



LGEA Presentation
Clinton Township Board of Education

May 24, 2022

New Jersey's
Clean Energy Program

Lighting the way to New Jersey's Clean Energy Future

INTRODUCTIONS

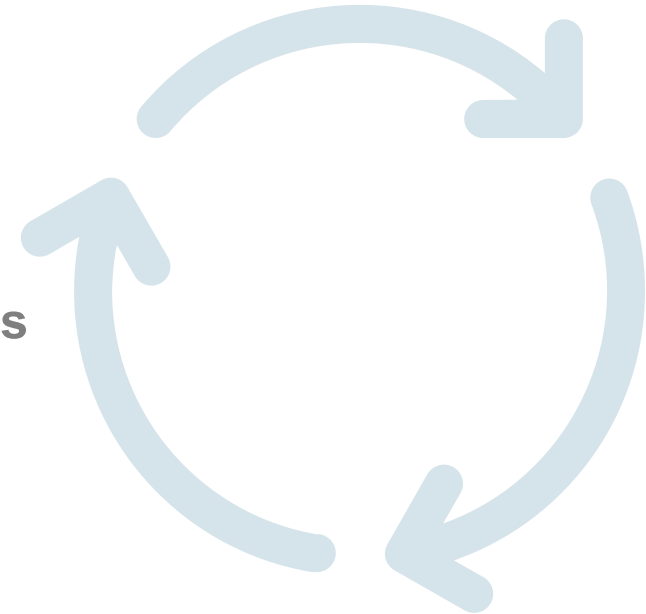
- *Clinton Township Board of Education*
 - Mark Kramer – Business Administrator
 - Frank Bolognini – Buildings & Grounds Supervisor
- *NJ Clean Energy Program*
 - Sarah Walters – LGEA Project Manager
 - Moussa Traore – LGEA Lead Auditor
 - Eduardo Garcia – LGEA Project Auditor
 - Meredith Coley – LGEA Account Manager
- *Utility Energy Efficiency Programs*
 - John Sousa – JCP&L
 - Thomas Pirone – JCP&L

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)
- C&I Transition of EE Programs
- Questions regarding the draft audit report
- Next steps for Clinton 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
- Refrigeration & Cooking Equipment
- Process Equipment

Utility Consumption:

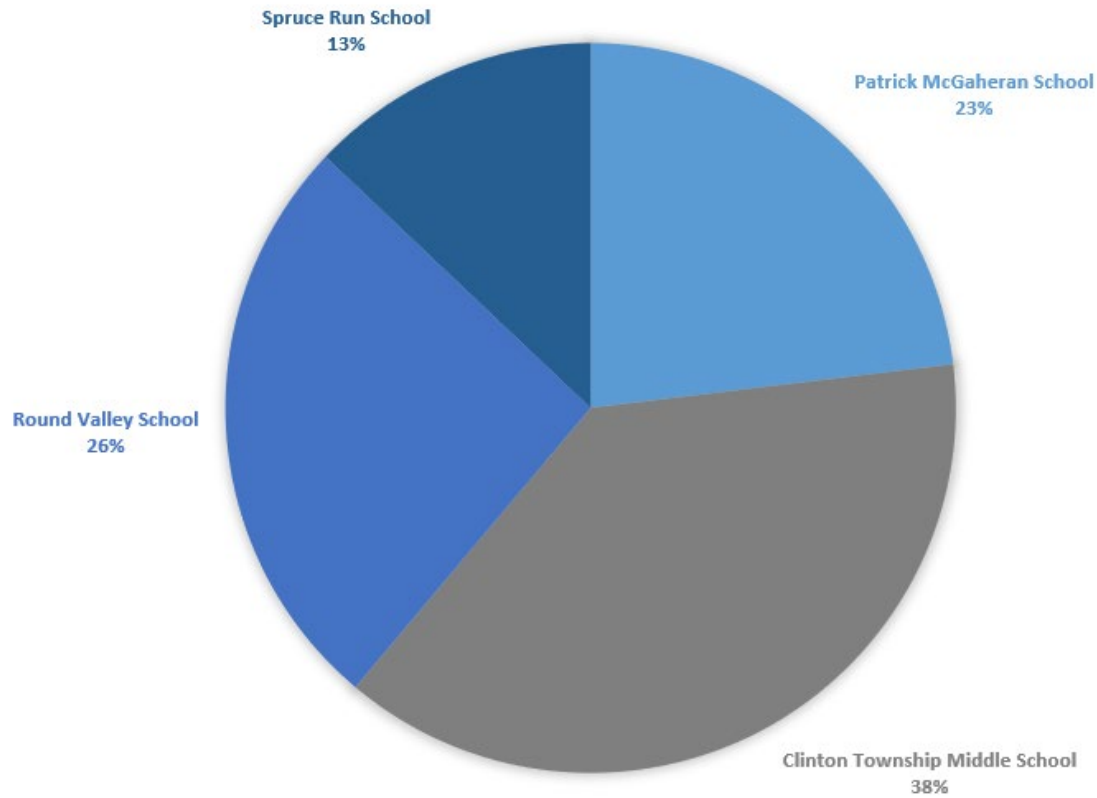
- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Sites Visited/Analyzed

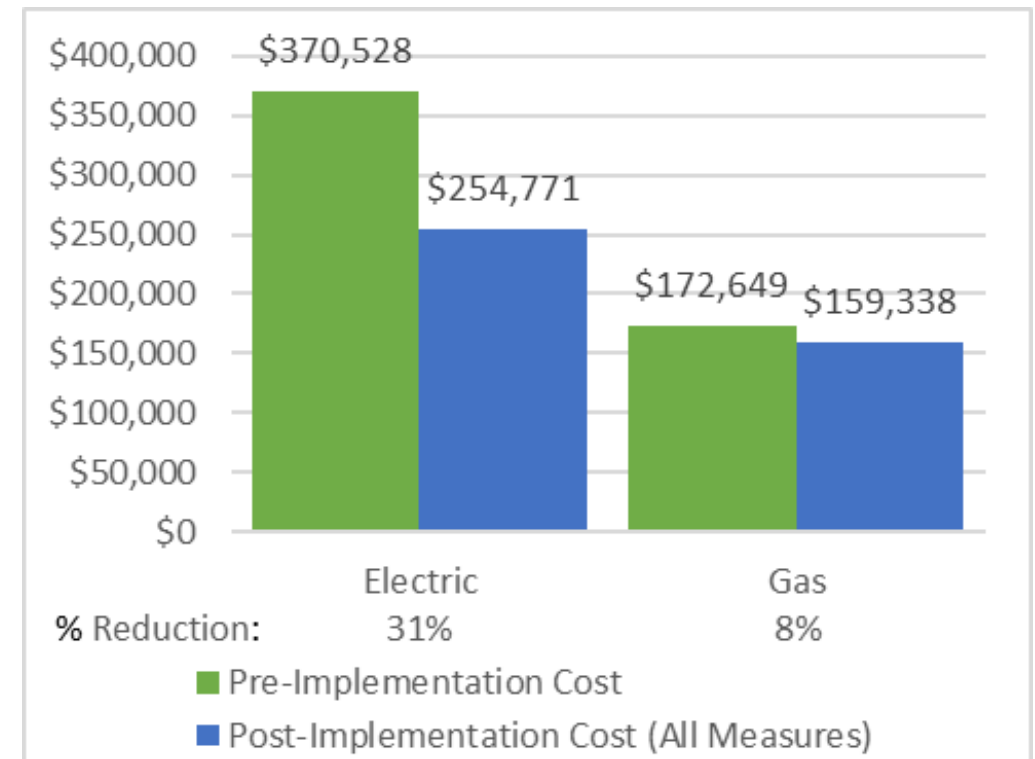
- Spruce Run School
- Patrick McGaheran School & Treatment Plant
- Round Valley School & Treatment Plant
- Clinton Township Middle School

UTILITY BREAKOUT

Percent of Total Annual Energy Costs



Pre & Post Implementation Cost



BENCHMARKING

ENERGY STAR® Statement of Energy Performance

39
ENERGY STAR® Score¹

Round Valley School (Campus)
Primary Property Type: K-12 School
Gross Floor Area (ft²): 108,050
Built: 1965
For Year Ending: December 31, 2019
Date Generated: March 21, 2022

Property & Contact Information

Property Address	Property Owner	Primary Contact
Round Valley School (Campus) 128 Cokesbury Road Lebanon, New Jersey 08833	Clinton Township Board of Education 128 Cokesbury Road Lebanon, NJ 08833 908-236-7235	Michele LaFevre PO Box 6 Annandale, NJ 08801 (908) 236-7235 mlafevre@cctsdnj.org

Property ID: 18232300

Energy Consumption and Energy Use Intensity (EUI)

Site EUI	Annual Energy by Fuel	National Median Comparison
75.1 kBtu/ft ²	Natural Gas (kBtu) 5,527,260 (68%) Electric - Grid (kBtu) 2,585,832 (32%)	National Median Site EUI (kBtu/ft ²) 67.7 National Median Source EUI (kBtu/ft ²) 108.9 % Diff from National Median Source EUI 11%
Source EUI		Annual Emissions
120.7 kBtu/ft ²		Greenhouse Gas Emissions (Metric Tons CO ₂ eq/year) 534

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
75.1 kBtu/ft²

Source EUI
120.7 kBtu/ft²

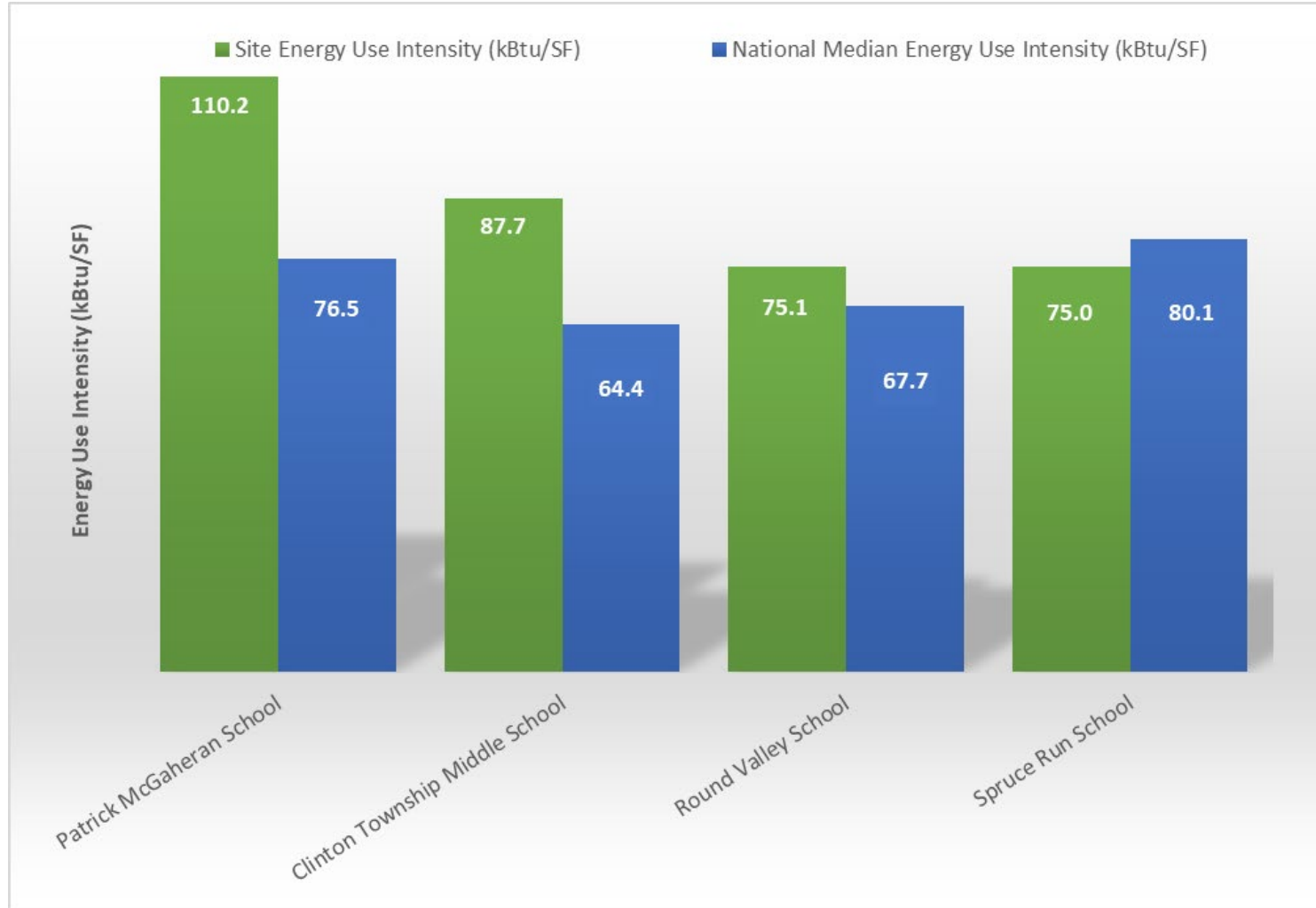
National Median Comparison

National Median Site EUI (kBtu/ft ²)	67.7
National Median Source EUI (kBtu/ft ²)	108.9
% Diff from National Median Source EUI	11%

Site Name	ENERGY STAR® Score
Round Valley School	39
Patrick McGaheeran School	15
Clinton Township Middle School	20
Spruce Run School	N/A

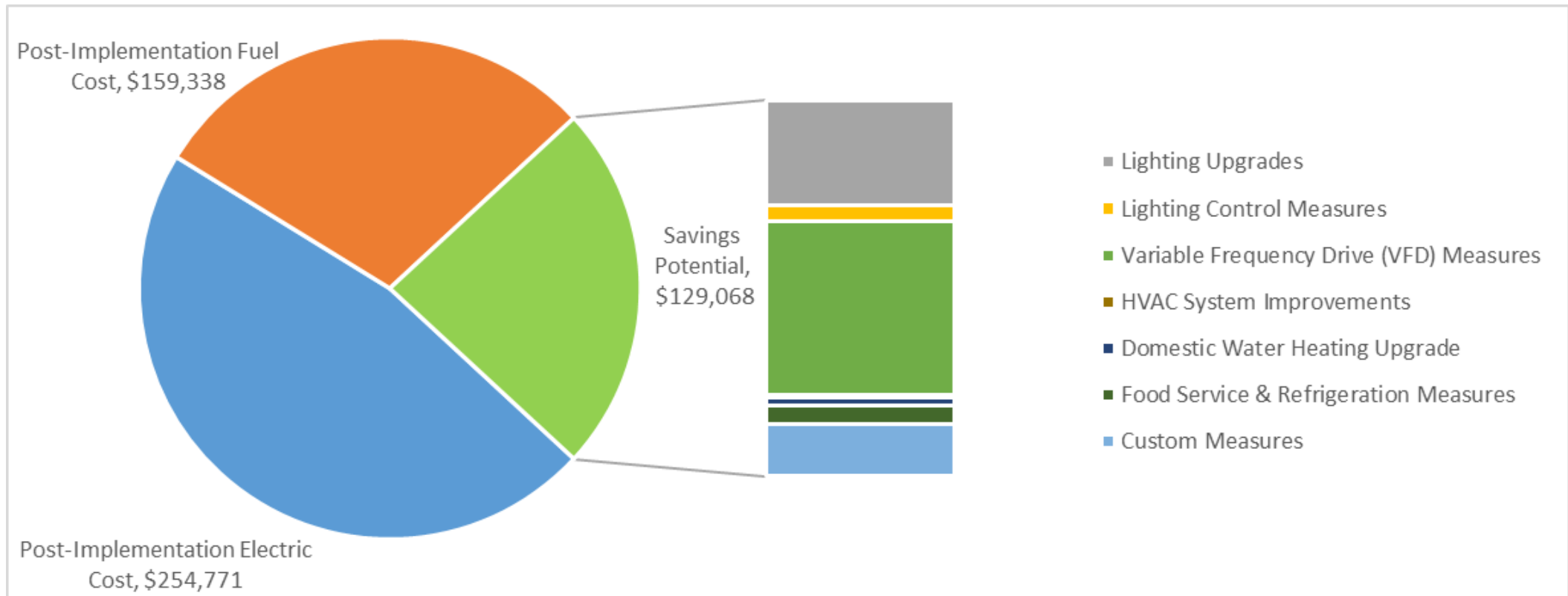
ENERGY STAR® scores are percentile ranking from 1 (least efficient) to 100 (most efficient). It compares your building's energy performance to similar buildings nationwide.

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		314,074	102.4	-62.1	\$35,924	\$165,002	\$42,636	\$122,366	3.4	308,996
ECM 1	Install LED Fixtures	25,189	6.5	-3.9	\$2,910	\$22,321	\$5,300	\$17,021	5.8	24,912
ECM 2	Retrofit Fixtures with LED Lamps	286,149	95.8	-57.7	\$32,712	\$142,246	\$37,336	\$104,910	3.2	281,395
ECM 3	Install LED Exit Signs	2,737	0.2	-0.6	\$302	\$434	\$0	\$434	1.4	2,689
Lighting Control Measures		52,388	14.9	-10.9	\$5,885	\$69,861	\$14,050	\$55,811	9.5	51,476
ECM 4	Install Occupancy Sensor Lighting Controls	38,676	13.2	-8.1	\$4,359	\$62,536	\$8,310	\$54,226	12.4	37,999
ECM 5	Install Daylight Dimming/Photocell Controls	184	0.0	0.0	\$21	\$800	\$0	\$800	38.3	185
ECM 6	Install High/Low Lighting Controls	13,528	1.7	-2.8	\$1,506	\$6,525	\$5,740	\$785	0.5	13,292
Variable Frequency Drive (VFD) Measures		503,650	102.6	0.0	\$59,420	\$303,301	\$37,575	\$265,726	4.5	507,171
ECM 7	Install VFDs on Constant Volume (CV) Fans	351,890	85.5	0.0	\$42,038	\$180,188	\$21,050	\$159,138	3.8	354,350
ECM 8	Install VFDs on Heating Water Pumps	54,940	8.2	0.0	\$6,281	\$72,615	\$7,550	\$65,065	10.4	55,324
ECM 9	Install VFDs on Process Pumps	93,774	7.9	0.0	\$10,761	\$46,686	\$8,775	\$37,911	3.5	94,429
ECM 10	Install VFDs on Process Blowers	3,046	1.0	0.0	\$340	\$3,812	\$200	\$3,612	10.6	3,067

ALL OPPORTUNITIES

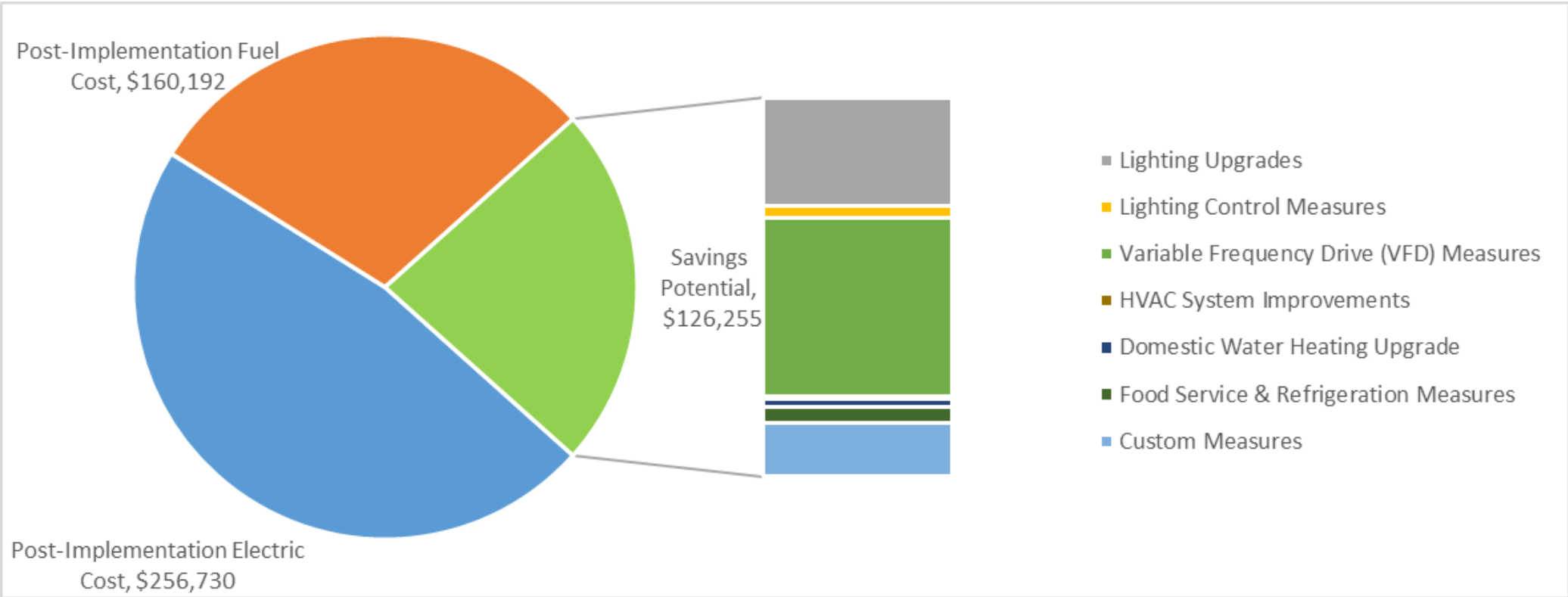
#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
HVAC System Improvements		3,167	0.0	60.6	\$875	\$1,991	\$180	\$1,811	2.1	10,279
ECM 11	Implement Demand Control Ventilation (DCV)	296	0.0	22.7	\$229	\$1,359	\$0	\$1,359	5.9	2,951
ECM 12	Install Pipe Insulation	2,871	0.0	37.9	\$646	\$631	\$180	\$451	0.7	7,329
Domestic Water Heating Upgrade		6,207	0.0	222.4	\$2,645	\$2,753	\$1,137	\$1,616	0.6	32,292
ECM 13	Install Low-Flow DHW Devices	6,207	0.0	222.4	\$2,645	\$2,753	\$1,137	\$1,616	0.6	32,292
Food Service & Refrigeration Measures		33,937	2.8	296.9	\$6,573	\$46,242	\$8,495	\$37,747	5.7	68,937
ECM 14	Food Service Equipment Replacement	0	0.0	296.9	\$2,580	\$37,160	\$8,000	\$29,160	11.3	34,763
ECM 15	Refrigerator/Freezer Case Electrically Commutated Motors	26,775	2.3	0.0	\$3,176	\$2,426	\$320	\$2,106	0.7	26,962
ECM 16	Refrigeration Controls	3,537	0.2	0.0	\$395	\$2,193	\$125	\$2,068	5.2	3,561
ECM 17	Replace Refrigeration Equipment	2,013	0.2	0.0	\$231	\$4,233	\$0	\$4,233	18.3	2,027
ECM 18	Vending Machine Control	1,612	0.2	0.0	\$190	\$230	\$50	\$180	0.9	1,623
Custom Measures		70,995	0.0	1,017.1	\$17,745	\$182,523	\$0	\$182,523	10.3	190,587
ECM 19	Retro-Commissioning Study	39,675	0.0	240.5	\$6,863	\$36,985	\$0	\$36,985	5.4	68,110
ECM 20	Installation of an Energy Management System	31,320	0.0	776.7	\$10,882	\$145,538	\$0	\$145,538	13.4	122,477
TOTALS		984,418	222.7	1,524.0	\$129,068	\$771,673	\$104,073	\$667,600	5.2	1,169,739

* - 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).

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		314,074	102.4	-62.1	\$35,924	\$165,002	\$42,636	\$122,366	3.4	308,996
ECM 1	Install LED Fixtures	25,189	6.5	-3.9	\$2,910	\$22,321	\$5,300	\$17,021	5.8	24,912
ECM 2	Retrofit Fixtures with LED Lamps	286,149	95.8	-57.7	\$32,712	\$142,246	\$37,336	\$104,910	3.2	281,395
ECM 3	Install LED Exit Signs	2,737	0.2	-0.6	\$302	\$434	\$0	\$434	1.4	2,689
Lighting Control Measures		38,150	9.0	-7.9	\$4,230	\$35,565	\$9,500	\$26,065	6.2	37,487
ECM 4	Install Occupancy Sensor Lighting Controls	24,437	7.3	-5.1	\$2,704	\$28,240	\$3,760	\$24,480	9.1	24,010
ECM 5	Install Daylight Dimming/Photocell Controls	184	0.0	0.0	\$21	\$800	\$0	\$800	38.3	185
ECM 6	Install High/Low Lighting Controls	13,528	1.7	-2.8	\$1,506	\$6,525	\$5,740	\$785	0.5	13,292
Variable Frequency Drive (VFD) Measures		503,650	102.6	0.0	\$59,420	\$303,301	\$37,575	\$265,726	4.5	507,171
ECM 7	Install VFDs on Constant Volume (CV) Fans	351,890	85.5	0.0	\$42,038	\$180,188	\$21,050	\$159,138	3.8	354,350
ECM 8	Install VFDs on Heating Water Pumps	54,940	8.2	0.0	\$6,281	\$72,615	\$7,550	\$65,065	10.4	55,324
ECM 9	Install VFDs on Process Pumps	93,774	7.9	0.0	\$10,761	\$46,686	\$8,775	\$37,911	3.5	94,429
ECM 10	Install VFDs on Process Blowers	3,046	1.0	0.0	\$340	\$3,812	\$200	\$3,612	10.6	3,067
HVAC System Improvements		3,167	0.0	60.6	\$875	\$1,991	\$180	\$1,811	2.1	10,279
ECM 11	Implement Demand Control Ventilation (DCV)	296	0.0	22.7	\$229	\$1,359	\$0	\$1,359	5.9	2,951
ECM 12	Install Pipe Insulation	2,871	0.0	37.9	\$646	\$631	\$180	\$451	0.7	7,329
Domestic Water Heating Upgrade		6,207	0.0	222.4	\$2,645	\$2,753	\$1,137	\$1,616	0.6	32,292
ECM 13	Install Low-Flow DHW Devices	6,207	0.0	222.4	\$2,645	\$2,753	\$1,137	\$1,616	0.6	32,292
Food Service & Refrigeration Measures		31,924	2.6	196.7	\$5,415	\$23,429	\$4,495	\$18,934	3.5	55,184
ECM 14	Food Service Equipment Replacement	0	0.0	196.7	\$1,654	\$18,580	\$4,000	\$14,580	8.8	23,037
ECM 15	Refrigerator/Freezer Case Electrically Commutated Motors	26,775	2.3	0.0	\$3,176	\$2,426	\$320	\$2,106	0.7	26,962
ECM 16	Refrigeration Controls	3,537	0.2	0.0	\$395	\$2,193	\$125	\$2,068	5.2	3,561
ECM 18	Vending Machine Control	1,612	0.2	0.0	\$190	\$230	\$50	\$180	0.9	1,623
Custom Measures		70,995	0.0	1,017.1	\$17,745	\$182,523	\$0	\$182,523	10.3	190,587
ECM 19	Retro-Commissioning Study	39,675	0.0	240.5	\$6,863	\$36,985	\$0	\$36,985	5.4	68,110
ECM 20	Installation of an Energy Management System	31,320	0.0	776.7	\$10,882	\$145,538	\$0	\$145,538	13.4	122,477
TOTALS		968,166	216.6	1,426.8	\$126,255	\$714,564	\$95,523	\$619,041	4.9	1,141,996

* - 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).

SPRUCE RUN 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			50,944	13.2	-9	\$5,699	\$22,796	\$6,918	\$15,878	2.8	50,207
ECM 1	Install LED Fixtures	Yes	8,784	1.7	-1	\$987	\$2,950	\$1,550	\$1,400	1.4	8,710
ECM 2	Retrofit Fixtures with LED Lamps	Yes	41,504	11.4	-8	\$4,639	\$19,701	\$5,368	\$14,333	3.1	40,853
ECM 3	Install LED Exit Signs	Yes	655	0.0	0	\$73	\$145	\$0	\$145	2.0	644
Lighting Control Measures			11,157	3.1	-2	\$1,246	\$15,010	\$2,265	\$12,745	10.2	10,966
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	9,333	2.9	-2	\$1,042	\$13,310	\$1,775	\$11,535	11.1	9,169
ECM 5	Install Photocell Controls	Yes	184	0.0	0	\$21	\$800	\$0	\$800	38.3	185
ECM 6	Install High/Low Lighting Controls	Yes	1,640	0.1	0	\$183	\$900	\$490	\$410	2.2	1,611
Variable Frequency Drive (VFD) Measures			26,666	5.7	0	\$3,025	\$31,483	\$3,000	\$28,483	9.4	26,852
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	13,711	4.3	0	\$1,555	\$12,206	\$2,000	\$10,206	6.6	13,807
ECM 8	Install VFDs on Heating Water Pumps	Yes	12,955	1.5	0	\$1,470	\$19,277	\$1,000	\$18,277	12.4	13,045
HVAC System Improvements			3,167	0.0	34	\$649	\$1,612	\$80	\$1,532	2.4	7,127
ECM 9	Implement Demand Control Ventilation (DCV)	Yes	296	0.0	23	\$229	\$1,359	\$0	\$1,359	5.9	2,951
ECM 10	Install Pipe Insulation	Yes	2,871	0.0	11	\$420	\$252	\$80	\$172	0.4	4,176
Domestic Water Heating Upgrade			4,906	0.0	24	\$761	\$430	\$147	\$283	0.4	7,719
ECM 11	Install Low-Flow DHW Devices	Yes	4,906	0.0	24	\$761	\$430	\$147	\$283	0.4	7,719
TOTALS (COST EFFECTIVE MEASURES)			96,840	22.0	46	\$11,379	\$71,331	\$12,410	\$58,921	5.2	102,870
TOTALS (ALL MEASURES)			96,840	22.0	46	\$11,379	\$71,331	\$12,410	\$58,921	5.2	102,870

* - 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).

PATRICK MCGAHERAN 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			103,787	22.0	-21	\$11,423	\$32,850	\$8,851	\$23,999	2.1	102,017
ECM 1	Install LED Fixtures	Yes	672	0.1	0	\$75	\$400	\$150	\$250	3.4	669
ECM 2	Retrofit Fixtures with LED Lamps	Yes	101,033	21.7	-21	\$11,119	\$32,161	\$8,701	\$23,460	2.1	99,303
ECM 3	Install LED Exit Signs	Yes	2,081	0.2	0	\$229	\$290	\$0	\$290	1.3	2,045
Lighting Control Measures			24,634	5.1	-5	\$2,710	\$17,180	\$4,235	\$12,945	4.8	24,203
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	15,105	4.4	-3	\$1,662	\$14,930	\$1,985	\$12,945	7.8	14,841
ECM 5	Install High/Low Lighting Controls	Yes	9,529	0.7	-2	\$1,048	\$2,250	\$2,250	\$0	0.0	9,362
Variable Frequency Drive (VFD) Measures			130,808	14.1	0	\$14,622	\$82,843	\$6,725	\$76,118	5.2	131,723
ECM 6	Install VFDs on Constant Volume (CV) Fans	Yes	54,262	7.5	0	\$6,066	\$30,353	\$1,000	\$29,353	4.8	54,641
ECM 7	Install VFDs on Heating Water Pumps	Yes	23,471	2.4	0	\$2,624	\$21,034	\$750	\$20,284	7.7	23,635
ECM 8	Install VFDs on Process/Pool Filtration Pumps	Yes	50,030	3.3	0	\$5,593	\$27,644	\$4,775	\$22,869	4.1	50,380
ECM 9	Install VFDs on Process Blowers	Yes	3,046	1.0	0	\$340	\$3,812	\$200	\$3,612	10.6	3,067
HVAC System Improvements			0	0.0	27	\$226	\$379	\$100	\$279	1.2	3,152
ECM 10	Install Pipe Insulation	Yes	0	0.0	27	\$226	\$379	\$100	\$279	1.2	3,152
Domestic Water Heating Upgrade			1,300	0.0	36	\$445	\$595	\$286	\$309	0.7	5,489
ECM 11	Install Low-Flow DHW Devices	Yes	1,300	0.0	36	\$445	\$595	\$286	\$309	0.7	5,489
Food Service & Refrigeration Measures			8,233	0.7	197	\$2,574	\$23,192	\$4,165	\$19,027	7.4	31,327
ECM 12	Food Service Equipment Replacement	Yes	0	0.0	197	\$1,654	\$18,580	\$4,000	\$14,580	8.8	23,037
ECM 13	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	3,690	0.5	0	\$412	\$303	\$40	\$263	0.6	3,715
ECM 14	Refrigeration Controls	Yes	3,537	0.2	0	\$395	\$2,193	\$125	\$2,068	5.2	3,561
ECM 15	Replace Refrigeration Equipment	No	1,007	0.1	0	\$113	\$2,116	\$0	\$2,116	18.8	1,014
TOTALS (COST EFFECTIVE MEASURES)			267,756	41.8	233	\$31,889	\$154,924	\$24,362	\$130,561	4.1	296,898
TOTALS (ALL MEASURES)			268,762	41.9	233	\$32,002	\$157,040	\$24,362	\$132,678	4.1	297,911

* - 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.

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ROUND VALLEY 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			76,321	27.5	-14	\$8,885	\$55,336	\$11,884	\$43,452	4.9	75,178
ECM 1	Install LED Fixtures	Yes	11,198	3.1	-2	\$1,307	\$16,041	\$1,750	\$14,291	10.9	11,076
ECM 2	Retrofit Fixtures with LED Lamps	Yes	65,123	24.4	-13	\$7,578	\$39,295	\$10,134	\$29,161	3.8	64,102
Lighting Control Measures			16,598	6.7	-3	\$1,929	\$37,671	\$7,550	\$30,121	15.6	16,307
ECM 3	Install Occupancy Sensor Lighting Controls	No	14,238	5.9	-3	\$1,655	\$34,296	\$4,550	\$29,746	18.0	13,989
ECM 4	Install High/Low Lighting Controls	Yes	2,359	0.8	0	\$274	\$3,375	\$3,000	\$375	1.4	2,318
Variable Frequency Drive (VFD) Measures			62,258	9.0	0	\$7,356	\$51,346	\$9,800	\$41,546	5.6	62,694
ECM 5	Install VFDs on Heating Water Pumps	Yes	18,515	4.4	0	\$2,188	\$32,303	\$5,800	\$26,503	12.1	18,644
ECM 6	Install VFDs on Process/Pool Filtration Pumps	Yes	43,744	4.7	0	\$5,169	\$19,042	\$4,000	\$15,042	2.9	44,049
Domestic Water Heating Upgrade			0	0.0	66	\$614	\$703	\$342	\$361	0.6	7,778
ECM 7	Install Low-Flow DHW Devices	Yes	0	0.0	66	\$614	\$703	\$342	\$361	0.6	7,778
Food Service & Refrigeration Measures			14,161	1.2	100	\$2,599	\$22,140	\$4,210	\$17,930	6.9	25,987
ECM 8	Food Service Equipment Replacement	No	0	0.0	100	\$926	\$18,580	\$4,000	\$14,580	15.7	11,726
ECM 9	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	11,543	0.9	0	\$1,364	\$1,213	\$160	\$1,053	0.8	11,624
ECM 10	Replace Refrigeration Equipment	No	1,007	0.1	0	\$119	\$2,116	\$0	\$2,116	17.8	1,014
ECM 11	Vending Machine Control	Yes	1,612	0.2	0	\$190	\$230	\$50	\$180	0.9	1,623
Custom Measures			31,320	0.0	777	\$10,882	\$145,538	\$0	\$145,538	13.4	122,477
ECM 12	Installation of an Energy Management System	Yes	31,320	0.0	777	\$10,882	\$145,538	\$0	\$145,538	13.4	122,477
TOTALS (COST EFFECTIVE MEASURES)			185,413	38.5	828	\$29,566	\$257,741	\$25,236	\$232,505	7.9	283,690
TOTALS (ALL MEASURES)			200,658	44.5	925	\$32,266	\$312,733	\$33,786	\$278,948	8.6	310,420

* - 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).

CLINTON TOWNSHIP 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			83,022	39.7	-17	\$9,918	\$54,020	\$14,983	\$39,037	3.9	81,595
ECM 1	Install LED Fixtures	Yes	4,534	1.6	-1	\$542	\$2,930	\$1,850	\$1,080	2.0	4,457
ECM 2	Retrofit Fixtures with LED Lamps	Yes	78,488	38.2	-16	\$9,376	\$51,090	\$13,133	\$37,957	4.0	77,138
Variable Frequency Drive (VFD) Measures			283,917	73.6	0	\$34,417	\$137,629	\$18,050	\$119,579	3.5	285,902
ECM 3	Install VFDs on Constant Volume (CV) Fans	Yes	283,917	73.6	0	\$34,417	\$137,629	\$18,050	\$119,579	3.5	285,902
Domestic Water Heating Upgrade			0	0.0	97	\$825	\$1,025	\$362	\$663	0.8	11,307
ECM 4	Install Low-Flow DHW Devices	Yes	0	0.0	97	\$825	\$1,025	\$362	\$663	0.8	11,307
Food Service & Refrigeration Measures			11,543	0.9	0	\$1,399	\$910	\$120	\$790	0.6	11,624
ECM 5	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	11,543	0.9	0	\$1,399	\$910	\$120	\$790	0.6	11,624
Custom Measures			39,675	0.0	240	\$6,863	\$36,985	\$0	\$36,985	5.4	68,110
ECM 6	Retro-Commissioning Study	Yes	39,675	0.0	240	\$6,863	\$36,985	\$0	\$36,985	5.4	68,110
TOTALS			418,158	114.3	320	\$53,421	\$230,569	\$33,515	\$197,054	3.7	458,537

* - 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

- Installation of an Energy Management System

SOLAR ENERGY GENERATION POTENTIAL

	Round Valley	Patrick McGaheran	Spruce Run	Clinton Twp MS
<i>Potential:</i>	HIGH	HIGH	MEDIUM	MEDIUM
<i>System Potential: (kW)</i>	220	185	99	428
<i>Electric Generation: (kWh per year)</i>	262,101	220,404	74,492	322,046
<i>Displaced Cost: (per year)</i>	\$30,970	\$24,810	\$8,450	\$39,040

Successor Solar Incentive Program

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

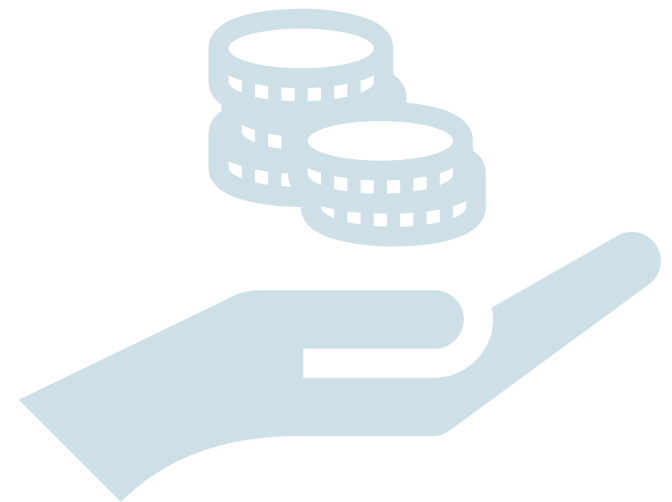
Community Solar Energy Pilot Program

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

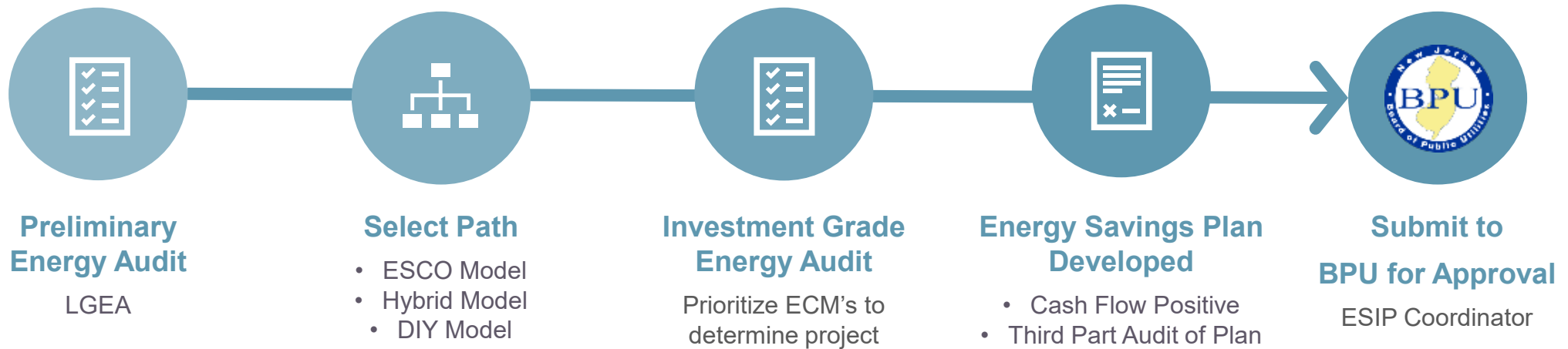
FINANCING MECHANISM: ESIP

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



ENERGY SAVINGS IMPROVEMENT PROGRAM

FOR MORE INFORMATION

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C&I TRANSITION OF ENERGY EFFICIENCY PROGRAMS

<https://www.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



UTILITY RUN ENERGY EFFICIENCY PROGRAMS

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

JCP&L

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Elizabethtown Gas

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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

