

New Jersey's Clean Energy Program

LGEA Presentation
City of Paterson

March 25, 2021

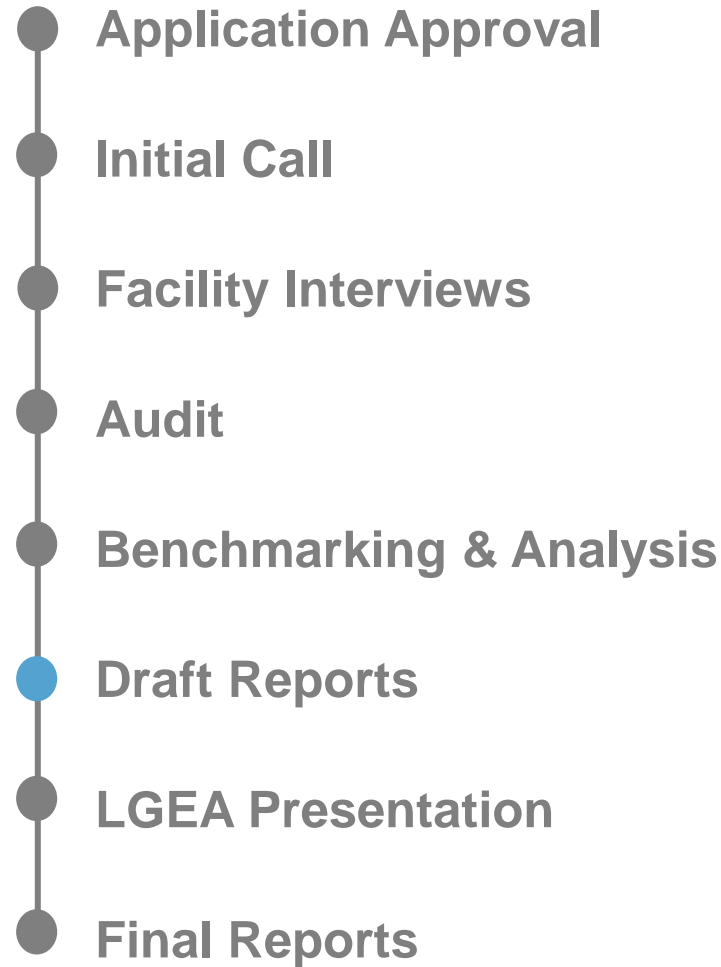
INTRODUCTIONS

- *City of Paterson*
 - Bill Rodriguez – Director of Department of Public Works
 - Michael Powell – Director of Economic Development
 - Brian McDermott – Chief of Paterson Fire Department
- *Sustainable Jersey*
 - Nancy Quirk – Energy Program Manager
 - Hogan Dwyer – Energy Team
- *NJ Clean Energy Program*
 - Jose Bermudez – TRC Program Manager
 - Moussa Traore – TRC Lead Auditor
 - Sarah Walters – TRC Account Manager
 - Mike Mandzik – TRC Outreach Manager
 - Michelle Rossi – ESIP Coordinator (BPU)
 - Arif Welcher – Government/Business Manager (BPU)

AGENDA

- The audit process overview
- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**easures (ECMs) identified & other recommendations
- Energy Savings Improvement Program (ESIP)
- Overview of NJCEP equipment incentives
- Questions regarding the draft audit report
- Next steps for City of Paterson

LGEA PROCESS



SITE VISIT & UTILITY ANALYSIS

Overview of Systems, Baseline & Existing Conditions:

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

Utility Consumption:

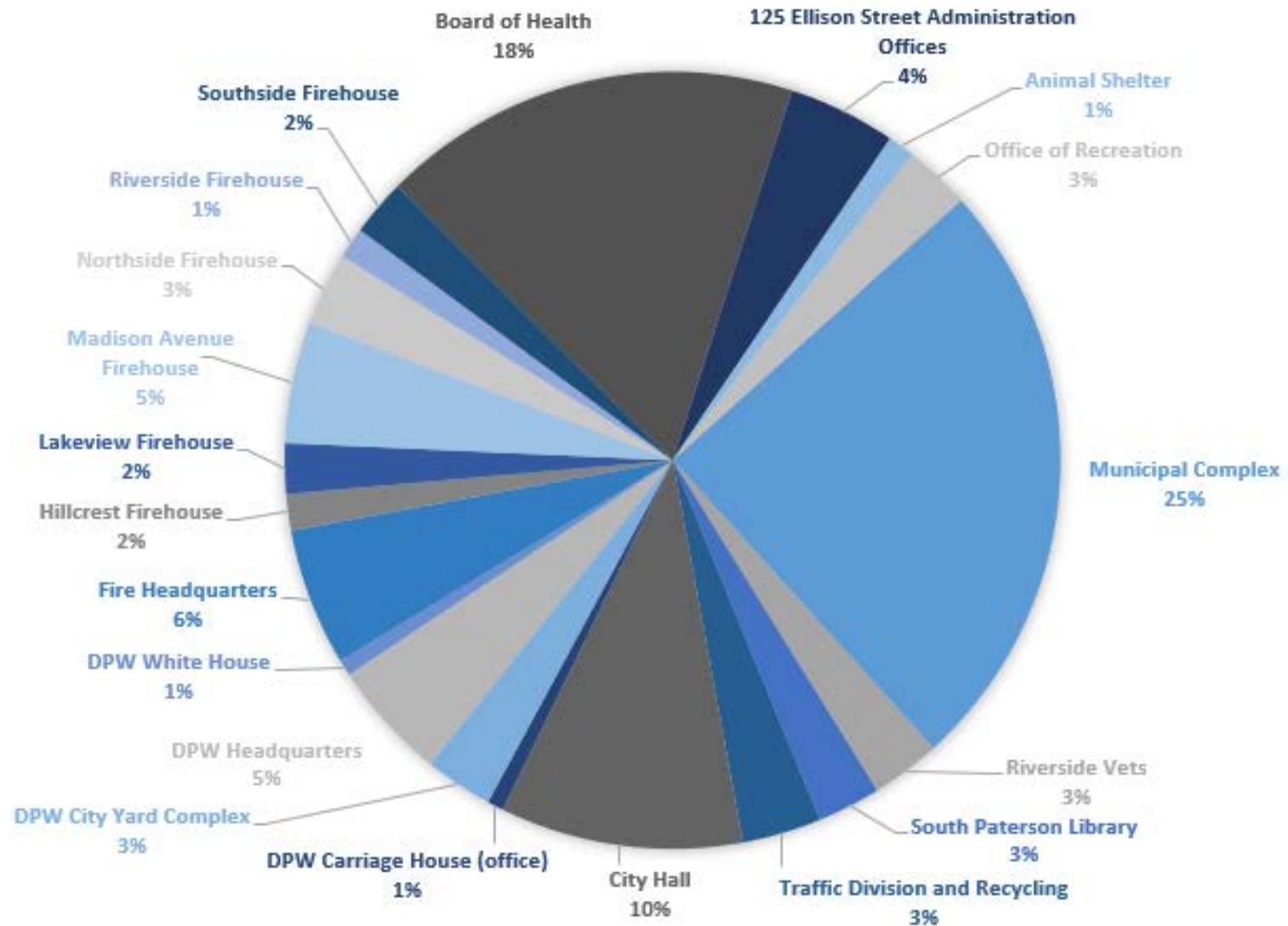
- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Sites Visited/Analyzed

- Municipal Complex
- City Hall
- Board of Health
- Office of Recreation
- DPW City Yard
 - Main Building
 - Old Garage
 - New Garage
- DPW Headquarters
- 125 Ellison St Admin Offices
- Animal Shelter
- Traffic Division & Recycling
- Riverside Vets
- South Paterson Library
- Fire Headquarters
- Madison Ave Firehouse
- Lakeview Firehouse
- Riverside Firehouse
- Hillcrest Firehouse
- Southside Firehouse
- Northside Firehouse
- DPW Carriage House
- DPW White House

UTILITY BREAKOUT

Percent of Total Annual Energy Costs

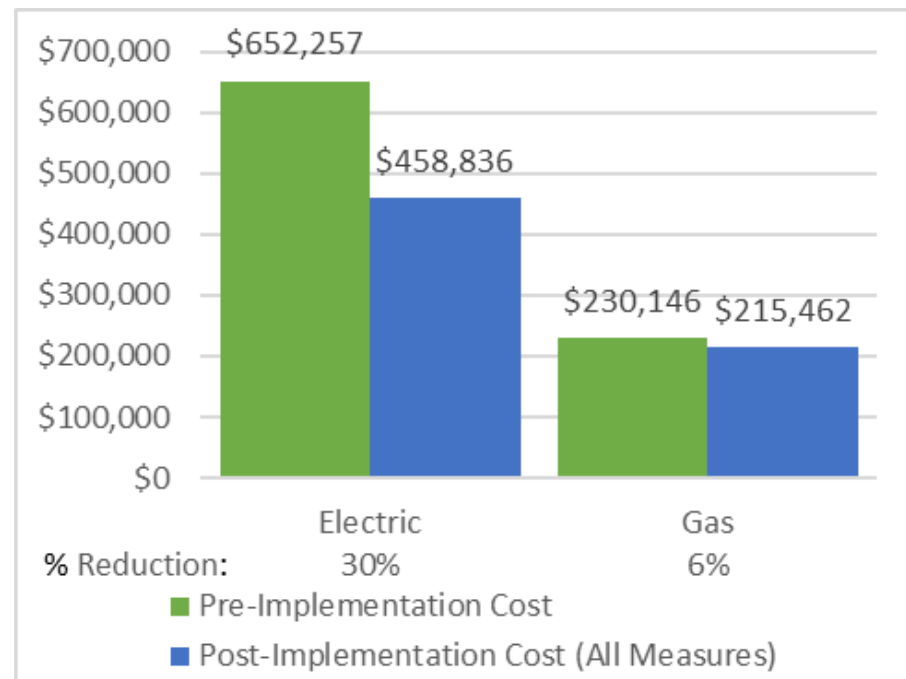


UTILITY BREAKOUT


Utility Cost Breakout



Pre & Post Implementation Cost



BENCHMARKING

 **ENERGY STAR® Statement of Energy Performance**
LEARN MORE AT energystar.gov

73
ENERGY STAR® Score¹

City of Paterson - City Hall
Primary Property Type: Office
Gross Floor Area (ft²): 49,528
Built: 1895
For Year Ending: December 31, 2019
Date Generated: December 30, 2020

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 City of Paterson - City Hall 155 Market Street Paterson, New Jersey 07505	Property Owner City of Paterson 155 Market Street Paterson, NJ 07505 (973) 321-1600	Primary Contact Andre Sayegh 155 Market Street Paterson, NJ 07505 (973) 321-1600 asayegh@patersonnj.gov
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Property ID: 3920468

Energy Consumption and Energy Use Intensity (EUI)

Site EUI 71.8 kBtu/ft²	Annual Energy by Fuel Natural Gas (kBtu) 2,015,624 (57%) Electric - Grid (kBtu) 1,542,730 (43%)	National Median Comparison National Median Site EUI (kBtu/ft²) 100.8 National Median Source EUI (kBtu/ft²) 182.4 % Diff from National Median Source EUI -29%
Source EUI 130 kBtu/ft²	Annual Emissions Greenhouse Gas Emissions (Metric Tons CO2e/year) 255	


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

Andre Sayegh
155 Market Street
Paterson, NJ 07505
(973) 321-1600
asayegh@patersonnj.gov



Professional Engineer or Registered Architect Stamp (if applicable)

Site EUI
71.8 kBtu/ft²

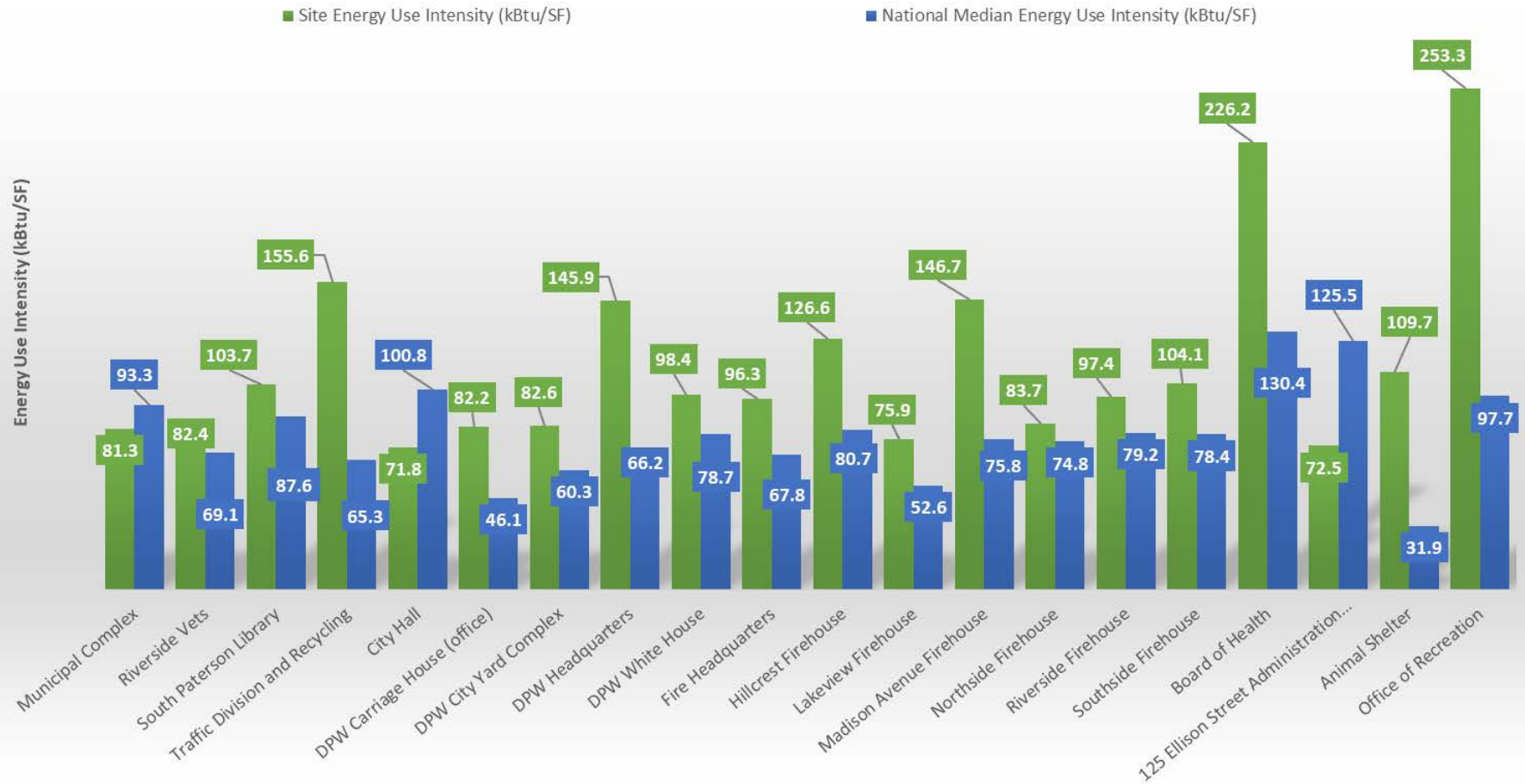
Source EUI
130 kBtu/ft²

National Median Comparison

National Median Site EUI (kBtu/ft²)	100.8
National Median Source EUI (kBtu/ft²)	182.4
% Diff from National Median Source EUI	-29%

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



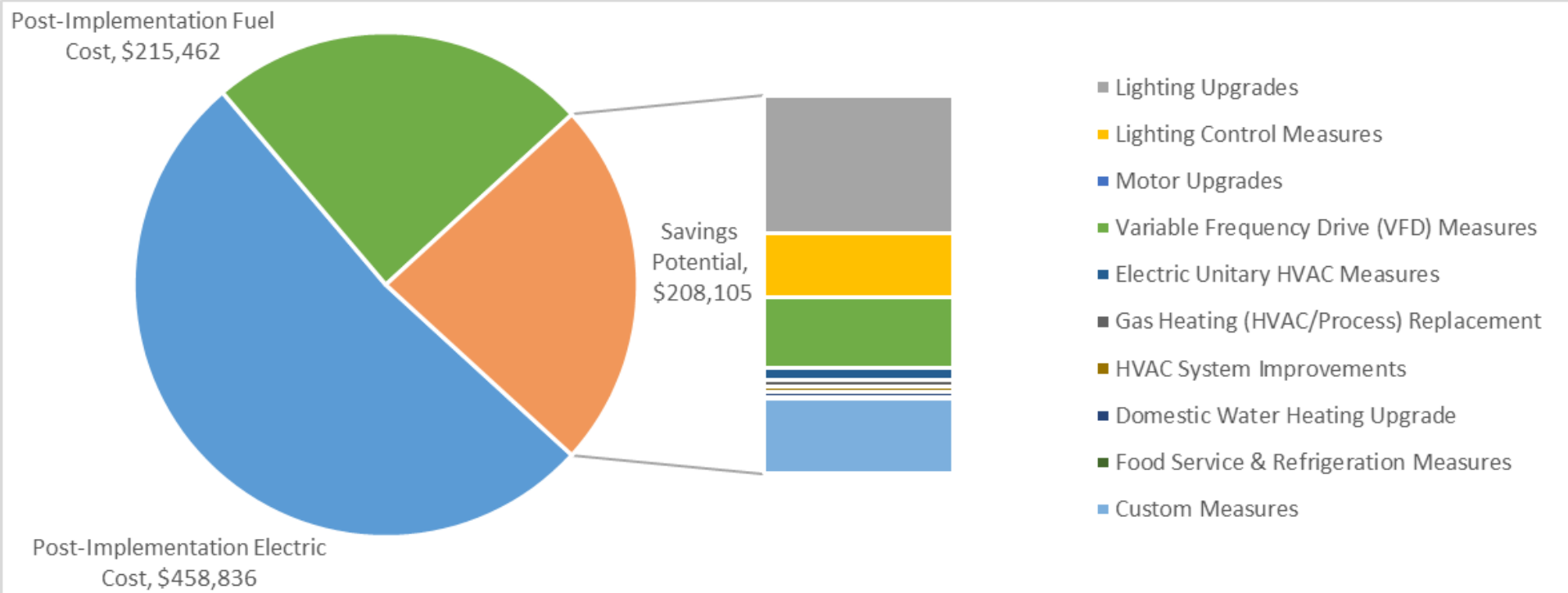
BENCHMARKING

Site Name	National Median Energy Use Intensity (kBtu/SF)	Site Energy Use Intensity (kBtu/SF)	ENERGY STAR [®] Score
Municipal Complex	93.3	81.3	60
Riverside Vets	69.1	82.4	N/A
South Paterson Library	87.6	103.7	N/A
Traffic Division and Recycling	65.3	155.6	N/A
City Hall	100.8	71.8	73
DPW Carriage House (office)	46.1	82.2	13
DPW City Yard Complex	60.3	82.6	N/A
DPW Headquarters	66.2	145.9	N/A
DPW White House	78.7	98.4	32
Fire Headquarters	67.8	96.3	N/A
Hillcrest Firehouse	80.7	126.6	N/A
Lakeview Firehouse	52.6	75.9	N/A
Madison Avenue Firehouse	75.8	146.7	N/A
Northside Firehouse	74.8	83.7	N/A
Riverside Firehouse	79.2	97.4	N/A
Southside Firehouse	78.4	104.1	N/A
Board of Health	130.4	226.2	N/A
125 Ellison Street Admin Offices	125.5	72.5	83
Animal Shelter	31.9	109.7	N/A
Office of Recreation	97.7	253.3	2



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		547,630	126.0	-109.8	\$75,583	\$210,094	\$87,702	\$122,392	1.6	538,608
ECM 1	Install LED Fixtures	61,806	6.7	-9.2	\$8,326	\$38,121	\$8,350	\$29,771	3.6	61,163
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	23,376	6.8	-4.8	\$3,213	\$11,355	\$3,168	\$8,187	2.5	22,976
ECM 3	Retrofit Fixtures with LED Lamps	460,480	112.3	-95.4	\$63,746	\$159,821	\$76,184	\$83,637	1.3	452,533
ECM 4	Install LED Exit Signs	1,967	0.2	-0.4	\$297	\$797	\$0	\$797	2.7	1,936
Lighting Control Measures		264,919	55.0	-54.8	\$35,346	\$163,702	\$51,120	\$112,582	3.2	260,358
ECM 5	Install Occupancy Sensor Lighting Controls	223,392	49.5	-47.2	\$29,774	\$137,852	\$32,860	\$104,992	3.5	219,426
ECM 6	Install Daylight Dimming/Photocell Controls	5,549	0.0	0.0	\$723	\$2,000	\$0	\$2,000	2.8	5,588
ECM 7	Install High/Low Lighting Controls	35,977	5.5	-7.6	\$4,850	\$23,850	\$18,260	\$5,590	1.2	35,344
Motor Upgrades		623	0.2	0.0	\$94	\$2,321	\$0	\$2,321	24.8	627
ECM 8	Premium Efficiency Motors	623	0.2	0.0	\$94	\$2,321	\$0	\$2,321	24.8	627
Variable Frequency Drive (VFD) Measures		283,347	54.4	22.4	\$38,585	\$154,191	\$35,850	\$118,341	3.1	287,949
ECM 9	Install VFDs on Constant Volume (CV) Fans	262,732	52.3	0.0	\$35,607	\$128,288	\$30,750	\$97,538	2.7	264,569
ECM 10	Install VFDs on Heating Water Pumps	18,354	2.0	0.0	\$2,474	\$19,381	\$4,700	\$14,681	5.9	18,482
ECM 11	Install VFDs on Kitchen Hood Fan Motors	2,262	0.0	22.4	\$504	\$6,522	\$400	\$6,122	12.2	4,898
Electric Unitary HVAC Measures		45,997	31.1	51.2	\$7,095	\$260,333	\$32,409	\$227,924	32.1	52,319
ECM 12	Install High Efficiency Air Conditioning Units	39,043	27.0	51.2	\$6,022	\$236,794	\$28,009	\$208,785	34.7	45,315
ECM 13	Install High Efficiency Heat Pumps	6,955	4.2	0.0	\$1,073	\$23,540	\$4,400	\$19,140	17.8	7,003

ALL OPPORTUNITIES

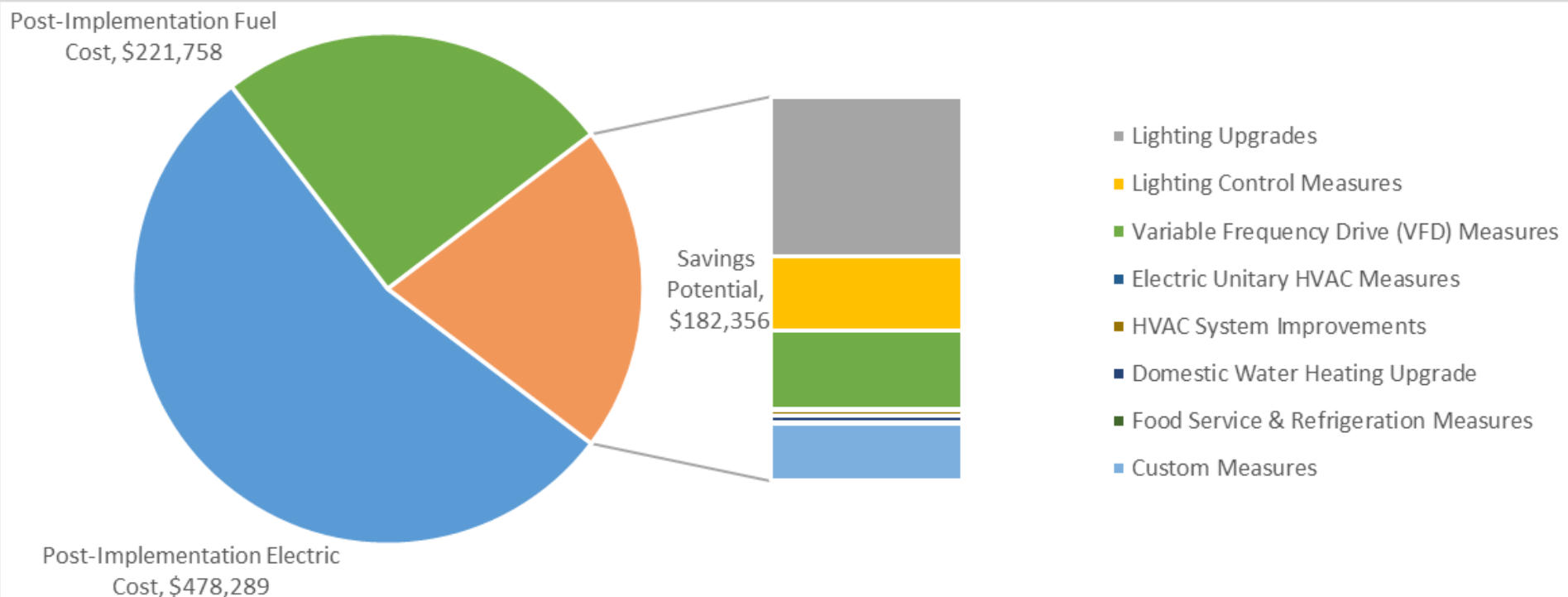
#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Gas Heating (HVAC/Process) Replacement		0	0.0	405.5	\$3,567	\$214,367	\$28,503	\$185,864	52.1	47,483
ECM 14	Install High Efficiency Hot Water Boilers	0	0.0	73.0	\$603	\$65,093	\$9,825	\$55,267	91.6	8,549
ECM 15	Install High Efficiency Steam Boilers	0	0.0	285.8	\$2,514	\$131,970	\$15,678	\$116,293	46.3	33,458
ECM 16	Install High Efficiency Furnaces	0	0.0	46.8	\$450	\$17,304	\$3,000	\$14,304	31.8	5,476
HVAC System Improvements		4,350	0.0	231.9	\$2,643	\$3,904	\$1,572	\$2,332	0.9	31,530
ECM 17	Install Programmable Thermostats	1,738	0.0	0.0	\$249	\$990	\$0	\$990	4.0	1,750
ECM 18	Install Pipe Insulation	2,612	0.0	231.9	\$2,394	\$2,914	\$1,572	\$1,342	0.6	29,780
Domestic Water Heating Upgrade		15,082	0.0	131.7	\$3,138	\$4,724	\$2,538	\$2,186	0.7	30,614
ECM 19	Install Low-Flow DHW Devices	15,082	0.0	131.7	\$3,138	\$4,724	\$2,538	\$2,186	0.7	30,614
Food Service & Refrigeration Measures		6,203	0.7	0.0	\$890	\$1,830	\$540	\$1,290	1.4	6,247
ECM 20	Refrigerator/Freezer Case Electrically Commutated Motors	1,025	0.1	0.0	\$166	\$910	\$240	\$670	4.0	1,032
ECM 21	Vending Machine Control	5,178	0.6	0.0	\$724	\$920	\$300	\$620	0.9	5,214
Custom Measures		248,451	0.0	982.8	\$41,164	\$498,019	\$0	\$498,019	12.1	365,259
ECM 22	Optimize HVAC Schedule	16,373	0.0	348.6	\$5,580	\$5,000	\$0	\$5,000	0.9	57,309
ECM 23	Installation of an Energy Management System	135,894	0.0	634.1	\$22,727	\$476,562	\$0	\$476,562	21.0	211,094
ECM 24	Install Heat Pump Water Heat	96,184	0.0	0.0	\$12,857	\$16,457	\$0	\$16,457	1.3	96,857
TOTALS		1,416,601	267.3	1,661.0	\$208,105	\$1,513,485	\$240,234	\$1,273,251	6.1	1,620,992

* - All incentives presented in this table are based on NJ Smart Start Building equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

COST EFFECTIVE OPPORTUNITIES

Savings Potential



COST EFFECTIVE OPPORTUNITIES

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		547,630	126.0	-109.8	\$75,583	\$210,094	\$87,702	\$122,392	1.6	538,608
ECM 1	Install LED Fixtures	61,806	6.7	-9.2	\$8,326	\$38,121	\$8,350	\$29,771	3.6	61,163
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	23,376	6.8	-4.8	\$3,213	\$11,355	\$3,168	\$8,187	2.5	22,976
ECM 3	Retrofit Fixtures with LED Lamps	460,480	112.3	-95.4	\$63,746	\$159,821	\$76,184	\$83,637	1.3	452,533
ECM 4	Install LED Exit Signs	1,967	0.2	-0.4	\$297	\$797	\$0	\$797	2.7	1,936
Lighting Control Measures		264,919	55.0	-54.8	\$35,346	\$163,702	\$51,120	\$112,582	3.2	260,358
ECM 5	Install Occupancy Sensor Lighting Controls	223,392	49.5	-47.2	\$29,774	\$137,852	\$32,860	\$104,992	3.5	219,426
ECM 6	Install Daylight Dimming/Photocell Controls	5,549	0.0	0.0	\$723	\$2,000	\$0	\$2,000	2.8	5,588
ECM 7	Install High/Low Lighting Controls	35,977	5.5	-7.6	\$4,850	\$23,850	\$18,260	\$5,590	1.2	35,344
Variable Frequency Drive (VFD) Measures		275,612	51.6	11.2	\$37,267	\$133,613	\$34,600	\$99,013	2.7	278,849
ECM 9	Install VFDs on Constant Volume (CV) Fans	255,939	49.5	0.0	\$34,506	\$110,971	\$29,700	\$81,271	2.4	257,729
ECM 10	Install VFDs on Heating Water Pumps	18,354	2.0	0.0	\$2,474	\$19,381	\$4,700	\$14,681	5.9	18,482
ECM 11	Install VFDs on Kitchen Hood Fan Motors	1,319	0.0	11.2	\$287	\$3,261	\$200	\$3,061	10.7	2,639
Electric Unitary HVAC Measures		4,824	2.1	0.0	\$638	\$5,989	\$300	\$5,689	8.9	4,858
ECM 12	Install High Efficiency Air Conditioning Units	3,916	1.4	0.0	\$517	\$3,453	\$0	\$3,453	6.7	3,943
ECM 13	Install High Efficiency Heat Pumps	908	0.7	0.0	\$121	\$2,536	\$300	\$2,236	18.5	915
HVAC System Improvements		4,350	0.0	231.9	\$2,643	\$3,904	\$1,572	\$2,332	0.9	31,530
ECM 17	Install Programmable Thermostats	1,738	0.0	0.0	\$249	\$990	\$0	\$990	4.0	1,750
ECM 18	Install Pipe Insulation	2,612	0.0	231.9	\$2,394	\$2,914	\$1,572	\$1,342	0.6	29,780
Domestic Water Heating Upgrade		15,082	0.0	131.7	\$3,138	\$4,724	\$2,538	\$2,186	0.7	30,614
ECM 19	Install Low-Flow DHW Devices	15,082	0.0	131.7	\$3,138	\$4,724	\$2,538	\$2,186	0.7	30,614
Food Service & Refrigeration Measures		6,203	0.7	0.0	\$890	\$1,830	\$540	\$1,290	1.4	6,247
ECM 20	Refrigerator/Freezer Case Electrically Commutated Motors	1,025	0.1	0.0	\$166	\$910	\$240	\$670	4.0	1,032
ECM 21	Vending Machine Control	5,178	0.6	0.0	\$724	\$920	\$300	\$620	0.9	5,214
Custom Measures		154,964	0.0	738.1	\$26,850	\$138,457	\$0	\$138,457	5.2	242,468
ECM 22	Optimize HVAC Schedule	16,373	0.0	348.6	\$5,580	\$5,000	\$0	\$5,000	0.9	57,309
ECM 23	Installation of an Energy Management System	42,406	0.0	389.5	\$8,413	\$117,000	\$0	\$117,000	13.9	88,302
ECM 24	Install Heat Pump Water Heat	96,184	0.0	0.0	\$12,857	\$16,457	\$0	\$16,457	1.3	96,857
TOTALS		1,273,583	235.3	948.4	\$182,356	\$662,313	\$178,372	\$483,941	2.7	1,393,531

MUNICIPAL COMPLEX

#	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			99,528	24.0	-19	\$13,083	\$33,694	\$14,350	\$19,344	1.5	97,945
ECM 1	Install LED Fixtures	Yes	5,869	0.0	0	\$781	\$2,218	\$400	\$1,818	2.3	5,910
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	1,611	0.3	0	\$212	\$583	\$108	\$475	2.2	1,583
ECM 3	Retrofit Fixtures with LED Lamps	Yes	92,048	23.7	-19	\$12,091	\$30,893	\$13,842	\$17,051	1.4	90,452
Lighting Control Measures			62,871	16.0	-13	\$8,258	\$44,793	\$17,050	\$27,743	3.4	61,771
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	47,837	13.9	-10	\$6,283	\$35,568	\$8,590	\$26,978	4.3	47,001
ECM 5	Install High/Low Lighting Controls	Yes	15,033	2.1	-3	\$1,975	\$9,225	\$8,460	\$765	0.4	14,770
Variable Frequency Drive (VFD) Measures			51,843	9.6	0	\$6,895	\$20,153	\$6,800	\$13,353	1.9	52,205
ECM 6	Install VFDs on Constant Volume (CV) Fans	Yes	51,843	9.6	0	\$6,895	\$20,153	\$6,800	\$13,353	1.9	52,205
Unitary HVAC Measures			4,787	3.9	0	\$637	\$32,013	\$3,822	\$28,191	44.3	4,821
ECM 7	Install High Efficiency Air Conditioning Units	No	3,879	3.2	0	\$516	\$29,477	\$3,522	\$25,955	50.3	3,906
ECM 8	Install High Efficiency Heat Pumps	Yes	908	0.7	0	\$121	\$2,536	\$300	\$2,236	18.5	915
Gas Heating (HVAC/Process) Replacement			0	0.0	43	\$344	\$50,510	\$7,550	\$42,959	124.8	5,086
ECM 9	Install High Efficiency Hot Water Boilers	No	0	0.0	43	\$344	\$50,510	\$7,550	\$42,959	124.8	5,086
Domestic Water Heating Upgrade			12,498	0.0	0	\$1,662	\$748	\$445	\$303	0.2	12,586
ECM 10	Install Low-Flow DHW Devices	Yes	12,498	0.0	0	\$1,662	\$748	\$445	\$303	0.2	12,586
Food Service & Refrigeration Measures			1,954	0.2	0	\$260	\$460	\$100	\$360	1.4	1,968
ECM 11	Vending Machine Control	Yes	1,954	0.2	0	\$260	\$460	\$100	\$360	1.4	1,968
Custom Measures			175,204	0.0	245	\$25,241	\$315,008	\$0	\$315,008	12.5	205,079
ECM 12	Installation of an Energy Management System	No	81,321	0.0	245	\$12,755	\$300,308	\$0	\$300,308	23.5	110,539
ECM 13	Install Heat Pump Water Heater	Yes	93,883	0.0	0	\$12,486	\$14,700	\$0	\$14,700	1.2	94,539
TOTALS (COST EFFECTIVE MEASURES)			323,486	50.5	-33	\$42,765	\$117,085	\$39,045	\$78,040	1.8	321,930
TOTALS (ALL MEASURES)			408,686	53.8	256	\$56,380	\$497,379	\$50,117	\$447,262	7.9	441,461

CITY HALL

#	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			83,588	20.2	-17	\$13,004	\$34,484	\$13,588	\$20,896	1.6	82,142
ECM 1	Install LED Fixtures	Yes	10,419	1.9	-2	\$1,622	\$3,739	\$800	\$2,939	1.8	10,253
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	2,563	0.5	-1	\$399	\$1,040	\$200	\$840	2.1	2,518
ECM 3	Retrofit Fixtures with LED Lamps	Yes	70,605	17.8	-15	\$10,984	\$29,705	\$12,588	\$17,117	1.6	69,371
Lighting Control Measures			26,932	6.6	-6	\$4,190	\$17,237	\$4,920	\$12,317	2.9	26,461
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	21,726	5.6	-5	\$3,380	\$14,312	\$3,530	\$10,782	3.2	21,346
ECM 5	Install High/Low Lighting Controls	Yes	5,206	1.0	-1	\$810	\$2,925	\$1,390	\$1,535	1.9	5,115
Variable Frequency Drive (VFD) Measures			10,863	2.4	0	\$1,711	\$7,495	\$2,100	\$5,395	3.2	10,939
ECM 6	Install VFDs on Constant Volume (CV) Fans	Yes	10,863	2.4	0	\$1,711	\$7,495	\$2,100	\$5,395	3.2	10,939
Unitary HVAC Measures			9,540	5.5	0	\$1,502	\$48,649	\$5,465	\$43,184	28.7	9,607
ECM 7	Install High Efficiency Air Conditioning Units	No	3,494	2.0	0	\$550	\$27,645	\$1,365	\$26,280	47.8	3,519
ECM 8	Install High Efficiency Heat Pumps	No	6,046	3.5	0	\$952	\$21,003	\$4,100	\$16,903	17.8	6,089
Gas Heating (HVAC/Process) Replacement			0	0.0	167	\$1,533	\$47,341	\$5,624	\$41,717	27.2	19,556
ECM 9	Install High Efficiency Steam Boilers	No	0	0.0	167	\$1,533	\$47,341	\$5,624	\$41,717	27.2	19,556
HVAC System Improvements			0	0.0	54	\$496	\$492	\$208	\$284	0.6	6,323
ECM 10	Install Pipe Insulation	Yes	0	0.0	54	\$496	\$492	\$208	\$284	0.6	6,323
Domestic Water Heating Upgrade			0	0.0	5	\$50	\$86	\$83	\$3	0.1	634
ECM 11	Install Low-Flow DHW Devices	Yes	0	0.0	5	\$50	\$86	\$83	\$3	0.1	634
Food Service & Refrigeration Measures			1,612	0.2	0	\$254	\$230	\$100	\$130	0.5	1,623
ECM 12	Vending Machine Control	Yes	1,612	0.2	0	\$254	\$230	\$100	\$130	0.5	1,623
TOTALS (COST EFFECTIVE MEASURES)			122,994	29.5	36	\$19,704	\$60,023	\$20,999	\$39,024	2.0	128,122
TOTALS (ALL MEASURES)			132,535	35.0	203	\$22,739	\$156,013	\$32,088	\$123,925	5.4	157,285

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

BOARD OF HEALTH

#	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			73,246	16.8	-14	\$9,694	\$25,456	\$11,642	\$13,814	1.4	72,083
ECM 1	Install LED Fixtures	Yes	4,811	0.0	0	\$643	\$1,664	\$300	\$1,364	2.1	4,845
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	1,306	0.9	0	\$173	\$1,205	\$310	\$895	5.2	1,283
ECM 3	Retrofit Fixtures with LED Lamps	Yes	67,129	15.9	-14	\$8,878	\$22,587	\$11,032	\$11,555	1.3	65,955
Lighting Control Measures			19,594	4.5	-4	\$2,592	\$11,715	\$4,355	\$7,360	2.8	19,254
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	14,611	3.8	-3	\$1,932	\$9,490	\$2,330	\$7,160	3.7	14,356
ECM 5	Install Photocell Controls	Yes	131	0.0	0	\$18	\$200	\$0	\$200	11.4	132
ECM 6	Install High/Low Lighting Controls	Yes	4,851	0.7	-1	\$642	\$2,025	\$2,025	\$0	0.0	4,766
Variable Frequency Drive (VFD) Measures			173,314	29.3	0	\$23,177	\$48,001	\$16,500	\$31,501	1.4	174,526
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	158,057	27.5	0	\$21,136	\$34,640	\$12,100	\$22,540	1.1	159,162
ECM 8	Install VFDs on Heating Water Pumps	Yes	15,258	1.9	0	\$2,040	\$13,360	\$4,400	\$8,960	4.4	15,364
Unitary HVAC Measures			7,543	3.3	16	\$1,123	\$26,847	\$3,400	\$23,447	20.9	9,495
ECM 9	Install High Efficiency Air Conditioning Units	No	7,543	3.3	16	\$1,123	\$26,847	\$3,400	\$23,447	20.9	9,495
HVAC System Improvements			0	0.0	28	\$199	\$230	\$128	\$102	0.5	3,309
ECM 10	Install Pipe Insulation	Yes	0	0.0	28	\$199	\$230	\$128	\$102	0.5	3,309
Domestic Water Heating Upgrade			0	0.0	31	\$220	\$287	\$249	\$38	0.2	3,660
ECM 11	Install Low-Flow DHW Devices	Yes	0	0.0	31	\$220	\$287	\$249	\$38	0.2	3,660
Custom Measures			42,406	0.0	389	\$8,413	\$117,000	\$0	\$117,000	13.9	88,302
ECM 12	Installation of an Energy Management System	Yes	42,406	0.0	389	\$8,413	\$117,000	\$0	\$117,000	13.9	88,302
TOTALS (COST EFFECTIVE MEASURES)			308,561	50.7	431	\$44,294	\$202,689	\$32,874	\$169,816	3.8	361,135
TOTALS (ALL MEASURES)			316,104	54.0	447	\$45,417	\$229,537	\$36,274	\$193,263	4.3	370,629

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

OFFICE OF RECREATION

#	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			27,293	7.6	-6	\$3,811	\$10,807	\$5,250	\$5,557	1.5	26,816
ECM 1	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	5,558	1.5	-1	\$776	\$2,250	\$750	\$1,500	1.9	5,461
ECM 2	Retrofit Fixtures with LED Lamps	Yes	21,735	6.1	-5	\$3,035	\$8,557	\$4,500	\$4,057	1.3	21,355
Lighting Control Measures			7,872	2.2	-2	\$1,099	\$5,414	\$1,270	\$4,144	3.8	7,734
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	7,229	2.0	-2	\$1,009	\$4,514	\$610	\$3,904	3.9	7,103
ECM 4	Install High/Low Lighting Controls	Yes	643	0.2	0	\$90	\$900	\$660	\$240	2.7	631
Motor Upgrades			156	0.0	0	\$22	\$837	\$0	\$837	38.0	157
ECM 5	Premium Efficiency Motors	No	156	0.0	0	\$22	\$837	\$0	\$837	38.0	157
Unitary HVAC Measures			2,455	1.0	0	\$347	\$12,572	\$1,260	\$11,312	32.6	2,472
ECM 6	Install High Efficiency Air Conditioning Units	No	2,455	1.0	0	\$347	\$12,572	\$1,260	\$11,312	32.6	2,472
Gas Heating (HVAC/Process) Replacement			0	0.0	48	\$409	\$34,324	\$4,078	\$30,247	74.0	5,596
ECM 7	Install High Efficiency Steam Boilers	No	0	0.0	48	\$409	\$34,324	\$4,078	\$30,247	74.0	5,596
HVAC System Improvements			0	0.0	4	\$30	\$104	\$72	\$32	1.1	413
ECM 8	Install Pipe Insulation	Yes	0	0.0	4	\$30	\$104	\$72	\$32	1.1	413
Domestic Water Heating Upgrade			0	0.0	1	\$12	\$22	\$22	\$0	0.0	167
ECM 9	Install Low-Flow DHW Devices	Yes	0	0.0	1	\$12	\$22	\$22	\$0	0.0	167
TOTALS (COST EFFECTIVE MEASURES)			35,165	9.8	-2	\$4,953	\$16,347	\$6,614	\$9,733	2.0	35,130
TOTALS (ALL MEASURES)			37,775	10.9	45	\$5,731	\$64,080	\$11,951	\$52,129	9.1	43,354

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

DPW CITY YARD

MAIN BUILDING, OLD & NEW GARAGE

#	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			19,429	2.6	-3	\$2,594	\$9,788	\$4,750	\$5,038	1.9	19,177
ECM 1	Install LED Fixtures	Yes	14,243	0.9	-2	\$1,905	\$6,816	\$3,650	\$3,166	1.7	14,095
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	3,680	1.2	-1	\$489	\$2,205	\$680	\$1,525	3.1	3,607
ECM 3	Retrofit Fixtures with LED Lamps	Yes	1,505	0.5	0	\$200	\$767	\$420	\$347	1.7	1,475
Lighting Control Measures			3,958	0.7	-1	\$526	\$4,275	\$770	\$3,505	6.7	3,879
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	3,878	0.7	-1	\$516	\$4,050	\$630	\$3,420	6.6	3,800
ECM 5	Install High/Low Lighting Controls	Yes	80	0.0	0	\$11	\$225	\$140	\$85	7.9	79
Domestic Water Heating Upgrade			556	0.0	0	\$75	\$29	\$29	\$0	0.0	560
ECM 6	Install Low-Flow DHW Devices	Yes	556	0.0	0	\$75	\$29	\$29	\$0	0.0	560
TOTALS (COST EFFECTIVE MEASURES)			23,943	3.3	-4	\$3,196	\$14,091	\$5,549	\$8,543	2.7	23,616
TOTALS (ALL MEASURES)			23,943	3.3	-4	\$3,196	\$14,091	\$5,549	\$8,543	2.7	23,616

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

DPW HEADQUARTERS

#	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			3,064	0.4	0	\$396	\$1,225	\$366	\$859	2.2	3,046
ECM 1	Install LED Fixtures	Yes	1,625	0.0	0	\$212	\$555	\$100	\$455	2.1	1,636
ECM 2	Retrofit Fixtures with LED Lamps	Yes	1,439	0.4	0	\$184	\$670	\$266	\$404	2.2	1,410
Lighting Control Measures			15,871	2.8	-3	\$2,044	\$6,670	\$1,400	\$5,270	2.6	15,687
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	10,943	2.8	-3	\$1,402	\$5,670	\$1,400	\$4,270	3.0	10,725
ECM 4	Install Photocell Controls	Yes	4,928	0.0	0	\$643	\$1,000	\$0	\$1,000	1.6	4,962
HVAC System Improvements			2,374	0.0	7	\$379	\$281	\$180	\$101	0.3	3,190
ECM 5	Install Pipe Insulation	Yes	2,374	0.0	7	\$379	\$281	\$180	\$101	0.3	3,190
Domestic Water Heating Upgrade			1,439	0.0	0	\$188	\$36	\$36	\$0	0.0	1,449
ECM 6	Install Low-Flow DHW Devices	Yes	1,439	0.0	0	\$188	\$36	\$36	\$0	0.0	1,449
Custom Measures			2,448	0.0	161	\$1,955	\$3,000	\$0	\$3,000	1.5	21,358
ECM 7	Optimize HVAC Schedule	Yes	2,448	0.0	161	\$1,955	\$3,000	\$0	\$3,000	1.5	21,358
TOTALS (COST EFFECTIVE MEASURES)			25,196	3.1	165	\$4,962	\$11,212	\$1,982	\$9,230	1.9	44,730
TOTALS (ALL MEASURES)			25,196	3.1	165	\$4,962	\$11,212	\$1,982	\$9,230	1.9	44,730

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125 ELLISON ST ADMIN OFFICES

#	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			31,319	13.5	-7	\$4,738	\$18,965	\$9,364	\$9,601	2.0	30,771
ECM 1	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	47	0.1	0	\$7	\$129	\$40	\$89	12.4	46
ECM 2	Retrofit Fixtures with LED Lamps	Yes	29,440	13.2	-6	\$4,454	\$18,112	\$9,324	\$8,788	2.0	28,925
ECM 3	Install LED Exit Signs	Yes	1,831	0.2	0	\$277	\$724	\$0	\$724	2.6	1,799
Lighting Control Measures			8,942	4.0	-2	\$1,353	\$12,782	\$3,825	\$8,957	6.6	8,785
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	8,620	3.9	-2	\$1,304	\$11,882	\$3,110	\$8,772	6.7	8,469
ECM 5	Install High/Low Lighting Controls	Yes	322	0.1	0	\$49	\$900	\$715	\$185	3.8	316
Variable Frequency Drive (VFD) Measures			8,752	5.7	0	\$1,339	\$16,305	\$7,200	\$9,105	6.8	8,813
ECM 6	Install VFDs on Constant Volume (CV) Fans	Yes	8,752	5.7	0	\$1,339	\$16,305	\$7,200	\$9,105	6.8	8,813
Unitary HVAC Measures			5,453	9.4	0	\$834	\$76,533	\$10,680	\$65,853	78.9	5,491
ECM 7	Install High Efficiency Air Conditioning Units	No	5,453	9.4	0	\$834	\$76,533	\$10,680	\$65,853	78.9	5,491
Gas Heating (HVAC/Process) Replacement			0	0.0	79	\$635	\$57,484	\$7,096	\$50,388	79.3	9,213
ECM 8	Install High Efficiency Hot Water Boilers	No	0	0.0	8	\$62	\$7,179	\$1,120	\$6,059	97.0	906
ECM 9	Install High Efficiency Steam Boilers	No	0	0.0	71	\$573	\$50,305	\$5,976	\$44,329	77.4	8,306
Domestic Water Heating Upgrade			0	0.0	7	\$56	\$122	\$109	\$13	0.2	814
ECM 10	Install Low-Flow DHW Devices	Yes	0	0.0	7	\$56	\$122	\$109	\$13	0.2	814
TOTALS (COST EFFECTIVE MEASURES)			49,012	23.2	-1	\$7,485	\$48,173	\$20,498	\$27,675	3.7	49,183
TOTALS (ALL MEASURES)			54,465	32.6	77	\$8,955	\$182,190	\$38,274	\$143,916	16.1	63,887

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

ANIMAL SHELTER

#	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			3,582	0.9	0	\$530	\$2,160	\$770	\$1,390	2.6	3,607
ECM 1	Install LED Fixtures	Yes	1,270	0.0	0	\$188	\$692	\$200	\$492	2.6	1,279
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	842	0.3	0	\$124	\$575	\$140	\$435	3.5	848
ECM 3	Retrofit Fixtures with LED Lamps	Yes	1,334	0.6	0	\$197	\$821	\$430	\$391	2.0	1,343
ECM 4	Install LED Exit Signs	Yes	136	0.0	0	\$20	\$72	\$0	\$72	3.6	137
Lighting Control Measures			488	0.2	0	\$72	\$1,196	\$250	\$946	13.1	491
ECM 5	Install Occupancy Sensor Lighting Controls	Yes	488	0.2	0	\$72	\$1,196	\$250	\$946	13.1	491
Domestic Water Heating Upgrade			254	0.0	0	\$37	\$22	\$15	\$6	0.2	255
ECM 6	Install Low-Flow DHW Devices	Yes	254	0.0	0	\$37	\$22	\$15	\$6	0.2	255
TOTALS (COST EFFECTIVE MEASURES)			4,324	1.1	0	\$639	\$3,378	\$1,035	\$2,343	3.7	4,354
TOTALS (ALL MEASURES)			4,324	1.1	0	\$639	\$3,378	\$1,035	\$2,343	3.7	4,354

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

TRAFFIC DIVISION & RECYCLING

#	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			19,385	3.7	-4	\$2,551	\$5,174	\$1,954	\$3,220	1.3	19,072
ECM 1	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	7,309	1.5	-2	\$961	\$2,336	\$700	\$1,636	1.7	7,178
ECM 2	Retrofit Fixtures with LED Lamps	Yes	12,076	2.3	-2	\$1,590	\$2,837	\$1,254	\$1,583	1.0	11,894
Lighting Control Measures			6,978	1.4	-1	\$917	\$4,957	\$1,130	\$3,827	4.2	6,853
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	6,691	1.4	-1	\$880	\$4,282	\$1,130	\$3,152	3.6	6,571
ECM 4	Install High/Low Lighting Controls	Yes	287	0.0	0	\$38	\$675	\$0	\$675	17.9	282
Unitary HVAC Measures			2,328	0.8	14	\$440	\$8,210	\$618	\$7,592	17.3	3,944
ECM 5	Install High Efficiency Air Conditioning Units	No	2,328	0.8	14	\$440	\$8,210	\$618	\$7,592	17.3	3,944
HVAC System Improvements			0	0.0	1	\$6	\$12	\$8	\$4	0.5	80
ECM 6	Install Pipe Insulation	Yes	0	0.0	1	\$6	\$12	\$8	\$4	0.5	80
Domestic Water Heating Upgrade			0	0.0	2	\$18	\$29	\$29	\$0	0.0	222
ECM 7	Install Low-Flow DHW Devices	Yes	0	0.0	2	\$18	\$29	\$29	\$0	0.0	222
Custom Measures			13,925	0.0	187	\$3,625	\$2,000	\$0	\$2,000	0.6	35,951
ECM 8	Optimize HVAC Schedule	Yes	13,925	0.0	187	\$3,625	\$2,000	\$0	\$2,000	0.6	35,951
TOTALS (COST EFFECTIVE MEASURES)			40,288	5.1	185	\$7,118	\$12,171	\$3,121	\$9,050	1.3	62,178
TOTALS (ALL MEASURES)			42,616	5.9	198	\$7,557	\$20,380	\$3,739	\$16,642	2.2	66,122

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

RIVERSIDE VETS

#	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			18,062	6.7	-3	\$2,893	\$9,320	\$4,486	\$4,834	1.7	17,784
ECM 1	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	320	0.1	0	\$51	\$169	\$40	\$129	2.5	315
ECM 2	Retrofit Fixtures with LED Lamps	Yes	17,742	6.6	-3	\$2,842	\$9,151	\$4,446	\$4,705	1.7	17,470
Lighting Control Measures			4,286	1.8	-1	\$686	\$3,967	\$965	\$3,002	4.4	4,211
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	3,935	1.7	-1	\$630	\$3,742	\$740	\$3,002	4.8	3,866
ECM 4	Install High/Low Lighting Controls	Yes	351	0.1	0	\$56	\$225	\$225	\$0	0.0	345
Variable Frequency Drive (VFD) Measures			6,793	2.7	0	\$1,101	\$17,317	\$1,050	\$16,267	14.8	6,840
ECM 5	Install VFDs on Constant Volume (CV) Fans	No	6,793	2.7	0	\$1,101	\$17,317	\$1,050	\$16,267	14.8	6,840
Gas Heating (HVAC/Process) Replacement			0	0.0	47	\$450	\$17,304	\$3,000	\$14,304	31.8	5,476
ECM 6	Install High Efficiency Furnaces	No	0	0.0	47	\$450	\$17,304	\$3,000	\$14,304	31.8	5,476
HVAC System Improvements			0	0.0	2	\$20	\$35	\$24	\$11	0.5	241
ECM 7	Install Pipe Insulation	Yes	0	0.0	2	\$20	\$35	\$24	\$11	0.5	241
Domestic Water Heating Upgrade			0	0.0	2	\$22	\$43	\$37	\$6	0.3	268
ECM 8	Install Low-Flow DHW Devices	Yes	0	0.0	2	\$22	\$43	\$37	\$6	0.3	268
Food Service & Refrigeration Measures			1,025	0.1	0	\$166	\$910	\$240	\$670	4.0	1,032
ECM 9	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	1,025	0.1	0	\$166	\$910	\$240	\$670	4.0	1,032
TOTALS (COST EFFECTIVE MEASURES)			23,373	8.6	0	\$3,787	\$14,275	\$5,752	\$8,523	2.3	23,536
TOTALS (ALL MEASURES)			30,166	11.4	47	\$5,337	\$48,896	\$9,802	\$39,094	7.3	35,852

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

SOUTH PATERSON LIBRARY

#	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			10,371	4.1	-2	\$1,545	\$6,166	\$2,284	\$3,882	2.5	10,197
ECM 1	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	139	0.5	0	\$21	\$864	\$200	\$664	32.1	136
ECM 2	Retrofit Fixtures with LED Lamps	Yes	10,232	3.6	-2	\$1,525	\$5,302	\$2,084	\$3,218	2.1	10,061
Lighting Control Measures			4,930	1.8	-1	\$734	\$7,496	\$2,085	\$5,411	7.4	4,842
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	4,296	1.7	-1	\$640	\$6,596	\$1,370	\$5,226	8.2	4,219
ECM 4	Install High/Low Lighting Controls	Yes	635	0.1	0	\$95	\$900	\$715	\$185	2.0	623
Motor Upgrades			352	0.1	0	\$53	\$1,131	\$0	\$1,131	21.3	354
ECM 5	Premium Efficiency Motors	No	352	0.1	0	\$53	\$1,131	\$0	\$1,131	21.3	354
Unitary HVAC Measures			4,555	3.1	20	\$906	\$27,065	\$4,420	\$22,645	25.0	6,967
ECM 6	Install High Efficiency Air Conditioning Units	No	4,555	3.1	20	\$906	\$27,065	\$4,420	\$22,645	25.0	6,967
HVAC System Improvements			0	0.0	1	\$15	\$23	\$16	\$7	0.5	160
ECM 7	Install Pipe Insulation	Yes	0	0.0	1	\$15	\$23	\$16	\$7	0.5	160
Domestic Water Heating Upgrade			0	0.0	4	\$40	\$65	\$58	\$6	0.2	435
ECM 8	Install Low-Flow DHW Devices	Yes	0	0.0	4	\$40	\$65	\$58	\$6	0.2	435
TOTALS (COST EFFECTIVE MEASURES)			15,301	5.9	2	\$2,334	\$13,749	\$4,443	\$9,306	4.0	15,634
TOTALS (ALL MEASURES)			20,208	9.1	22	\$3,293	\$41,946	\$8,863	\$33,083	10.0	22,955

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

FIRE HEADQUARTERS

#	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			89,714	15.4	-19	\$11,328	\$37,591	\$11,200	\$26,391	2.3	88,105
ECM 1	Install LED Fixtures	Yes	23,568	3.9	-5	\$2,976	\$22,437	\$2,900	\$19,537	6.6	23,145
ECM 2	Retrofit Fixtures with LED Lamps	Yes	66,146	11.5	-14	\$8,352	\$15,154	\$8,300	\$6,854	0.8	64,959
Lighting Control Measures			22,844	3.8	-5	\$2,885	\$19,872	\$7,075	\$12,797	4.4	22,446
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	19,659	3.3	-4	\$2,482	\$16,372	\$4,690	\$11,682	4.7	19,306
ECM 4	Install Photocell Controls	Yes	491	0.0	0	\$63	\$800	\$0	\$800	12.7	494
ECM 5	Install High/Low Lighting Controls	Yes	2,694	0.4	-1	\$340	\$2,700	\$2,385	\$315	0.9	2,646
Variable Frequency Drive (VFD) Measures			18,730	3.1	11	\$2,495	\$26,866	\$1,300	\$25,566	10.2	20,172
ECM 6	Install VFDs on Constant Volume (CV) Fans	Yes	17,788	3.1	0	\$2,279	\$23,605	\$1,100	\$22,505	9.9	17,912
ECM 7	Install VFDs on Kitchen Hood Fan Motors	No	943	0.0	11	\$217	\$3,261	\$200	\$3,061	14.1	2,260
HVAC System Improvements			0	0.0	16	\$133	\$213	\$140	\$73	0.6	1,820
ECM 8	Install Pipe Insulation	Yes	0	0.0	16	\$133	\$213	\$140	\$73	0.6	1,820
Domestic Water Heating Upgrade			0	0.0	30	\$260	\$1,258	\$537	\$721	2.8	3,548
ECM 9	Install Low-Flow DHW Devices	Yes	0	0.0	30	\$260	\$1,258	\$537	\$721	2.8	3,548
Custom Measures			12,167	0.0	0	\$1,559	\$59,254	\$0	\$59,254	38.0	12,252
ECM 10	Installation of an Energy Management System	No	12,167	0.0	0	\$1,559	\$59,254	\$0	\$59,254	38.0	12,252
TOTALS (COST EFFECTIVE MEASURES)			130,346	22.3	22	\$16,886	\$82,539	\$20,052	\$62,487	3.7	133,831
TOTALS (ALL MEASURES)			143,455	22.3	33	\$18,662	\$145,054	\$20,252	\$124,802	6.7	148,343

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

MADISON AVE FIREHOUSE

#	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			52,898	7.4	-11	\$7,303	\$11,261	\$5,864	\$5,397	0.7	51,949
ECM 1	Retrofit Fixtures with LED Lamps	Yes	52,898	7.4	-11	\$7,303	\$11,261	\$5,864	\$5,397	0.7	51,949
Lighting Control Measures			21,952	3.2	-5	\$3,031	\$6,790	\$1,925	\$4,865	1.6	21,558
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	19,081	2.9	-4	\$2,634	\$5,440	\$1,180	\$4,260	1.6	18,738
ECM 3	Install High/Low Lighting Controls	Yes	2,871	0.3	-1	\$396	\$1,350	\$745	\$605	1.5	2,820
Variable Frequency Drive (VFD) Measures			8,709	0.8	11	\$1,322	\$12,542	\$700	\$11,842	9.0	10,080
ECM 4	Install VFDs on Constant Volume (CV) Fans	Yes	4,294	0.6	0	\$601	\$3,261	\$200	\$3,061	5.1	4,324
ECM 5	Install VFDs on Heating Water Pumps	Yes	3,096	0.2	0	\$433	\$6,020	\$300	\$5,720	13.2	3,118
ECM 6	Install VFDs on Kitchen Hood Fan Motors	Yes	1,319	0.0	11	\$287	\$3,261	\$200	\$3,061	10.7	2,639
Unitary HVAC Measures			4,481	1.9	1	\$637	\$18,585	\$2,009	\$16,576	26.0	4,635
ECM 7	Install High Efficiency Air Conditioning Units	No	4,481	1.9	1	\$637	\$18,585	\$2,009	\$16,576	26.0	4,635
Domestic Water Heating Upgrade			0	0.0	12	\$111	\$383	\$202	\$181	1.6	1,417
ECM 8	Install Low-Flow DHW Devices	Yes	0	0.0	12	\$111	\$383	\$202	\$181	1.6	1,417
TOTALS (COST EFFECTIVE MEASURES)			83,559	11.4	7	\$11,767	\$30,976	\$8,691	\$22,285	1.9	85,003
TOTALS (ALL MEASURES)			88,040	13.2	8	\$12,404	\$49,560	\$10,700	\$38,861	3.1	89,638

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

LAKEVIEW FIREHOUSE

#	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			4,670	0.4	-1	\$557	\$548	\$300	\$248	0.4	4,586
ECM 1	Retrofit Fixtures with LED Lamps	Yes	4,670	0.4	-1	\$557	\$548	\$300	\$248	0.4	4,586
Lighting Control Measures			14,767	1.5	-3	\$1,762	\$4,341	\$750	\$3,591	2.0	14,502
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	14,024	1.4	-3	\$1,674	\$3,666	\$750	\$2,916	1.7	13,772
ECM 3	Install High/Low Lighting Controls	Yes	743	0.1	0	\$89	\$675	\$0	\$675	7.6	730
HVAC System Improvements			0	0.0	2	\$23	\$108	\$60	\$48	2.1	251
ECM 4	Install Pipe Insulation	Yes	0	0.0	2	\$23	\$108	\$60	\$48	2.1	251
Domestic Water Heating Upgrade			0	0.0	5	\$54	\$236	\$114	\$122	2.2	595
ECM 5	Install Low-Flow DHW Devices	Yes	0	0.0	5	\$54	\$236	\$114	\$122	2.2	595
TOTALS (COST EFFECTIVE MEASURES)			19,437	1.9	3	\$2,397	\$5,233	\$1,224	\$4,008	1.7	19,934
TOTALS (ALL MEASURES)			19,437	1.9	3	\$2,397	\$5,233	\$1,224	\$4,008	1.7	19,934

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

RIVERSIDE FIREHOUSE

#	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 Control Measures			6,578	0.7	-1	\$598	\$2,077	\$500	\$1,577	2.6	6,460
ECM 1	Install Occupancy Sensor Lighting Controls	Yes	6,008	0.6	-1	\$546	\$1,852	\$500	\$1,352	2.5	5,900
ECM 2	Install High/Low Lighting Controls	Yes	570	0.1	0	\$52	\$225	\$0	\$225	4.3	560
Gas Heating (HVAC/Process) Replacement			0	0.0	22	\$197	\$7,404	\$1,155	\$6,249	31.8	2,557
ECM 3	Install High Efficiency Hot Water Boilers	No	0	0.0	22	\$197	\$7,404	\$1,155	\$6,249	31.8	2,557
HVAC System Improvements			0	0.0	29	\$263	\$372	\$180	\$192	0.7	3,418
ECM 4	Install Pipe Insulation	Yes	0	0.0	29	\$263	\$372	\$180	\$192	0.7	3,418
Domestic Water Heating Upgrade			0	0.0	6	\$50	\$222	\$100	\$122	2.5	645
ECM 5	Install Low-Flow DHW Devices	Yes	0	0.0	6	\$50	\$222	\$100	\$122	2.5	645
TOTALS (COST EFFECTIVE MEASURES)			6,578	0.7	33	\$910	\$2,670	\$780	\$1,890	2.1	10,523
TOTALS (ALL MEASURES)			6,578	0.7	55	\$1,106	\$10,074	\$1,935	\$8,139	7.4	13,080

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

HILLCREST FIREHOUSE

#	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			4,045	0.5	-1	\$531	\$928	\$390	\$538	1.0	3,973
ECM 1	Retrofit Fixtures with LED Lamps	Yes	4,045	0.5	-1	\$531	\$928	\$390	\$538	1.0	3,973
Lighting Control Measures			11,120	1.1	-2	\$1,458	\$1,890	\$490	\$1,400	1.0	10,921
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	11,120	1.1	-2	\$1,458	\$1,890	\$490	\$1,400	1.0	10,921
HVAC System Improvements			0	0.0	19	\$181	\$193	\$96	\$97	0.5	2,275
ECM 3	Install Pipe Insulation	Yes	0	0.0	19	\$181	\$193	\$96	\$97	0.5	2,275
Domestic Water Heating Upgrade			0	0.0	5	\$47	\$207	\$89	\$119	2.5	589
ECM 4	Install Low-Flow DHW Devices	Yes	0	0.0	5	\$47	\$207	\$89	\$119	2.5	589
TOTALS (COST EFFECTIVE MEASURES)			15,165	1.6	21	\$2,217	\$3,218	\$1,065	\$2,153	1.0	17,757
TOTALS (ALL MEASURES)			15,165	1.6	21	\$2,217	\$3,218	\$1,065	\$2,153	1.0	17,757

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

SOUTHSIDE FIREHOUSE

#	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			39	0.0	0	\$5	\$37	\$20	\$17	3.3	38
ECM 1	Retrofit Fixtures with LED Lamps	Yes	39	0.0	0	\$5	\$37	\$20	\$17	3.3	38
Lighting Control Measures			8,198	0.8	-2	\$1,052	\$2,392	\$600	\$1,792	1.7	8,050
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	8,198	0.8	-2	\$1,052	\$2,392	\$600	\$1,792	1.7	8,050
Unitary HVAC Measures			3,212	0.9	0	\$418	\$2,251	\$0	\$2,251	5.4	3,234
ECM 3	Install High Efficiency Air Conditioning Units	Yes	3,212	0.9	0	\$418	\$2,251	\$0	\$2,251	5.4	3,234
HVAC System Improvements			0	0.0	19	\$163	\$262	\$140	\$122	0.8	2,168
ECM 4	Install Pipe Insulation	Yes	0	0.0	19	\$163	\$262	\$140	\$122	0.8	2,168
Domestic Water Heating Upgrade			0	0.0	11	\$98	\$497	\$197	\$300	3.1	1,297
ECM 5	Install Low-Flow DHW Devices	Yes	0	0.0	11	\$98	\$497	\$197	\$300	3.1	1,297
Food Service & Refrigeration Measures			1,612	0.2	0	\$210	\$230	\$100	\$130	0.6	1,623
ECM 6	Vending Machine Control	Yes	1,612	0.2	0	\$210	\$230	\$100	\$130	0.6	1,623
TOTALS (COST EFFECTIVE MEASURES)			13,060	1.9	28	\$1,946	\$5,669	\$1,057	\$4,612	2.4	16,411
TOTALS (ALL MEASURES)			13,060	1.9	28	\$1,946	\$5,669	\$1,057	\$4,612	2.4	16,411

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

NORTHSIDE FIREHOUSE

#	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			3,444	0.3	-1	\$426	\$402	\$220	\$182	0.4	3,382
ECM 1	Retrofit Fixtures with LED Lamps	Yes	3,444	0.3	-1	\$426	\$402	\$220	\$182	0.4	3,382
Lighting Control Measures			15,983	1.5	-3	\$1,978	\$5,220	\$1,640	\$3,580	1.8	15,697
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	14,293	1.4	-3	\$1,769	\$4,320	\$840	\$3,480	2.0	14,036
ECM 3	Install High/Low Lighting Controls	Yes	1,691	0.2	0	\$209	\$900	\$800	\$100	0.5	1,660
Variable Frequency Drive (VFD) Measures			4,343	0.5	0	\$546	\$5,513	\$200	\$5,313	9.7	4,374
ECM 4	Install VFDs on Constant Volume (CV) Fans	Yes	4,343	0.5	0	\$546	\$5,513	\$200	\$5,313	9.7	4,374
HVAC System Improvements			0	0.0	48	\$420	\$512	\$272	\$240	0.6	5,573
ECM 5	Install Pipe Insulation	Yes	0	0.0	48	\$420	\$512	\$272	\$240	0.6	5,573
Domestic Water Heating Upgrade			0	0.0	10	\$86	\$415	\$171	\$244	2.8	1,136
ECM 6	Install Low-Flow DHW Devices	Yes	0	0.0	10	\$86	\$415	\$171	\$244	2.8	1,136
TOTALS (COST EFFECTIVE MEASURES)			23,770	2.4	53	\$3,456	\$12,061	\$2,503	\$9,558	2.8	30,161
TOTALS (ALL MEASURES)			23,770	2.4	53	\$3,456	\$12,061	\$2,503	\$9,558	2.8	30,161

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

DPW CARRIAGE HOUSE

#	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			2,082	0.6	0	\$293	\$1,119	\$504	\$615	2.1	2,096
ECM 1	Retrofit Fixtures with LED Lamps	Yes	2,082	0.6	0	\$293	\$1,119	\$504	\$615	2.1	2,096
Lighting Control Measures			525	0.2	0	\$74	\$232	\$80	\$152	2.1	528
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	525	0.2	0	\$74	\$232	\$80	\$152	2.1	528
Unitary HVAC Measures			704	0.5	0	\$99	\$1,201	\$0	\$1,201	12.1	709
ECM 3	Install High Efficiency Air Conditioning Units	Yes	704	0.5	0	\$99	\$1,201	\$0	\$1,201	12.1	709
HVAC System Improvements			1,523	0.0	0	\$215	\$660	\$0	\$660	3.1	1,534
ECM 4	Install Programmable Thermostats	Yes	1,523	0.0	0	\$215	\$660	\$0	\$660	3.1	1,534
Domestic Water Heating Upgrade			57	0.0	0	\$8	\$7	\$4	\$3	0.4	58
ECM 5	Install Low-Flow DHW Devices	Yes	57	0.0	0	\$8	\$7	\$4	\$3	0.4	58
TOTALS (COST EFFECTIVE MEASURES)			4,891	1.3	0	\$689	\$3,219	\$588	\$2,631	3.8	4,925
TOTALS (ALL MEASURES)			4,891	1.3	0	\$689	\$3,219	\$588	\$2,631	3.8	4,925

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

DPW WHITE HOUSE

#	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			1,872	0.9	0	\$298	\$971	\$400	\$571	1.9	1,839
ECM 1	Retrofit Fixtures with LED Lamps	Yes	1,872	0.9	0	\$298	\$971	\$400	\$571	1.9	1,839
Lighting Control Measures			231	0.2	0	\$37	\$386	\$40	\$346	9.4	227
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	231	0.2	0	\$37	\$386	\$40	\$346	9.4	227
Motor Upgrades			115	0.0	0	\$19	\$352	\$0	\$352	19.0	116
ECM 3	Premium Efficiency Motors	No	115	0.0	0	\$19	\$352	\$0	\$352	19.0	116
Unitary HVAC Measures			938	0.9	0	\$151	\$6,407	\$735	\$5,672	37.5	944
ECM 4	Install High Efficiency Air Conditioning Units	No	938	0.9	0	\$151	\$6,407	\$735	\$5,672	37.5	944
HVAC System Improvements			452	0.0	3	\$101	\$408	\$48	\$360	3.6	775
ECM 5	Install Programmable Thermostats	Yes	214	0.0	0	\$35	\$330	\$0	\$330	9.5	216
ECM 6	Install Pipe Insulation	Yes	238	0.0	3	\$66	\$78	\$48	\$30	0.4	559
Domestic Water Heating Upgrade			278	0.0	0	\$45	\$14	\$14	\$0	0.0	280
ECM 7	Install Low-Flow DHW Devices	Yes	278	0.0	0	\$45	\$14	\$14	\$0	0.0	280
Custom Measures			2,301	0.0	0	\$371	\$1,757	\$0	\$1,757	4.7	2,317
ECM 8	Install Heat Pump Water Heater	Yes	2,301	0.0	0	\$371	\$1,757	\$0	\$1,757	4.7	2,317
TOTALS (COST EFFECTIVE MEASURES)			5,134	1.0	2	\$851	\$3,535	\$502	\$3,033	3.6	5,438
TOTALS (ALL MEASURES)			6,187	1.9	2	\$1,021	\$10,294	\$1,237	\$9,057	8.9	6,498

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

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

SOLAR ENERGY GENERATION POTENTIAL

	Municipal Complex	Board of Health	Lakeview Firehouse
<i>Potential:</i>	HIGH	MEDIUM	MEDIUM
<i>System Potential: (kW)</i>	290	75	54
<i>Electric Generation: (kWh per year)</i>	345,497	89,353	64,334
<i>Displaced Cost: (per year)</i>	\$45,950	\$11,950	\$7,820

Transition Incentive (TI) Program:

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

Community Solar Energy Pilot Program:

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

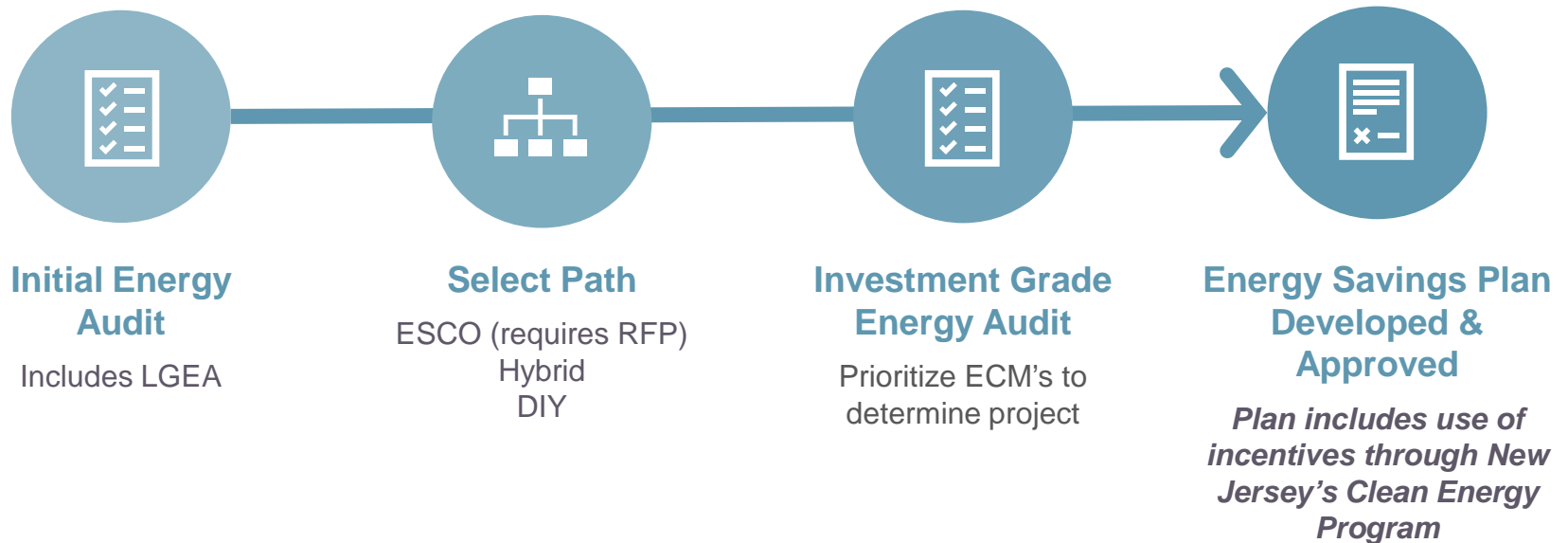
FINANCING MECHANISM: ESIP

ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- Provides alternative financing for energy savings projects at public institutions
- Administered directly by the NJBPU
- Project is paid for with the value of its own energy savings
- 15 or 20-year repayment term
- NJCEP incentives/rebates are layered within an ESIP
- No upfront capital expenses
- Doesn't require voter approval



FINANCING MECHANISM: ESIP



ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

FOR MORE INFORMATION

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CLEAN ENERGY PROGRAM PORTFOLIO

ELIGIBLE SECTORS

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

INCENTIVE PROGRAMS

Equipment Rebates:

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

Whole Buildings:

- **Pay for Performance**

Energy Generation:

- Combined Heat and Power – Fuel Cells

OTHER PROGRAMS

Renewable Energy Generation:

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

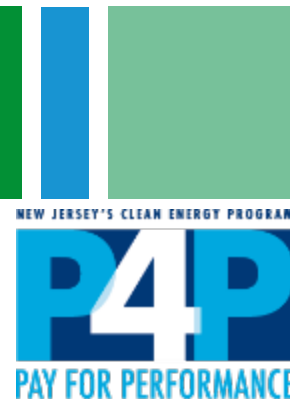
RECOMMENDED NJCEP INCENTIVES PER BUILDING

City of Paterson	Pay For Performance	Direct Install	SmartStart	CTEEP
Municipal Complex	X		X	X
City Hall		X	X	X
Board of Health	X	X	X	X
Office of Recreation		X	X	X
DPW City Yard		X	X	X
DPW Headquarters		X	X	X
DPW Carriage House		X	X	X
DPW White House		X	X	X
125 Ellison St Admin Office		X	X	X
Animal Shelter		X	X	X
Traffic Division & Recycling		X	X	X
Riverside Vets		X	X	X
South Paterson Library		X	X	X
Fire Headquarters		X	X	X
All Firehouses		X	X	X



PAY FOR PERFORMANCE

NJCleanEnergy.com/P4P



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

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

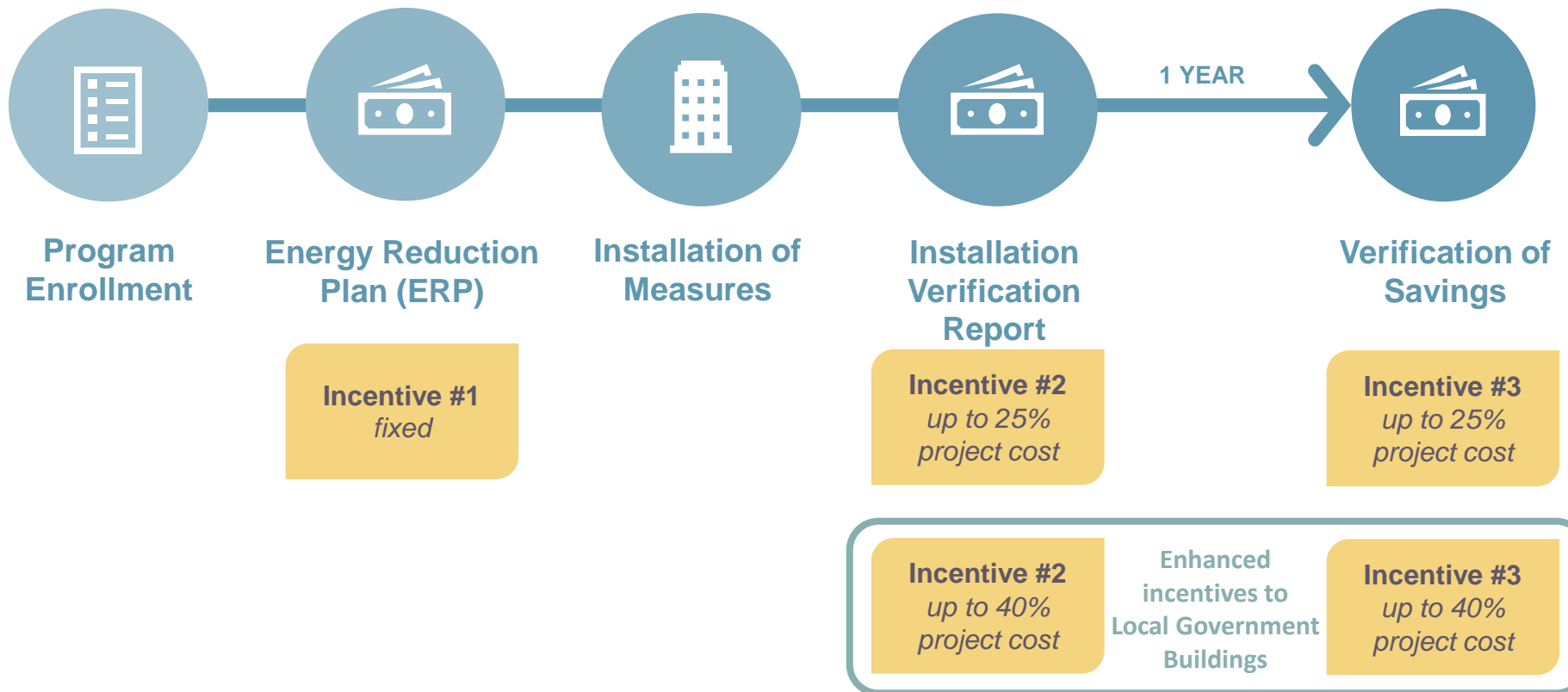
About: Customer choose from a network of pre-approved ***Participating Partners***

Incentives:

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

PAY FOR PERFORMANCE

NJCleanEnergy.com/P4P



DIRECT INSTALL

NJCleanEnergy.com/DI



What is DI: Turn-key retrofit program to replace outdated and inefficient equipment, including lighting, HVAC, refrigeration, etc.

Qualifications: Average electric peak demand <200 kW in the previous 12 months

About:

- Pre-approved participating contractors provide support and process paperwork
- Incentives paid directly to the contractor
- Fast project turnaround time (4-6 months)

Incentives:

- \$125,000 incentive funding per project/building (\$250K UEZ/OZ/ Local Govt./K-12 Public Schools), or
- \$250,000 entity cap (**\$4MM UEZ/OZ/Local Govt./K-12 Public Schools**)

DIRECT INSTALL

NJCleanEnergy.com/DI

Facilities in Urban Enterprise Zones (UEZ), Opportunity Zones (OZ), Local Governments, and K-12 public schools:

INCENTIVE FUNDING

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

CUSTOMER

20% of installed cost

All other eligible facilities:

INCENTIVE FUNDING

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

CUSTOMER

30% of installed cost



DIRECT INSTALL

NJCleanEnergy.com/DI

Participating Contractor

Lime Energy

Chris Fornicola

732-427-7278

chris.fornicola@lime-energy.com



SMARTSTART

NJCleanEnergy.com/SSB

What is SSB: Individual high efficiency equipment rebates for new construction, renovation, remodeling, equipment replacement

Qualifications: • All C&I customer types contributing into the Societal Benefits Charge (SBC)

About:

- Prescriptive and custom designed measures
- Pre-approval required only for lighting projects with incentives >\$100,000 and all custom projects
- For measures not requiring pre-approval, applications must be submitted to the program within one year of purchase.

Incentives:

- Prescriptive: \$500,000 cap for each electric or gas account
- Custom, lesser of the following:
 - \$0.16/kWh and/or \$1.60/Therm saved annually
 - 50% of incremental installed cost
 - Buy-down to 1 year payback based on incremental cost and savings



SMARTSTART

NJCleanEnergy.com/SSB



PRESCRIPTIVE INCENTIVES

- Electric Chillers
- Gas Cooling
- Electric Unitary HVAC
- Ground Source Heat Pumps
- Gas Heating
- Variable Frequency Drives
- Gas Water Heating
- Lighting/Lighting Controls
- Refrigeration Doors
- Refrigeration Controls
- Food Service Equipment
- Refrigerator/Freezer Motors

DOUBLE INCENTIVES ON ALL NON LIGHTING APPLICATIONS

for OZ/UEZ, local
government (munis &
counties), K-12 public
school, or designated
as affordable housing



CUSTOM INCENTIVES

- New or innovative technologies proven to be cost-effective and not listed as prescriptive
- Must meet code for retrofit projects or exceed code for new construction
- Project pre and post inspection required



CUSTOMER TAILORED ENERGY EFFICIENCY PILOT

NJCleanEnergy.com/CTEEP

What is CTEEP: A streamlined/single application process for participants submitting multiple different technology types.

Qualifications:

- All C&I customer types contributing into the Societal Benefits Charge (SBC)

About:

- On site assistance available
- Additional technical incentive available to offset soft costs associated with developing and planning custom projects

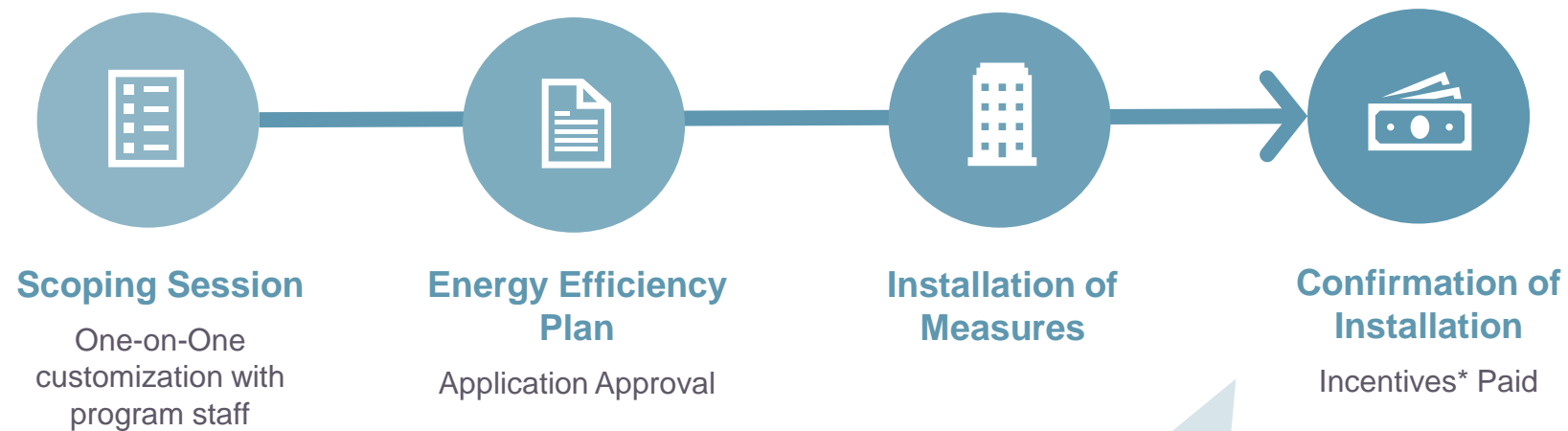
Incentives:

- Up to \$500,000 for each electric or gas account
- Technical assistance incentives for custom project evaluation (up to \$10K)

**SAME INCENTIVE
VALUES AS
SMARTSTART**

CTEEP: CUSTOMER TAILORED ENERGY EFFICIENCY PILOT

NJCleanEnergy.com/CTEEP



**SAME INCENTIVE
VALUES AS
SMARTSTART**

LOCAL GOVERNMENT FLEETS

Electric vehicles are now included in the State Purchasing Contract!

- New NJBPU Grant Program
 - Designed to encourage local governments to add EVs to their fleet
 - \$4000 per battery electric vehicle
 - \$1500 for one Level-Two EV charging station
 - Grants awarded on rolling basis until June 2021 or until funding expended

Questions? **EV.programs@bpu.nj.gov**



FOR MORE INFORMATION

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QUESTIONS

