

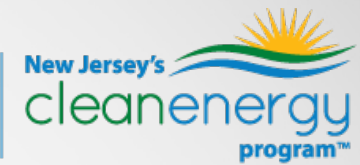
New Jersey's Clean Energy Program

LGEA Exit Meeting for:
Town of Secaucus

Moussa Traore, TRC

July 27, 2018

Introductions



- *Town of Secaucus*
 - Nick Goldsack – Chief Financial Officer
 - Gary Jeffas – Town Administrator
 - Amanda Nesheiwat – Environmental Director
 - Alex Wurst – Project Manager
 - Phil Taglieri – HVAC Systems Manager
 - Dan Riggle – Schneider Electric
 - Jason Mikula – Schneider Electric
- *NJ Clean Energy Program*
 - Brian DeLuca – Program Manager
 - Moussa Traore – Auditor
 - Elizabeth Ebinger – Account Manager
 - Mike Thulen – ESIP Coordinator

Agenda

- The audit process overview
- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**easures (ECMs) identified
- Questions or concerns regarding the draft audit report
- Overview of NJCEP equipment incentives
- Next steps for Town of Secaucus

Process



Site Visit and Utility Analysis



Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Sites Visited/Analyzed

- Recreation Center
- Town Hall
- Ice Rink
- Old Recreation Center
- DPW
- Teen Tot Center
- Shetik Field
- Daycare Center
- Kennel
- Office of Emergency Management (OEM)
- Hook & Ladder Firehouse
- Fire Hose Co. #3
- Fire Engine Co. #3
- Fire Engine Co. #2 / Police Station
- Food Pantry
- Senior Building
- Kane Stadium
- Schmidts Woods
- Little League
- Town Pool
- Pump Station

All Opportunities



Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades	335,291	180.1	0.0	\$67,085.20	\$394,896.93	\$33,360.00	\$361,536.93	5.4	337,635
Install LED Fixtures	206,108	151.1	0.0	\$48,980.13	\$318,663.26	\$25,030.00	\$293,633.26	6.0	207,549
Retrofit Fixtures with LED Lamps	121,673	28.4	0.0	\$16,991.02	\$62,681.71	\$8,330.00	\$54,351.71	3.2	122,524
Install LED Exit Signs	7,510	0.6	0.0	\$1,114.05	\$13,551.96	\$0.00	\$13,551.96	12.2	7,562
Lighting Control Measures	40,682	9.1	0.0	\$5,524.52	\$36,278.00	\$5,435.00	\$30,843.00	5.6	40,966
Install Occupancy Sensor Lighting Controls	33,622	7.8	0.0	\$4,603.58	\$31,278.00	\$4,345.00	\$26,933.00	5.9	33,857
Install High/Low Lighting Controls	7,060	1.3	0.0	\$920.94	\$5,000.00	\$1,090.00	\$3,910.00	4.2	7,109
Motor Upgrades	16,164	7.7	0.0	\$2,128.80	\$24,104.15	\$0.00	\$24,104.15	11.3	16,277
Premium Efficiency Motors	16,164	7.7	0.0	\$2,128.80	\$24,104.15	\$0.00	\$24,104.15	11.3	16,277
Variable Frequency Drive (VFD) Measures	36,460	5.4	0.0	\$4,278.93	\$19,118.73	\$1,600.00	\$17,518.73	4.1	36,715
Install VFDs on Constant Volume (CV) HVAC	9,792	2.6	0.0	\$1,149.22	\$6,334.30	\$1,600.00	\$4,734.30	4.1	9,861
Install VFDs on Chilled Water Pumps	24,000	2.5	0.0	\$2,816.65	\$7,615.90	\$0.00	\$7,615.90	2.7	24,168
Install VFDs on Hot Water Pumps	2,668	0.3	0.0	\$313.06	\$5,168.53	\$0.00	\$5,168.53	16.5	2,686
Electric Unitary HVAC Measures	19,703	11.2	0.0	\$2,778.10	\$75,366.79	\$3,919.00	\$71,447.79	25.7	19,841
Install High Efficiency Electric AC	15,178	7.2	0.0	\$2,199.61	\$52,115.91	\$2,751.00	\$49,364.91	22.4	15,284
Install High Efficiency Heat Pumps	4,525	3.9	0.0	\$578.49	\$23,250.88	\$1,168.00	\$22,082.88	38.2	4,557
Gas Heating (HVAC/Process) Replacement	0	0.0	673.1	\$5,385.23	\$86,723.19	\$8,913.60	\$77,809.59	14.4	78,807
Install High Efficiency Hot Water Boilers	0	0.0	250.3	\$2,032.45	\$66,037.05	\$7,713.60	\$58,323.45	28.7	29,309
Install High Efficiency Furnaces	0	0.0	422.7	\$3,352.78	\$20,686.14	\$1,200.00	\$19,486.14	5.8	49,498
HVAC System Improvements	3,269	0.7	0.0	\$450.15	\$1,000.00	\$500.00	\$500.00	1.1	3,291
Install Dual Enthalpy Outside Economizer Control	3,269	0.7	0.0	\$450.15	\$1,000.00	\$500.00	\$500.00	1.1	3,291
Domestic Water Heating Upgrade	9,506	0.0	43.2	\$1,588.06	\$336.99	\$0.00	\$336.99	0.2	14,627
Install Low-Flow Domestic Hot Water Devices	9,506	0.0	43.2	\$1,588.06	\$336.99	\$0.00	\$336.99	0.2	14,627
Plug Load Equipment Control - Vending Machine	13,580	0.0	0.0	\$2,011.09	\$2,530.00	\$0.00	\$2,530.00	1.3	13,675
Vending Machine Control	13,580	0.0	0.0	\$2,011.09	\$2,530.00	\$0.00	\$2,530.00	1.3	13,675
TOTALS	474,655	214.3	716.2	\$91,230.08	\$640,354.78	\$53,727.60	\$586,627.18	6.4	561,835

* - 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*

*Opportunities considered cost effective have a payback period less than the expedited life of the measure



Energy Conservation Measure		Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		335,291	180.1	0.0	\$67,085.20	\$394,896.93	\$33,360.00	\$361,536.93	5.4	337,635
ECM 1	Install LED Fixtures	206,108	151.1	0.0	\$48,980.13	\$318,663.26	\$25,030.00	\$293,633.26	6.0	207,549
ECM 2	Retrofit Fixtures with LED Lamps	121,673	28.4	0.0	\$16,991.02	\$62,681.71	\$8,330.00	\$54,351.71	3.2	122,524
ECM 3	Install LED Exit Signs	7,510	0.6	0.0	\$1,114.05	\$13,551.96	\$0.00	\$13,551.96	12.2	7,562
Lighting Control Measures		38,555	8.3	0.0	\$5,206.18	\$27,868.00	\$4,360.00	\$23,508.00	4.5	38,825
ECM 4	Install Occupancy Sensor Lighting Controls	31,495	7.1	0.0	\$4,285.24	\$22,868.00	\$3,270.00	\$19,598.00	4.6	31,715
ECM 5	Install High/Low Lighting Controls	7,060	1.3	0.0	\$920.94	\$5,000.00	\$1,090.00	\$3,910.00	4.2	7,109
Motor Upgrades		13,657	3.6	0.0	\$1,702.49	\$7,995.58	\$0.00	\$7,995.58	4.7	13,752
ECM 6	Premium Efficiency Motors	13,657	3.6	0.0	\$1,702.49	\$7,995.58	\$0.00	\$7,995.58	4.7	13,752
Variable Frequency Drive (VFD) Measures		33,793	5.1	0.0	\$3,965.87	\$13,950.20	\$1,600.00	\$12,350.20	3.1	34,029
ECM 7	Install VFDs on Constant Volume (CV) HVAC	9,792	2.6	0.0	\$1,149.22	\$6,334.30	\$1,600.00	\$4,734.30	4.1	9,861
ECM 8	Install VFDs on Chilled Water Pumps	24,000	2.5	0.0	\$2,816.65	\$7,615.90	\$0.00	\$7,615.90	2.7	24,168
Gas Heating (HVAC/Process) Replacement		0	0.0	360.5	\$2,884.36	\$6,185.45	\$400.00	\$5,785.45	2.0	42,207
ECM 9	Install High Efficiency Furnaces	0	0.0	360.5	\$2,884.36	\$6,185.45	\$400.00	\$5,785.45	2.0	42,207
HVAC System Improvements		3,269	0.7	0.0	\$450.15	\$1,000.00	\$500.00	\$500.00	1.1	3,291
ECM 10	Install Dual Enthalpy Outside Economizer Control	3,269	0.7	0.0	\$450.15	\$1,000.00	\$500.00	\$500.00	1.1	3,291
Domestic Water Heating Upgrade		9,506	0.0	43.2	\$1,588.06	\$336.99	\$0.00	\$336.99	0.2	14,627
ECM 11	Install Low-Flow Domestic Hot Water Devices	9,506	0.0	43.2	\$1,588.06	\$336.99	\$0.00	\$336.99	0.2	14,627
Plug Load Equipment Control - Vending Machine		13,580	0.0	0.0	\$2,011.09	\$2,530.00	\$0.00	\$2,530.00	1.3	13,675
ECM 12	Vending Machine Control	13,580	0.0	0.0	\$2,011.09	\$2,530.00	\$0.00	\$2,530.00	1.3	13,675
TOTALS		447,650	197.8	403.6	\$84,893.40	\$454,763.15	\$40,220.00	\$414,543.15	4.9	498,041

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Recreation Center

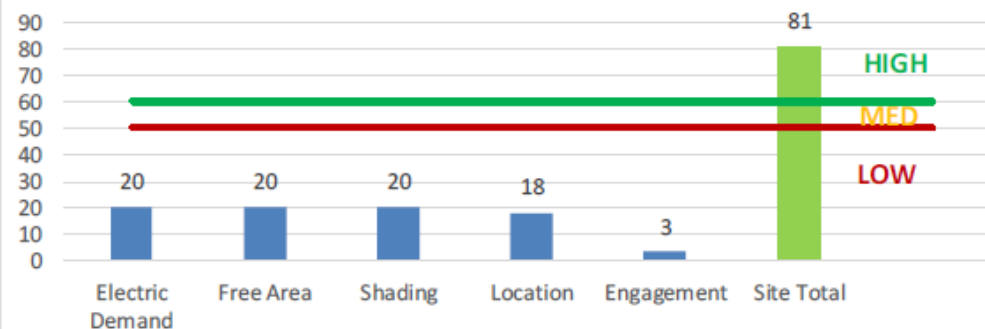


Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			93,861	16.0	0.0	\$12,913.80	\$43,113.18	\$3,790.00	\$39,323.18	3.0	94,518
ECM 1	Install LED Fixtures	Yes	61,307	10.5	0.0	\$8,434.85	\$29,646.76	\$2,100.00	\$27,546.76	3.3	61,736
ECM 2	Retrofit Fixtures with LED Lamps	Yes	31,070	5.3	0.0	\$4,274.66	\$10,777.54	\$1,690.00	\$9,087.54	2.1	31,287
ECM 3	Install LED Exit Signs	Yes	1,485	0.1	0.0	\$204.29	\$2,688.88	\$0.00	\$2,688.88	13.2	1,495
Lighting Control Measures			4,867	0.9	0.0	\$669.61	\$8,244.00	\$1,170.00	\$7,074.00	10.6	4,901
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	4,228	0.8	0.0	\$581.73	\$7,644.00	\$1,170.00	\$6,474.00	11.1	4,258
ECM 5	Install High/Low Lighting Controls	Yes	639	0.1	0.0	\$87.88	\$600.00	\$0.00	\$600.00	6.8	643
TOTALS			98,728	16.8	0.0	\$13,583.41	\$51,357.18	\$4,960.00	\$46,397.18	3.4	99,419

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PV Screening Results



Notes:

This building has a high potential for the implementation of a PV system. The SREC registration program is available to register produced SRECs and is not an incentive or rebate program.

Town Hall




Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			49,694	6.2	0.0	\$5,832.08	\$25,732.04	\$2,200.00	\$23,532.04	4.0	50,042
ECM 1	Install LED Fixtures	Yes	12,873	2.0	0.0	\$1,510.76	\$12,541.58	\$1,075.00	\$11,466.58	7.6	12,963
ECM 2	Retrofit Fixtures with LED Lamps	Yes	35,530	4.1	0.0	\$4,169.76	\$10,931.81	\$1,125.00	\$9,806.81	2.4	35,778
ECM 3	Install LED Exit Signs	Yes	1,291	0.1	0.0	\$151.56	\$2,258.66	\$0.00	\$2,258.66	14.9	1,300
Lighting Control Measures			18,947	2.5	0.0	\$2,223.61	\$5,866.00	\$1,105.00	\$4,761.00	2.1	19,080
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	15,582	2.2	0.0	\$1,828.66	\$3,866.00	\$555.00	\$3,311.00	1.8	15,691
ECM 5	Install High/Low Lighting Controls	Yes	3,365	0.3	0.0	\$394.95	\$2,000.00	\$550.00	\$1,450.00	3.7	3,389
Motor Upgrades			10,573	2.3	0.0	\$1,240.86	\$5,941.06	\$0.00	\$5,941.06	4.8	10,647
ECM 6	Premium Efficiency Motors	Yes	10,573	2.3	0.0	\$1,240.86	\$5,941.06	\$0.00	\$5,941.06	4.8	10,647
Variable Frequency Drive (VFD) Measures			36,460	5.4	0.0	\$4,278.93	\$19,118.73	\$1,600.00	\$17,518.73	4.1	36,715
ECM 7	Install VFDs on Constant Volume (CV) HVAC	Yes	9,792	2.6	0.0	\$1,149.22	\$6,334.30	\$1,600.00	\$4,734.30	4.1	9,861
ECM 8	Install VFDs on Chilled Water Pumps	Yes	24,000	2.5	0.0	\$2,816.65	\$7,615.90	\$0.00	\$7,615.90	2.7	24,168
	Install VFDs on Hot Water Pumps	No	2,668	0.3	0.0	\$313.06	\$5,168.53	\$0.00	\$5,168.53	16.5	2,686
Electric Unitary HVAC Measures			4,400	1.6	0.0	\$516.38	\$11,344.80	\$460.00	\$10,884.80	21.1	4,431
	Install High Efficiency Electric AC	No	4,400	1.6	0.0	\$516.38	\$11,344.80	\$460.00	\$10,884.80	21.1	4,431
HVAC System Improvements			1,634	0.4	0.0	\$191.80	\$500.00	\$250.00	\$250.00	1.3	1,646
ECM 9	Install Dual Enthalpy Outside Economizer Control	Yes	1,634	0.4	0.0	\$191.80	\$500.00	\$250.00	\$250.00	1.3	1,646
Domestic Water Heating Upgrade			7,070	0.0	0.0	\$829.71	\$100.38	\$0.00	\$100.38	0.1	7,119
ECM 10	Install Low-Flow Domestic Hot Water Devices	Yes	7,070	0.0	0.0	\$829.71	\$100.38	\$0.00	\$100.38	0.1	7,119
Plug Load Equipment Control - Vending Machine			1,612	0.0	0.0	\$189.16	\$460.00	\$0.00	\$460.00	2.4	1,623
ECM 11	Vending Machine Control	Yes	1,612	0.0	0.0	\$189.16	\$460.00	\$0.00	\$460.00	2.4	1,623
TOTALS FOR RECOMMENDED MEASURES			123,323	16.5	0	14,473.09	52,549.68	5,155.00	47,394.68	3.3	124,185.52
TOTALS FOR ALL EVALUATED MEASURES			130,391	18.4	0.0	\$15,302.53	\$69,063.01	\$5,615.00	\$63,448.01	4.1	131,303

* - 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).

Town Hall - Benchmarking





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ENERGY STAR® Statement of Energy Performance

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ENERGY STAR®
Score¹

Town of Secaucus - Municipal Building (Town Hall)

Primary Property Type: Office
Gross Floor Area (ft²): 59,513
Built: 1979

For Year Ending: July 31, 2016
Date Generated: February 12, 2018

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 Town of Secaucus - Municipal Building (Town Hall) 1203 Paterson Plank Road Secaucus, New Jersey 07094	Property Owner Town of Secaucus 1203 Paterson Plank Rd Secaucus, NJ 07094 201-864-7336	Primary Contact Amanda Nesheiwat 1203 Paterson Plank Rd Secaucus, NJ 07094 201-864-7336 anesheiwat@secaucus.net
Property ID: 6204382		

Energy Consumption and Energy Use Intensity (EUI)			
Site EUI	Annual Energy by Fuel	National Median Comparison	
69.5 kBtu/ft²	Natural Gas (kBtu)	National Median Site EUI (kBtu/ft²)	85.5
	Electric - Grid (kBtu)	National Median Source EUI (kBtu/ft²)	211.1
	Electric - Solar (kBtu)	% Diff from National Median Source EUI	-19%
Source EUI		Annual Emissions	
171.5 kBtu/ft²		Greenhouse Gas Emissions (Metric Tons CO2e/year)	382

Signature & Stamp of Verifying Professional

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

Signature: _____ Date: _____

Licensed Professional

(_____) - _____

Professional Engineer Stamp
(if applicable)

Ice Rink



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			11,622	2.7	0.0	\$1,704.62	\$6,632.61	\$685.00	\$5,947.61	3.5	11,703
ECM 1	Install LED Fixtures	Yes	559	0.1	0.0	\$82.03	\$390.68	\$100.00	\$290.68	3.5	563
ECM 2	Retrofit Fixtures with LED Lamps	Yes	10,765	2.6	0.0	\$1,579.03	\$5,704.15	\$585.00	\$5,119.15	3.2	10,841
ECM 3	Install LED Exit Signs	Yes	297	0.0	0.0	\$43.56	\$537.78	\$0.00	\$537.78	12.3	299
Lighting Control Measures			2,667	0.6	0.0	\$391.20	\$1,752.00	\$210.00	\$1,542.00	3.9	2,686
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	1,658	0.4	0.0	\$243.25	\$1,352.00	\$210.00	\$1,142.00	4.7	1,670
ECM 5	Install High/Low Lighting Controls	Yes	1,009	0.2	0.0	\$147.94	\$400.00	\$0.00	\$400.00	2.7	1,016
Domestic Water Heating Upgrade			0	0.0	3.6	\$29.00	\$14.34	\$0.00	\$14.34	0.5	424
ECM 6	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	3.6	\$29.00	\$14.34	\$0.00	\$14.34	0.5	424
Plug Load Equipment Control - Vending Machine			1,612	0.0	0.0	\$236.42	\$230.00	\$0.00	\$230.00	1.0	1,623
ECM 7	Vending Machine Control	Yes	1,612	0.0	0.0	\$236.42	\$230.00	\$0.00	\$230.00	1.0	1,623
TOTALS			15,901	3.4	3.6	\$2,361.24	\$8,628.95	\$895.00	\$7,733.95	3.3	16,436

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Old Recreation Center



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			971	0.1	0.0	\$149.90	\$605.72	\$30.00	\$575.72	3.8	977
ECM 1	Retrofit Fixtures with LED Lamps	Yes	733	0.1	0.0	\$113.21	\$175.50	\$30.00	\$145.50	1.3	738
ECM 2	Install LED Exit Signs	Yes	238	0.0	0.0	\$36.69	\$430.22	\$0.00	\$430.22	11.7	239
Lighting Control Measures			902	0.1	0.0	\$139.28	\$464.00	\$0.00	\$464.00	3.3	908
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	902	0.1	0.0	\$139.28	\$464.00	\$0.00	\$464.00	3.3	908
Electric Unitary HVAC Measures			5,875	2.3	0.0	\$907.32	\$17,456.55	\$1,095.00	\$16,361.55	18.0	5,916
	Install High Efficiency Electric AC	No	5,875	2.3	0.0	\$907.32	\$17,456.55	\$1,095.00	\$16,361.55	18.0	5,916
Gas Heating (HVAC/Process) Replacement			0	0.0	62.3	\$468.42	\$14,500.69	\$800.00	\$13,700.69	29.2	7,291
	Install High Efficiency Furnaces	No	0	0.0	62.3	\$468.42	\$14,500.69	\$800.00	\$13,700.69	29.2	7,291
Plug Load Equipment Control - Vending Machine			1,954	0.0	0.0	\$301.85	\$460.00	\$0.00	\$460.00	1.5	1,968
ECM 4	Vending Machine Control	Yes	1,954	0.0	0.0	\$301.85	\$460.00	\$0.00	\$460.00	1.5	1,968
TOTALS FOR RECOMMENDED MEASURES			3,827	0	0	\$591.03	\$1,529.72	\$30.00	\$1,499.72	2.5	3,853
TOTALS FOR ALL EVALUATED MEASURES			9,701	2.5	62.3	\$1,966.77	\$33,486.96	\$1,925.00	\$31,561.96	16.0	17,060

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DPW Building



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Natural Gas Savings (MMBtu)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			32,420	6.6	0.0	0.0	\$4,721.30	\$14,427.98	\$2,665.00	\$11,762.98	2.5	32,646
ECM 1	Install LED Fixtures	Yes	18,466	3.0	0.0	0.0	\$2,689.26	\$6,378.80	\$1,400.00	\$4,978.80	1.9	18,595
ECM 2	Retrofit Fixtures with LED Lamps	Yes	13,300	3.5	0.0	0.0	\$1,936.90	\$6,866.07	\$1,265.00	\$5,601.07	2.9	13,393
ECM 3	Install LED Exit Signs	Yes	653	0.1	0.0	0.0	\$95.14	\$1,183.11	\$0.00	\$1,183.11	12.4	658
Lighting Control Measures			1,664	0.5	0.0	0.0	\$242.34	\$928.00	\$140.00	\$788.00	3.3	1,676
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	1,664	0.5	0.0	0.0	\$242.34	\$928.00	\$140.00	\$788.00	3.3	1,676
Gas Heating (HVAC/Process) Replacement			0	0.0	377.2	377.2	\$3,018.36	\$9,942.89	\$1,400.00	\$8,542.89	2.8	44,168
	Install High Efficiency Hot Water Boilers	No	0	0.0	16.7	16.7	\$134.00	\$3,757.44	\$1,000.00	\$2,757.44	20.6	1,961
ECM 5	Install High Efficiency Furnaces	Yes	0	0.0	360.5	360.5	\$2,884.36	\$6,185.45	\$400.00	\$5,785.45	2.0	42,207
Domestic Water Heating Upgrade			0	0.0	3.5	3.5	\$28.07	\$14.34	\$0.00	\$14.34	0.5	411
ECM 6	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	3.5	3.5	\$28.07	\$14.34	\$0.00	\$14.34	0.5	411
TOTALS FOR ALL RECOMMENDED MEASURES			34,084	7	364	364	\$7,876.07	\$21,555.77	\$3,205.00	\$18,350.77	2.3	\$76,939.84
TOTALS FOR ALL MEASURES			34,084	7.1	380.7	380.7	\$8,010.08	\$25,313.21	\$4,205.00	\$21,108.21	2.6	78,901

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

Teen & Tot Center



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			1,707	0.3	0.0	\$261.31	\$2,394.55	\$60.00	\$2,334.55	8.9	1,719
ECM 1	Retrofit Fixtures with LED Lamps	Yes	558	0.2	0.0	\$85.50	\$351.00	\$60.00	\$291.00	3.4	562
ECM 2	Install LED Exit Signs	Yes	1,148	0.1	0.0	\$175.80	\$2,043.55	\$0.00	\$2,043.55	11.6	1,156
Lighting Control Measures			314	0.1	0.0	\$48.06	\$348.00	\$40.00	\$308.00	6.4	316
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	314	0.1	0.0	\$48.06	\$348.00	\$40.00	\$308.00	6.4	316
Electric Unitary HVAC Measures			1,900	1.3	0.0	\$290.88	\$7,481.10	\$460.00	\$7,021.10	24.1	1,913
	Install High Efficiency Electric AC	No	1,900	1.3	0.0	\$290.88	\$7,481.10	\$460.00	\$7,021.10	24.1	1,913
Gas Heating (HVAC/Process) Replacement			0	0.0	62.6	\$495.29	\$11,521.64	\$1,056.00	\$10,465.64	21.1	7,331
	Install High Efficiency Hot Water Boilers	No	0	0.0	62.6	\$495.29	\$11,521.64	\$1,056.00	\$10,465.64	21.1	7,331
Domestic Water Heating Upgrade			0	0.0	7.0	\$55.51	\$28.68	\$0.00	\$28.68	0.5	822
ECM 4	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	7.0	\$55.51	\$28.68	\$0.00	\$28.68	0.5	822
Plug Load Equipment Control - Vending Machine			1,954	0.0	0.0	\$299.22	\$460.00	\$0.00	\$460.00	1.5	1,968
ECM 5	Vending Machine Control	Yes	1,954	0.0	0.0	\$299.22	\$460.00	\$0.00	\$460.00	1.5	1,968
TOTALS FOR ALL RECOMMENDED MEASURES			3,975	0	7	\$664.10	\$3,231.23	\$100.00	\$3,131.23	4.7	4,824
TOTALS FOR ALL MEASURES			5,875	1.6	69.6	\$1,450.27	\$22,233.97	\$1,616.00	\$20,617.97	14.2	14,068

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

Shetik Field



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			28,720	56.3	0.0	\$12,261.17	\$102,496.37	\$7,220.00	\$95,276.37	7.8	28,921
ECM 1	Install LED Fixtures	Yes	28,474	56.1	0.0	\$12,155.98	\$102,281.35	\$7,200.00	\$95,081.35	7.8	28,673
ECM 2	Retrofit Fixtures with LED Lamps	Yes	246	0.2	0.0	\$105.19	\$215.01	\$20.00	\$195.01	1.9	248
TOTALS			28,720	56.3	0.0	\$12,261.17	\$102,496.37	\$7,220.00	\$95,276.37	7.8	28,921

* - 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).

Daycare Center



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			18,151	6.3	0.0	\$2,876.89	\$17,446.27	\$2,560.00	\$14,886.27	5.2	18,278
ECM 1	Install LED Fixtures	Yes	9,106	1.5	0.0	\$1,443.26	\$4,839.68	\$1,110.00	\$3,729.68	2.6	9,170
ECM 2	Retrofit Fixtures with LED Lamps	Yes	8,204	4.7	0.0	\$1,300.35	\$10,885.71	\$1,450.00	\$9,435.71	7.3	8,262
ECM 3	Install LED Exit Signs	Yes	841	0.1	0.0	\$133.29	\$1,720.88	\$0.00	\$1,720.88	12.9	847
Lighting Control Measures			1,816	1.0	0.0	\$287.77	\$2,654.00	\$285.00	\$2,369.00	8.2	1,828
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	1,583	0.9	0.0	\$250.83	\$1,854.00	\$285.00	\$1,569.00	6.3	1,594
ECM 5	Install High/Low Lighting Controls	Yes	233	0.1	0.0	\$36.94	\$800.00	\$0.00	\$800.00	21.7	235
Gas Heating (HVAC/Process) Replacement			0	0.0	69.2	\$611.30	\$17,474.49	\$1,601.60	\$15,872.89	26.0	8,105
	Install High Efficiency Hot Water Boilers	No	0	0.0	69.2	\$611.30	\$17,474.49	\$1,601.60	\$15,872.89	26.0	8,105
Domestic Water Heating Upgrade			866	0.0	5.3	\$183.68	\$35.85	\$0.00	\$35.85	0.2	1,488
ECM 6	Install Low-Flow Domestic Hot Water Devices	Yes	866	0.0	5.3	\$183.68	\$35.85	\$0.00	\$35.85	0.2	1,488
Plug Load Equipment Control - Vending Machine			1,612	0.0	0.0	\$255.47	\$230.00	\$0.00	\$230.00	0.9	1,623
ECM 7	Vending Machine Control	Yes	1,612	0.0	0.0	\$255.47	\$230.00	\$0.00	\$230.00	0.9	1,623
TOTALS FOR RECOMMENDED MEASURES			22,445	7.3	5.3	\$3,603.82	\$20,366.12	\$2,845.00	\$17,521.12	4.9	23,218
TOTALS FOR ALL EVALUATED MEASURES			22,445	7.3	74.5	\$4,215.12	\$37,840.61	\$4,446.60	\$33,394.01	7.9	31,323

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

Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			4,187	0.7	\$648.58	\$2,990.68	\$300.00	\$2,690.68	4.1	4,216
ECM 1	Install LED Fixtures	Yes	4,187	0.7	\$648.58	\$2,990.68	\$300.00	\$2,690.68	4.1	4,216
Lighting Control Measures			258	0.0	\$39.91	\$116.00	\$20.00	\$96.00	2.4	259
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	258	0.0	\$39.91	\$116.00	\$20.00	\$96.00	2.4	259
Domestic Water Heating Upgrade			421	0.0	\$65.18	\$7.17	\$0.00	\$7.17	0.1	424
ECM 3	Install Low-Flow Domestic Hot Water Devices	Yes	421	0.0	\$65.18	\$7.17	\$0.00	\$7.17	0.1	424
TOTALS			4,866	0.7	\$753.68	\$3,113.85	\$320.00	\$2,793.85	3.7	4,900

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

Office of Emergency Management (OEM)



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			5,984	2.3	\$1,025.80	\$5,107.95	\$645.00	\$4,462.95	4.4	6,026
ECM 1	Install LED Fixtures	Yes	1,053	0.2	\$180.48	\$781.35	\$200.00	\$581.35	3.2	1,060
ECM 2	Retrofit Fixtures with LED Lamps	Yes	4,562	2.1	\$782.07	\$3,896.38	\$445.00	\$3,451.38	4.4	4,594
ECM 3	Install LED Exit Signs	Yes	369	0.0	\$63.25	\$430.22	\$0.00	\$430.22	6.8	372
Lighting Control Measures			1,212	0.6	\$207.72	\$580.00	\$100.00	\$480.00	2.3	1,220
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	1,212	0.6	\$207.72	\$580.00	\$100.00	\$480.00	2.3	1,220
Domestic Water Heating Upgrade			1,010	0.0	\$173.14	\$14.34	\$0.00	\$14.34	0.1	1,017
ECM 5	Install Low-Flow Domestic Hot Water Devices	Yes	1,010	0.0	\$173.14	\$14.34	\$0.00	\$14.34	0.1	1,017
TOTALS			8,205	2.9	\$1,406.66	\$5,702.29	\$745.00	\$4,957.29	3.5	8,263

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

Washington Hook & Ladder Firehouse



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			8,114	2.0	0.0	\$1,037.24	\$4,528.97	\$730.00	\$3,798.97	3.7	8,171
ECM 1	Retrofit Fixtures with LED Lamps	Yes	8,114	2.0	0.0	\$1,037.24	\$4,528.97	\$730.00	\$3,798.97	3.7	8,171
Lighting Control Measures			2,457	0.6	0.0	\$314.10	\$1,760.00	\$140.00	\$1,620.00	5.2	2,474
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	1,315	0.3	0.0	\$168.16	\$1,160.00	\$140.00	\$1,020.00	6.1	1,325
ECM 3	Install High/Low Lighting Controls	Yes	1,142	0.3	0.0	\$145.94	\$600.00	\$0.00	\$600.00	4.1	1,150
Electric Unitary HVAC Measures			4,525	3.9	0.0	\$578.49	\$23,250.88	\$1,168.00	\$22,082.88	38.2	4,557
	Install High Efficiency Heat Pumps	No	4,525	3.9	0.0	\$578.49	\$23,250.88	\$1,168.00	\$22,082.88	38.2	4,557
Domestic Water Heating Upgrade			0	0.0	5.6	\$49.33	\$28.68	\$0.00	\$28.68	0.6	659
ECM 4	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	5.6	\$49.33	\$28.68	\$0.00	\$28.68	0.6	659
Plug Load Equipment Control - Vending Machine			1,612	0.0	0.0	\$206.04	\$230.00	\$0.00	\$230.00	1.1	1,623
ECM 5	Vending Machine Control	Yes	1,612	0.0	0.0	\$206.04	\$230.00	\$0.00	\$230.00	1.1	1,623
TOTALS FOR ALL RECOMMENDED MEASURES			12,183.1	2.6	5.6	1,606.7	6,547.6	870.0	5,677.6	3.5	12,927.3
TOTALS FOR ALL EVALUATED MEASURES			16,709	6.5	5.6	\$2,185.19	\$29,798.53	\$2,038.00	\$27,760.53	12.7	17,484

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

Firehouse Hose Co. #2



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Natural Gas Savings (MMBtu)	Annual N/A Savings (MMBtu)	Annual N/A Savings (MMBtu)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			404	0.1	0.0	0.0	0.0	0.0	\$67.13	\$537.73	\$10.00	\$527.73	7.9	406
ECM 1	Retrofit Fixtures with LED Lamps	Yes	193	0.1	0.0	0.0	0.0	0.0	\$32.15	\$107.51	\$10.00	\$97.51	3.0	195
ECM 2	Install LED Exit Signs	Yes	210	0.0	0.0	0.0	0.0	0.0	\$34.97	\$430.22	\$0.00	\$430.22	12.3	212
Lighting Control Measures			485	0.1	0.0	0.0	0.0	0.0	\$80.66	\$810.00	\$105.00	\$705.00	8.7	488
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	485	0.1	0.0	0.0	0.0	0.0	\$80.66	\$810.00	\$105.00	\$705.00	8.7	488
Gas Heating (HVAC/Process) Replacement			0	0.0	44.8	0.0	0.0	44.8	\$364.27	\$13,816.42	\$2,000.00	\$11,816.42	32.4	5,250
	Install High Efficiency Hot Water Boilers	No	0	0.0	44.8	0.0	0.0	44.8	\$364.27	\$13,816.42	\$2,000.00	\$11,816.42	32.4	5,250
Domestic Water Heating Upgrade			0	0.0	6.1	0.0	0.0	6.1	\$49.88	\$21.51	\$0.00	\$21.51	0.4	719
ECM 4	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	6.1	0.0	0.0	6.1	\$49.88	\$21.51	\$0.00	\$21.51	0.4	719
Plug Load Equipment Control - Vending Machine			1,612	0.0	0.0	0.0	0.0	0.0	\$268.13	\$230.00	\$0.00	\$230.00	0.9	1,623
ECM 5	Vending Machine Control	Yes	1,612	0.0	0.0	0.0	0.0	0.0	\$268.13	\$230.00	\$0.00	\$230.00	0.9	1,623
TOTALS (RECOMMENDED MEASURES)			2,500	0.2	6.1	0.0	0.0	6.1	\$465.8	\$1,599.2	\$115.0	\$1,484.2	3.2	3,236.6
TOTALS FOR ALL MEASURES			2,500	0.2	51.0	0.0	0.0	51.0	\$830.06	\$15,415.66	\$2,115.00	\$13,300.66	16.0	8,487

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

Fire Engine Co. #3



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Control Measures			435	0.3	0.0	\$71.65	\$1,126.00	\$325.00	\$801.00	11.2	438
ECM 1	Install Occupancy Sensor Lighting Controls	Yes	295	0.2	0.0	\$48.63	\$926.00	\$125.00	\$801.00	16.5	297
ECM 2	Install High/Low Lighting Controls	Yes	140	0.1	0.0	\$23.02	\$200.00	\$200.00	\$0.00	0.0	141
TOTALS			435	0.3	0.0	\$71.65	\$1,126.00	\$325.00	\$801.00	11.2	438

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

Fire Engine Co. #2/Police Station



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			7,574	1.7	0.0	\$1,197.24	\$4,639.04	\$625.00	\$4,014.04	3.4	7,627
ECM 1	Install LED Fixtures	Yes	4,083	0.7	0.0	\$645.47	\$1,562.71	\$400.00	\$1,162.71	1.8	4,112
ECM 2	Retrofit Fixtures with LED Lamps	Yes	3,193	1.1	0.0	\$504.82	\$2,538.56	\$225.00	\$2,313.56	4.6	3,216
ECM 3	Install LED Exit Signs	Yes	297	0.0	0.0	\$46.94	\$537.78	\$0.00	\$537.78	11.5	299
Lighting Control Measures			1,172	0.4	0.0	\$185.21	\$1,018.00	\$435.00	\$583.00	3.1	1,180
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	639	0.2	0.0	\$100.94	\$618.00	\$95.00	\$523.00	5.2	643
ECM 5	Install High/Low Lighting Controls	Yes	533	0.2	0.0	\$84.27	\$400.00	\$340.00	\$60.00	0.7	537
Electric Unitary HVAC Measures			2,149	1.3	0.0	\$339.67	\$11,344.80	\$460.00	\$10,884.80	32.0	2,164
	Install High Efficiency Electric AC	No	2,149	1.3	0.0	\$339.67	\$11,344.80	\$460.00	\$10,884.80	32.0	2,164
Gas Heating (HVAC/Process) Replacement			0	0.0	33.3	\$246.61	\$11,521.64	\$1,056.00	\$10,465.64	42.4	3,900
	Install High Efficiency Hot Water Boilers	No	0	0.0	33.3	\$246.61	\$11,521.64	\$1,056.00	\$10,465.64	42.4	3,900
HVAC System Improvements			1,634	0.4	0.0	\$258.35	\$500.00	\$250.00	\$250.00	1.0	1,646
ECM 6	Install Dual Enthalpy Outside Economizer Control	Yes	1,634	0.4	0.0	\$258.35	\$500.00	\$250.00	\$250.00	1.0	1,646
Domestic Water Heating Upgrade			0	0.0	6.1	\$45.46	\$21.51	\$0.00	\$21.51	0.5	719
ECM 7	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	6.1	\$45.46	\$21.51	\$0.00	\$21.51	0.5	719
Plug Load Equipment Control - Vending Machine			1,612	0.0	0.0	\$254.80	\$230.00	\$0.00	\$230.00	0.9	1,623
ECM 8	Vending Machine Control	Yes	1,612	0.0	0.0	\$254.80	\$230.00	\$0.00	\$230.00	0.9	1,623
TOTALS FOR ALL RECOMMENDED MEASURES			11,991	2.5	6.1	\$1,941.05	\$6,408.55	\$1,310.00	\$5,098.55	2.6	12,794
TOTALS FOR ALL EVALUATED MEASURES			14,140	3.8	39.4	\$2,527.33	\$29,274.99	\$2,826.00	\$26,448.99	10.5	18,858

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

Food Pantry



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			246	0.0	0.0	\$55.53	\$430.22	\$0.00	\$430.22	7.7	248
ECM 1	Install LED Exit Signs	Yes	246	0.0	0.0	\$55.53	\$430.22	\$0.00	\$430.22	7.7	248
Lighting Control Measures			221	0.1	0.0	\$49.94	\$386.00	\$55.00	\$331.00	6.6	223
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	221	0.1	0.0	\$49.94	\$386.00	\$55.00	\$331.00	6.6	223
Domestic Water Heating Upgrade			0	0.0	5.8	\$51.05	\$28.68	\$0.00	\$28.68	0.6	685
ECM 3	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	5.8	\$51.05	\$28.68	\$0.00	\$28.68	0.6	685
TOTALS			467	0.1	5.8	\$156.52	\$844.90	\$55.00	\$789.90	5.0	1,155

* - 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).

Senior Center



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			270	0.1	0.0	\$46.99	\$699.67	\$0.00	\$699.67	14.9	272
ECM 1	Retrofit Fixtures with LED Lamps	Yes	151	0.1	0.0	\$26.32	\$484.56	\$0.00	\$484.56	18.4	152
ECM 2	Install LED Exit Signs	Yes	119	0.0	0.0	\$20.67	\$215.11	\$0.00	\$215.11	10.4	120
Lighting Control Measures			797	0.3	0.0	\$138.77	\$888.00	\$110.00	\$778.00	5.6	803
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	797	0.3	0.0	\$138.77	\$888.00	\$110.00	\$778.00	5.6	803
Gas Heating (HVAC/Process) Replacement			0	0.0	23.6	\$180.98	\$7,945.42	\$1,000.00	\$6,945.42	38.4	2,762
	Install High Efficiency Hot Water Boilers	No	0	0.0	23.6	\$180.98	\$7,945.42	\$1,000.00	\$6,945.42	38.4	2,762
TOTALS FOR ALL RECOMMENDED MEASURES			1,068	0.35	0.00	185.76	1,587.67	110.00	1,477.67	8.0	1,074.99
TOTALS FOR ALL EVALUATED MEASURES			1,068	0.3	23.6	\$366.74	\$9,533.09	\$1,110.00	\$8,423.09	23.0	3,837

* - 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).

Kane Stadium



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			21,623	50.0	\$13,682.69	\$91,333.85	\$6,365.00	\$84,968.85	6.2	21,774
ECM 1	Install LED Fixtures	Yes	21,141	49.6	\$13,377.66	\$90,290.68	\$6,300.00	\$83,990.68	6.3	21,289
ECM 2	Retrofit Fixtures with LED Lamps	Yes	482	0.4	\$305.03	\$1,043.17	\$65.00	\$978.17	3.2	485
Lighting Control Measures			128	0.1	\$80.96	\$464.00	\$40.00	\$424.00	5.2	129
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	128	0.1	\$80.96	\$464.00	\$40.00	\$424.00	5.2	129
TOTALS			21,751	50.1	\$13,763.65	\$91,797.85	\$6,405.00	\$85,392.85	6.2	21,903

* - 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).

Schmidts Woods



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			10,792	1.9	0.0	\$2,531.75	\$11,020.68	\$1,000.00	\$10,020.68	4.0	10,867
ECM 1	Install LED Fixtures	Yes	10,709	1.8	0.0	\$2,512.39	\$10,690.68	\$1,000.00	\$9,690.68	3.9	10,784
ECM 2	Retrofit Fixtures with LED Lamps	Yes	83	0.2	0.0	\$19.37	\$330.00	\$0.00	\$330.00	17.0	83
Domestic Water Heating Upgrade			78	0.0	0.0	\$18.23	\$7.17	\$0.00	\$7.17	0.4	78
ECM 3	Install Low-Flow Domestic Hot Water Devices	Yes	78	0.0	0.0	\$18.23	\$7.17	\$0.00	\$7.17	0.4	78
TOTALS			10,869	1.9	0.0	\$2,549.98	\$11,027.85	\$1,000.00	\$10,027.85	3.9	10,945

* - 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).

Little League Stadium



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			13,529	18.7	\$2,137.71	\$36,387.13	\$3,190.00	\$33,197.13	15.5	13,623
ECM 1	Install LED Fixtures	Yes	12,859	18.3	\$2,031.90	\$35,025.42	\$3,000.00	\$32,025.42	15.8	12,949
ECM 2	Retrofit Fixtures with LED Lamps	Yes	564	0.5	\$89.20	\$1,146.61	\$190.00	\$956.61	10.7	568
ECM 3	Install LED Exit Signs	Yes	105	0.0	\$16.61	\$215.11	\$0.00	\$215.11	13.0	106
Lighting Control Measures			88	0.1	\$13.86	\$348.00	\$60.00	\$288.00	20.8	88
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	88	0.1	\$13.86	\$348.00	\$60.00	\$288.00	20.8	88
Domestic Water Heating Upgrade			62	0.0	\$9.82	\$14.34	\$0.00	\$14.34	1.5	63
ECM 5	Install Low-Flow Domestic Hot Water Devices	Yes	62	0.0	\$9.82	\$14.34	\$0.00	\$14.34	1.5	63
TOTALS			13,678	18.8	\$2,161.39	\$36,749.47	\$3,250.00	\$33,499.47	15.5	13,774

* - 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).

Town Pool



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			19,147	6.7	\$2,866.13	\$19,227.14	\$435.00	\$18,792.14	6.6	19,280
ECM 1	Install LED Fixtures	Yes	17,338	6.1	\$2,595.37	\$18,039.50	\$245.00	\$17,794.50	6.9	17,459
ECM 2	Retrofit Fixtures with LED Lamps	Yes	1,809	0.6	\$270.76	\$1,187.65	\$190.00	\$997.65	3.7	1,821
Lighting Control Measures			2,127	0.8	\$318.34	\$8,410.00	\$1,075.00	\$7,335.00	23.0	2,141
	Install Occupancy Sensor Lighting Controls	No	2,127	0.8	\$318.34	\$8,410.00	\$1,075.00	\$7,335.00	23.0	2,141
Motor Upgrades			3,084	1.3	\$461.63	\$2,054.52	\$0.00	\$2,054.52	4.5	3,105
ECM 3	Premium Efficiency Motors	Yes	3,084	1.3	\$461.63	\$2,054.52	\$0.00	\$2,054.52	4.5	3,105
TOTALS FOR RECOMMENDED MEASURES			22,230	8.0	\$3,327.76	\$21,281.66	\$435.00	\$20,846.66	6.3	22,386
TOTALS FOR ALL EVALUATED MEASURES			24,357	8.7	\$3,646.10	\$29,691.66	\$1,510.00	\$28,181.66	7.7	24,527

* - 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).

Golden Ave. Pump Station

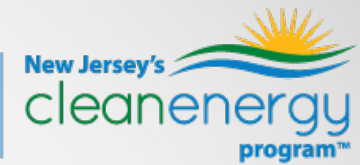


Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			6,277	1.4	\$1,067.35	\$5,145.11	\$850.00	\$4,295.11	4.0	6,321
ECM 1	Install LED Fixtures	Yes	3,953	0.7	\$672.14	\$3,203.39	\$600.00	\$2,603.39	3.9	3,981
ECM 2	Retrofit Fixtures with LED Lamps	Yes	2,114	0.7	\$359.46	\$1,511.51	\$250.00	\$1,261.51	3.5	2,129
ECM 3	Install LED Exit Signs	Yes	210	0.0	\$35.75	\$430.22	\$0.00	\$430.22	12.0	212
Lighting Control Measures			127	0.1	\$21.54	\$116.00	\$20.00	\$96.00	4.5	128
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	127	0.1	\$21.54	\$116.00	\$20.00	\$96.00	4.5	128
Motor Upgrades			2,507	4.1	\$426.31	\$16,108.57	\$0.00	\$16,108.57	37.8	2,525
	Premium Efficiency Motors	No	2,507	4.1	\$426.31	\$16,108.57	\$0.00	\$16,108.57	37.8	2,525
Electric Unitary HVAC Measures			855	0.8	\$145.36	\$4,488.66	\$276.00	\$4,212.66	29.0	861
	Install High Efficiency Electric AC	No	855	0.8	\$145.36	\$4,488.66	\$276.00	\$4,212.66	29.0	861
TOTALS FOR RECOMMENDED MEASURES			6,404	1.4	\$1,088.88	\$5,261.11	\$870.00	\$4,391.11	4.0	6,449
TOTALS FOR ALL EVALUATED MEASURES			9,766	6.3	\$1,660.56	\$25,858.34	\$1,146.00	\$24,712.34	14.9	9,835

* - 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).

Energy Efficient Best Practices



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

See individual reports for specific EE practices by building

Clean Energy Program Portfolio



ELIGIBLE SECTORS

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

INCENTIVE PROGRAMS

Equipment Rebates:

- SmartStart Retrofit
- SmartStart New Construction
- Direct Install
- Large Energy Users

Whole Buildings:

- Pay for Performance Existing Buildings
- Pay for Performance New Construction

Energy Generation:

- Combined Heat and Power (CHP)

OTHER PROGRAMS

Renewable Energy Generation:

- SREC Registration Program (SRP)

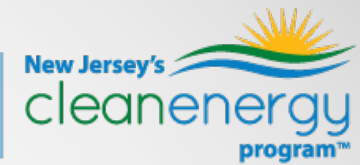
* eligible programs are highlighted in yellow

SmartStart: Overview



- Two types of incentives for high efficiency equipment installation:
 - Prescriptive
 - Custom
- Project Categories:
 - New Construction
 - Renovation
 - Remodeling
 - Equipment Replacement
- Project pre-approval required for certain equipment
- Incentives up to \$500,000 per electric account & \$500,000 per natural gas account
- Specific incentives and individual applications for Lighting, HVAC, VFDs, Refrigeration, Controls and more!

Direct Install: Overview



- Turn-key retrofit program to replace outdated and inefficient equipment, including lighting, HVAC, refrigeration, etc.
- Open to Small to Mid-Sized Commercial and Industrial facilities with an average electric demand ≤ 200 kW
- Provides incentives of up to 70% of the installed cost
- Incentives are paid directly to the contractor
 - Customer only pays remaining 30% of installed cost
 - \$125,000 project/building cap
 - \$250,000 per entity cap (up to \$500,000 if using ESIP)
- Participating contractors provide support and process all paperwork
- Fast turnaround time: Average length of time for job completion (4-6 months)

Direct Install:



Participating Contractor

Lime Energy

Tony McCoy

855-600-5463

njdi@lime-energy.com

Recommended NJCEP Incentives per Building



Secaucus Town	SmartStart	Direct Install
Recreation Center	X	X
Town Hall	X	X
Ice Rink	X	
Old Recreation Center	X	
DPW	X	X
Teen/Tot Center	X	
Shetik Field	X	
Daycare Center	X	X
Kennel	X	
Office of Emergency Mgmt	X	
Hook & Ladder Firehouse	X	X

Recommended NJCEP Incentives per Building



Secaucus Town	SmartStart	Direct Install
Fire Hose Co. #2	X	
Fire Engine Co. #3	X	
Fire Engine Co. #2/Police Station	X	X
Food Pantry	X	
Senior Center	X	
Kane Stadium	X	
Schmidts Woods	X	
Little League Stadium	X	
Town Pool	X	
Golden Ave. Pump Station	X	X

Energy Savings Improvement Program (ESIP)

- Provides alternative financing for energy savings projects at public institutions. Value of energy savings leveraged to pay for cost of EE projects over a 15 year contract. Does not count as debt/require voter approval.
- Requires an audit as 1st step (LGEA satisfies requirement)
- ESIP participation question on LGEA application
- Program administered directly by BPU

ESIP Process

New Jersey's Clean Energy Program Interaction

Initial Energy Audit completed
for entity building(s)

Local Government Energy Audit
(LGEA) may be used to meet
this requirement

Entity issues ESIP RFP (previously
approved by BPU) and selects ESCO
or DIY approach

Investment Grade Energy Audit completed
and Energy Savings Plan (ESP)
developed

P4P Energy Reduction Plan (ERP),
Direct Install, or SmartStart application
recommended submittal time frame

Third party review of ESP

Review and approval of ESP
by Board of Public Utilities (BPU)

Entity adopts ESP,
determines guarantee



FOR MORE INFORMATION

ESIP

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ESIP Coordinator

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Questions



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FOR MORE INFORMATION

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