0.0	24	\$226	\$6,335	\$500	\$5,835	25.8	2,866
TOTALS (COST EFFECTIVE MEASURES)			3,214	1.5	-1	\$578	\$2,577	\$550	\$2,027	3.5	3,159
TOTALS (ALL MEASURES)			3,214	1.5	24	\$804	\$8,912	\$1,050	\$7,862	9.8	6,025

* - 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).

ENERGY EFFICIENT BEST PRACTICES

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

See individual reports for specific EE practices by building

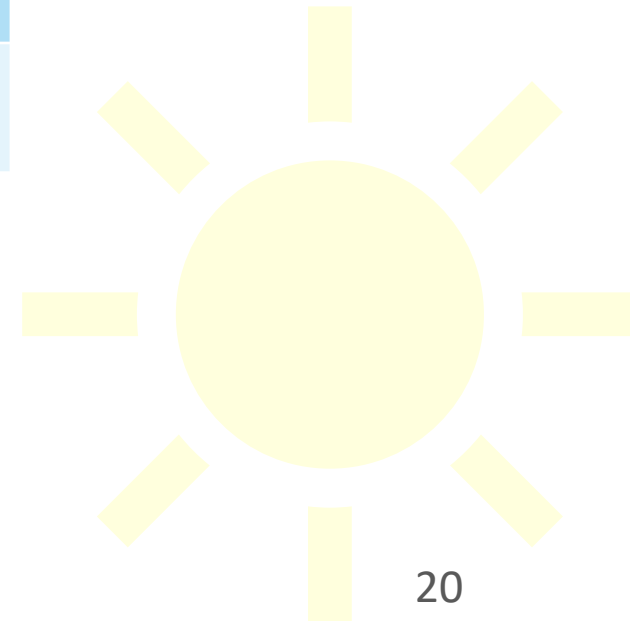
MEASURES FOR FUTURE CONSIDERATION

- Retro-Commissioning Study
- Upgrade/Replace Energy Management System
- VRF System
- Heating System Conversion from Steam to Hot Water

SOLAR ENERGY GENERATION POTENTIAL

NJCleanEnergy.com/renewable-energy

	Memorial HS	Riverfront MS
<i>Potential:</i>	MEDIUM	High
<i>System Potential: (kW)</i>	489	198
<i>Electric Generation: (kWh per year)</i>	582,580	235,892
<i>Displaced Cost: (per year)</i>	\$82,980	\$33,890

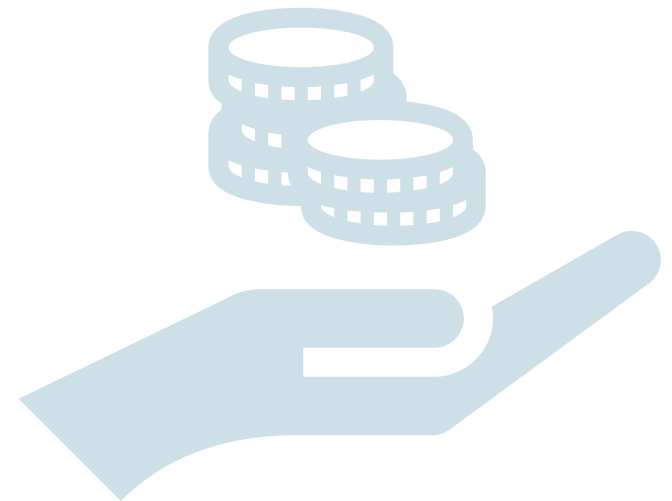


FINANCING MECHANISM: ESIP

NJCleanEnergy.com/ESIP

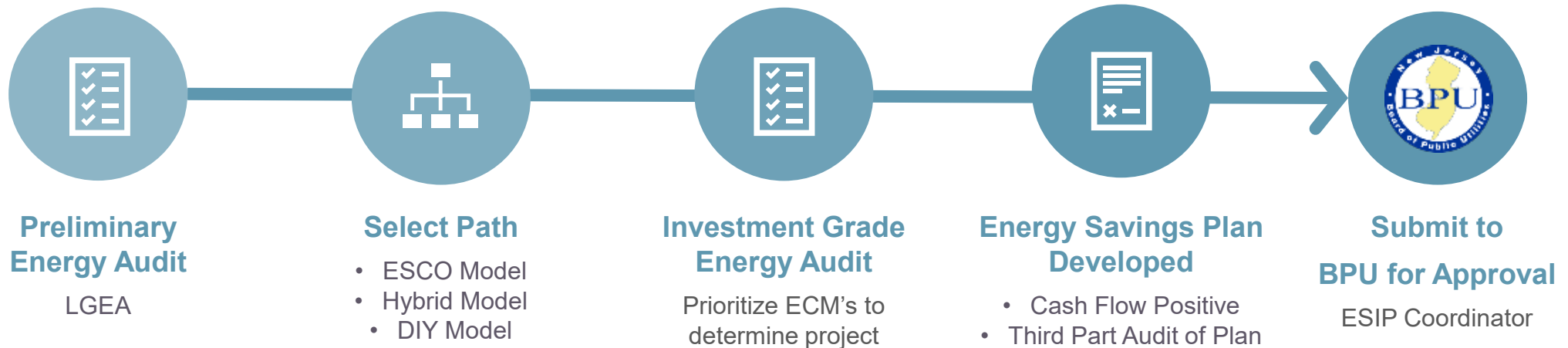
ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- Energy Performance Contracting – NJ ESIP
- Financing Mechanism that allows state entities to make energy efficiency improvements without impacting their budgets
- Administered by the NJBPU
- NJBPU Approved EE Incentive Programs: NJCEP or Utility
- Project is paid for with the value of its own energy savings
- 15 or 20 year self-funding loan
- Can be combined with Federal/State Pandemic Relief Funds
- No upfront capital expenses
- No referendum is required
- No impact to taxpayers



FINANCING MECHANISM: ESIP

NJCleanEnergy.com/EV



ENERGY SAVINGS IMPROVEMENT PROGRAM

NJCleanEnergy.com/ESIP

FOR MORE INFORMATION

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C&I TRANSITION OF ENERGY EFFICIENCY PROGRAMS

NJCleanEnergy.com/Transition

LOCAL
GOVERNMENT
CUSTOMERS

COMMERCIAL &
INSTITUTIONAL
CUSTOMERS

LARGE
ENERGY
CUSTOMERS

EXISTING BUILDINGS

MEASUREMENT & AUDITS

FREE Energy Audits



RETROFITS

Prescriptive &
Custom Rebates

Direct Install

Engineered Solutions

And more from
your local utility!



Incentives up
to \$4 million
for eligible projects



NEW CONSTRUCTION

Prescriptive & Custom
Rebates for New
Construction and
Gut Rehabs

Pay for Performance
incentives for
buildings over
50,000 sq. ft.



DISTRIBUTED ENERGY RESOURCES

Combined Heat & Power
and Fuel Cell Installation
Incentives

Microgrid Development

Battery Storage

Muni EV Fleets



Key:

Programs run by investor-owned utility companies



Programs run by NJCEP



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

Dave Kirsch – David.Kirsch@pseg.com
Steve Barba – Steven.T.Barba@pseg.com

SCHOOL & SMALL BUSINESS ENERGY EFFICIENCY STIMULUS PROGRAM

NJCleanEnergy.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.

INCENTIVE CAP

Grants shall provide no more than 75% of the approved project cost up to \$5 million.



FOR MORE INFORMATION

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THANK YOU

