



LGEA Presentation Lakewood Board of Fire Commissioners

October 29, 2024

New Jersey's Clean Energy Program

Lighting the way to New Jersey's Clean Energy Future

NTRODUCTIONS

- Lakewood Board of Fire Commissioners
 - Yehuda Beer Administrator
 - Erin Belfiglio District Clerk
 - Steven Mulholland Deputy Fire Administrator
- NJ Clean Energy Program
 - Sarah Walters LGEA Project Manager
 - Moussa Traore LGEA Technical Manager
 - Ryan Gibson LGEA Project Auditor
 - Melissa Lott LGEA Account Manager

- Utility Energy Efficiency Programs
 - John Sousa JCP&L
 - Tiffany Lewis JCP&L
 - Andrew Doss JCP&L
 - Jennifer Gorka NJNG
 - Fred Madera NJNG



AGENDA

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



LGEA PROCESS

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



SITE VISIT & UTILITY ANALYSIS

Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Plug Load Equipment
- Food Service & Refrigeration

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs
- Water Consumption and Costs

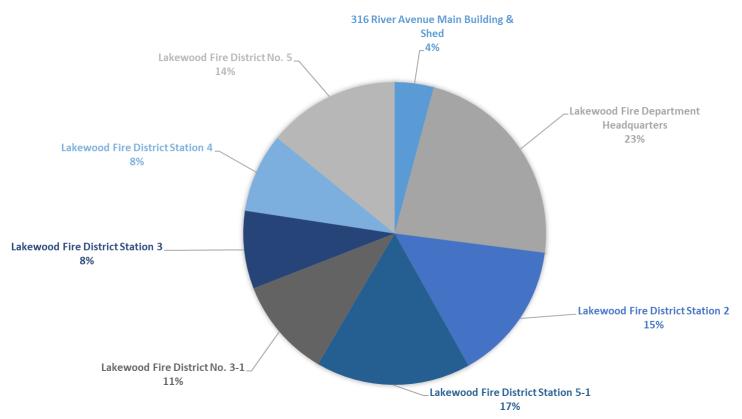
Sites Visited/Analyzed

- Lakewood Fire District Station 3-1
- Lakewood Fire District Station 4
- Lakewood Fire District Station 5-1
- 316 River Avenue Main Building & Shed
- Lakewood Fire District Station 3
- Lakewood Fire District Station 5
- Lakewood Fire Department Headquarters
- Lakewood Fire District Station 2

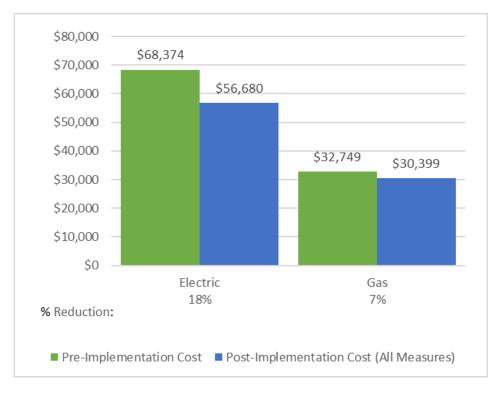


UTILITY BREAKOUT

Percent of Total Annual Energy Costs

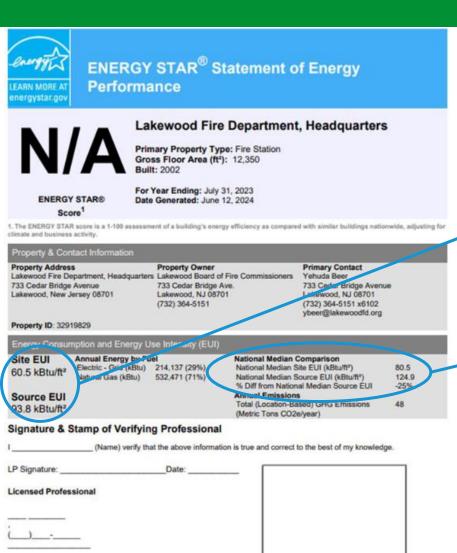


Pre & Post Implementation Cost





BENCHMARKING



Professional Engineer or Registered

Architect Stamp (if applicable)

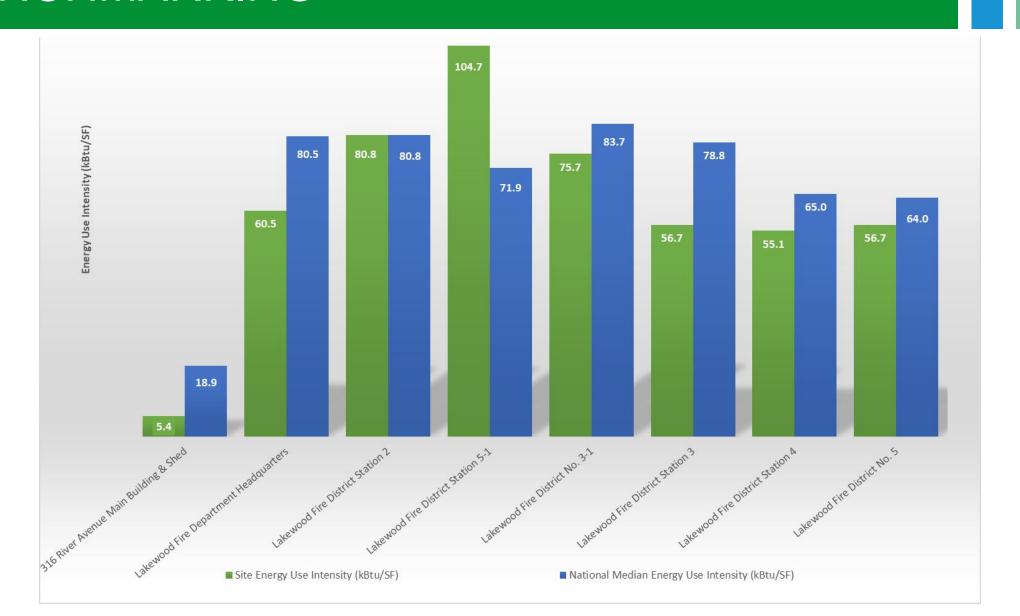
Site Name	ENERGY STAR [®]
	Score
All Sites	N/A

Site EUI 60.5 kBtu/ft² Source EUI 93.8 kBtu/ft²

National Median Comparison
National Median Site EUI (kBtu/ft²) 80.5
National Median Source EUI (kBtu/ft²) 124.9
% Diff from National Median Source EUI -25%

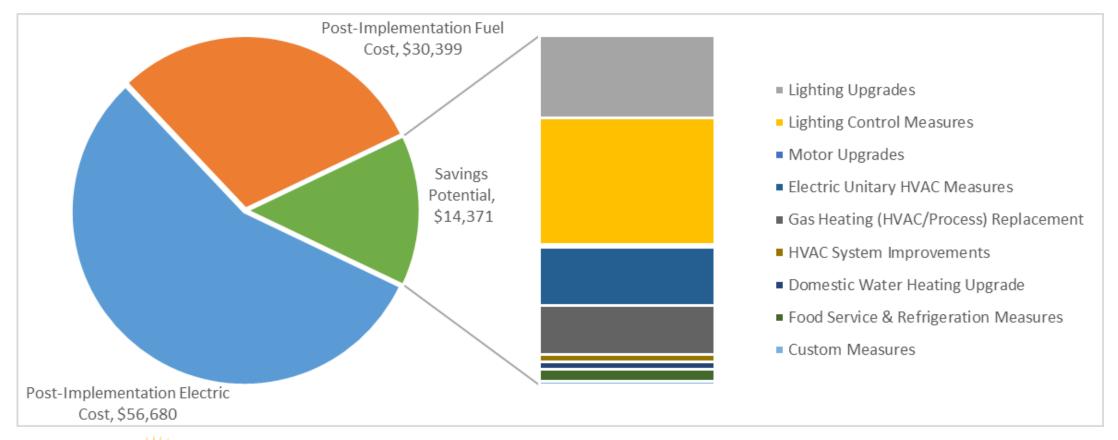
ENERGY STAR® scores are percentile ranking from 1 (least efficient) to 100 (most efficient). It compares your building's energy performance to similar buildings nationwide.

BENCHMARKING



ALL OPPORTUNITIES

Savings Potential





ALL OPPORTUNITIES (1 OF 2)

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)		CO ₂ e Emissions Reduction (lbs)
Lighting	Upgrades	16,021	2.2	-3.4	\$3,386	\$4,040	\$840	\$3,200	0.9	15,735
ECM 1	Retrofit Fixtures with LED Lamps	16,021	2.2	-3.4	\$3,386	\$4,040	\$840	\$3,200	0.9	15,735
Lighting	Control Measures	26,238	4.1	-5.6	\$5,193	\$17,990	\$3,940	\$14,050	2.7	25,767
ECM 2	Install Occupancy Sensor Lighting Controls	22,336	3.6	-4.8	\$4,500	\$14,630	\$2,270	\$12,360	2.7	21,935
ECM 3	Install High/Low Lighting Controls	3,902	0.5	-0.8	\$693	\$3,360	\$1,670	\$1,690	2.4	3,832
Motor U	Jpgrades	544	0.1	0.0	\$120	\$500	\$0	\$500	4.2	548
ECM 4	Premium Efficiency Motors	544	0.1	0.0	\$120	\$500	\$0	\$500	4.2	548
Unitary	HVAC Measures	11,737	7.6	-5.4	\$2,381	\$90,600	\$4,200	\$86,400	36.3	11,192
ECM 5	Install High Efficiency Air Conditioning Units	11,737	7.6	-5.4	\$2,381	\$90,600	\$4,200	\$86,400	36.3	11,192
Gas Hea	ting (HVAC/Process) Replacement	1,744	2.5	117.6	\$2,038	\$72,700	\$8,000	\$64,700	31.7	15,525
ECM 6	Install High Efficiency Furnaces	0	0.0	35.5	\$543	\$17,100	\$2,500	\$14,600	26.9	4,158
ECM 7	Install High Efficiency Unit Heaters	1,744	2.5	13.3	\$437	\$8,500	\$0	\$8,500	19.5	3,315
ECM 8	Install Infrared Heaters	0	0.0	68.8	\$1,059	\$47,100	\$5,500	\$41,600	39.3	8,052



ALL OPPORTUNITIES (2 OF 2)

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)		CO ₂ e Emissions Reduction (lbs)
HVAC S	ystem Improvements	764	0.0	6.2	\$271	\$1,370	\$140	\$1,230	4.5	1,496
ECM 9	Install Programmable Thermostats	764	0.0	0.0	\$180	\$380	\$0	\$380	2.1	770
ECM 10	Install Pipe Insulation	0	0.0	6.2	\$92	\$990	\$140	\$850	9.3	727
Domest	ic Water Heating Upgrade	278	0.0	17.6	\$304	\$4,510	\$550	\$3,960	13.0	2,340
ECM 11	Install Tankless Water Heater	0	0.0	1.7	\$24	\$3,300	\$300	\$3,000	125.9	198
ECM 12	Install Low-Flow DHW Devices	278	0.0	15.9	\$281	\$1,210	\$250	\$960	3.4	2,142
Food Se	rvice & Refrigeration Measures	2,613	0.3	0.0	\$514	\$12,800	\$0	\$12,800	24.9	2,631
ECM 13	Replace Refrigeration Equipment	2,613	0.3	0.0	\$514	\$12,800	\$0	\$12,800	24.9	2,631
Custom	Measures	-2,509	0.0	27.0	-\$163	\$5,900	\$0	\$5,900	-36.2	635
ECM 14	Replace Gas Fired Water Heater with Heat Pump Water Heater	-2,509	0.0	27.0	-\$163	\$5,900	\$0	\$5,900	-36.2	635
	TOTALS (ALL MEASURES)	57,429	16.8	154.1	\$14,045	\$210,410	\$17,670	\$192,740	13.7	75,869

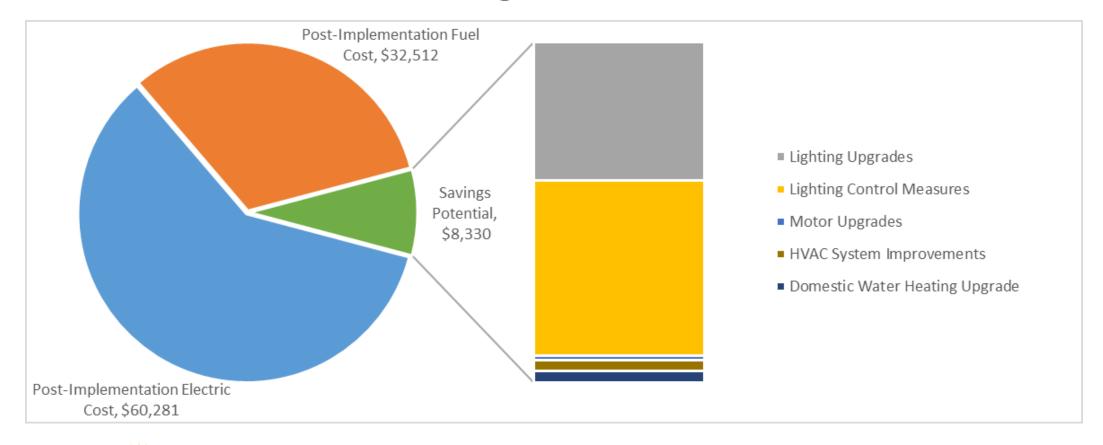
^{* -} All incentives presented in this table are included as placeholders for planning purposes and are based on previously run state rebate programs. Contact your utility provider for details on current programs.

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



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 (\$)		CO ₂ e Emissions Reduction (lbs)
Lighting	Upgrades	16,021	2.2	-3.4	\$3,386	\$4,040	\$840	\$3,200	0.9	15,735
ECM 1	Retrofit Fixtures with LED Lamps	16,021	2.2	-3.4	\$3,386	\$4,040	\$840	\$3,200	0.9	15,735
Lighting	Control Measures	19,552	3.4	-4.2	\$4,272	\$13,930	\$3,020	\$10,910	2.6	19,201
ECM 2	Install Occupancy Sensor Lighting Controls	17,513	3.1	-3.7	\$3,831	\$11,690	\$1,920	\$9,770	2.6	17,199
ECM 3	Install High/Low Lighting Controls	2,039	0.3	-0.4	\$441	\$2,240	\$1,100	\$1,140	2.6	2,002
Motor U	Jpgrades	544	0.1	0.0	\$120	\$500	\$0	\$500	4.2	548
ECM 4	Premium Efficiency Motors	544	0.1	0.0	\$120	\$500	\$0	\$500	4.2	548
HVAC Sy	ystem Improvements	764	0.0	6.2	\$271	\$1,370	\$140	\$1,230	4.5	1,496
ECM 9	Install Programmable Thermostats	764	0.0	0.0	\$180	\$380	\$0	\$380	2.1	770
ECM 10	Install Pipe Insulation	0	0.0	6.2	\$92	\$990	\$140	\$850	9.3	727
Domest	ic Water Heating Upgrade	278	0.0	15.9	\$281	\$1,210	\$250	\$960	3.4	2,142
ECM 12	Install Low-Flow DHW Devices	278	0.0	15.9	\$281	\$1,210	\$250	\$960	3.4	2,142
	TOTALS	37,159	5.7	14.5	\$8,330	\$21,050	\$4,250	\$16,800	2.0	39,123

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

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

LAKEWOOD FIRE DISTRICT STATION 3-1

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)		Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting	Control Measures		900	0.2	0	\$198	\$1,090	\$160	\$930	4.7	883
ECM 1	Install Occupancy Sensor Lighting Controls	No	666	0.2	0	\$147	\$810	\$90	\$720	4.9	654
ECM 2	Install High/Low Lighting Controls	No	234	0.0	0	\$52	\$280	\$70	\$210	4.1	230
Domest	ic Water Heating Upgrade		0	0.0	3	\$38	\$230	\$40	\$190	5.0	295
ECM 3	Install Low-Flow DHW Devices	Yes	0	0.0	3	\$38	\$230	\$40	\$190	5.0	295
Custom	Measures****		-1,505	0.0	16	-\$96	\$2,500	\$0	\$2,500	-26.0	358
ECM 4	Replace Gas Fired Water Heater with Heat Pump Water Heater***	No	-1,505	0.0	16	-\$96	\$2,500	\$0	\$2,500	-26.0	358
	TOTALS (COST EFFECTIVE MEASURES)		0	0.0	3	\$38	\$230	\$40	\$190	5.0	295
	TOTALS (ALL MEASURES)		-605	0.2	18	\$140	\$3,820	\$200	\$3,620	25.8	1,536

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

^{**** -} Negative pay back explained in section 4.3



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

LAKEWOOD FIRE DISTRICT STATION 4

#	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		934	0.1	0	\$115	\$150	\$30	\$120	1.0	917
ECM 1	Retrofit Fixtures with LED Lamps	Yes	934	0.1	0	\$115	\$150	\$30	\$120	1.0	917
Lighting	Control Measures		5,680	0.5	-1	\$698	\$2,640	\$720	\$1,920	2.8	5,578
ECM 2	Install Occupancy Sensor Lighting Controls	No	4,051	0.4	-1	\$498	\$1,800	\$220	\$1,580	3.2	3,978
ECM 3	Install High/Low Lighting Controls	No	1,629	0.2	0	\$200	\$840	\$500	\$340	1.7	1,600
Unitary	HVAC Measures		1,950	1.0	0	\$246	\$16,800	\$800	\$16,000	64.9	1,964
ECM 4	Install High Efficiency Air Conditioning Units	No	1,950	1.0	0	\$246	\$16,800	\$800	\$16,000	64.9	1,964
Gas Hea	ting (HVAC/Process) Replacement		1,744	2.5	10	\$377	\$5,900	\$0	\$5,900	15.6	2,888
ECM 5	Install High Efficiency Unit Heaters	No	1,744	2.5	10	\$377	\$5,900	\$0	\$5,900	15.6	2,888
Domest	ic Water Heating Upgrade		278	0.0	0	\$35	\$20	\$10	\$10	0.3	280
ECM 6	Install Low-Flow DHW Devices	Yes	278	0.0	0	\$35	\$20	\$10	\$10	0.3	280
Food Se	rvice & Refrigeration Measures		653	0.1	0	\$83	\$3,200	\$0	\$3,200	38.8	658
ECM 7	Replace Refrigeration Equipment	No	653	0.1	0	\$83	\$3,200	\$0	\$3,200	38.8	658
	TOTALS (COST EFFECTIVE MEASURES)		1,212	0.1	0	\$150	\$170	\$40	\$130	0.9	1,197
	TOTALS (ALL MEASURES)		11,239	4.2	8	\$1,554	\$28,710	\$1,560	\$27,150	17.5	12,284

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

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

LAKEWOOD FIRE DISTRICT STATION 5-1

#	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 (\$)		CO ₂ e Emissions Reduction (lbs)
Lighting	Upgrades		4,055	0.8	-1	\$914	\$1,720	\$320	\$1,400	1.5	3,984
ECM 1	Retrofit Fixtures with LED Lamps	Yes	4,055	0.8	-1	\$914	\$1,720	\$320	\$1,400	1.5	3,984
Lighting	Control Measures		3,488	0.6	-1	\$786	\$2,490	\$830	\$1,660	2.1	3,426
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	3,391	0.6	-1	\$764	\$2,210	\$760	\$1,450	1.9	3,331
ECM 3	Install High/Low Lighting Controls	Yes	97	0.0	0	\$22	\$280	\$70	\$210	9.6	95
Unitary	HVAC Measures		2,700	1.4	3	\$656	\$19,400	\$600	\$18,800	28.6	3,041
ECM 4	Install High Efficiency Air Conditioning Units	No	2,700	1.4	3	\$656	\$19,400	\$600	\$18,800	28.6	3,041
HVAC S	stem Improvements		0	0.0	6	\$80	\$820	\$120	\$700	8.7	651
ECM 5	Install Pipe Insulation	Yes	0	0.0	6	\$80	\$820	\$120	\$700	8.7	651
Domest	ic Water Heating Upgrade		0	0.0	2	\$25	\$120	\$30	\$90	3.6	203
ECM 6	Install Low-Flow DHW Devices	Yes	0	0.0	2	\$25	\$120	\$30	\$90	3.6	203
	TOTALS (COST EFFECTIVE MEASURES)		7,543	1.4	6	\$1,806	\$5,150	\$1,300	\$3,850	2.1	8,264
	TOTALS (ALL MEASURES)		10,243	2.8	8	\$2,462	\$24,550	\$1,900	\$22,650	9.2	11,305

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

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



316 RIVER AVENUE MAIN BUILDING & SHED

#	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		106	0.0	0	\$24	\$330	\$40	\$290	11.9	104
ECM 1	Install Occupancy Sensor Lighting Controls	No	106	0.0	0	\$24	\$330	\$40	\$290	11.9	104
Unitary	HVAC Measures		632	0.6	0	\$148	\$7,000	\$400	\$6,600	44.5	636
ECM 2	Install High Efficiency Air Conditioning Units	No	632	0.6	0	\$148	\$7,000	\$400	\$6,600	44.5	636
HVAC S	ystem Improvements		764	0.0	1	\$191	\$550	\$20	\$530	2.8	845
ECM 3	Install Programmable Thermostats	Yes	764	0.0	0	\$180	\$380	\$0	\$380	2.1	770
ECM 4	Install Pipe Insulation	Yes	0	0.0	1	\$11	\$170	\$20	\$150	13.1	75
Domest	ic Water Heating Upgrade		0	0.0	0	\$8	\$10	\$0	\$10	1.2	56
ECM 5	Install Low-Flow DHW Devices	Yes	0	0.0	0	\$8	\$10	\$0	\$10	1.2	56
	TOTALS (COST EFFECTIVE MEASURES)		764	0.0	1	\$199	\$560	\$20	\$540	2.7	900
	TOTALS (ALL MEASURES)		1,502	0.7	1	\$372	\$7,890	\$460	\$7,430	20.0	1,641

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



LAKEWOOD FIRE DISTRICT STATION 3

#	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 (\$)		CO ₂ e Emissions Reduction (lbs)
Lighting	Control Measures		2,095	0.6	0	\$467	\$2,020	\$280	\$1,740	3.7	2,058
ECM 1	Install Occupancy Sensor Lighting Controls	Yes	2,015	0.5	0	\$449	\$1,740	\$210	\$1,530	3.4	1,979
ECM 2	Install High/Low Lighting Controls	Yes	80	0.0	0	\$18	\$280	\$70	\$210	11.7	79
Unitary	HVAC Measures		1,052	0.8	0	\$238	\$16,200	\$800	\$15,400	64.7	1,060
ECM 3	Install High Efficiency Air Conditioning Units	No	1,052	0.8	0	\$238	\$16,200	\$800	\$15,400	64.7	1,060
Gas Hea	ting (HVAC/Process) Replacement		0	0.0	49	\$707	\$16,300	\$2,000	\$14,300	20.2	5,780
ECM 4	Install High Efficiency Furnaces	No	0	0.0	25	\$359	\$7,500	\$1,000	\$6,500	18.1	2,934
ECM 5	Install Infrared Heaters	No	0	0.0	24	\$348	\$8,800	\$1,000	\$7,800	22.4	2,846
Domest	ic Water Heating Upgrade		0	0.0	3	\$36	\$230	\$40	\$190	5.3	295
ECM 6	Install Low-Flow DHW Devices	Yes	0	0.0	3	\$36	\$230	\$40	\$190	5.3	295
	TOTALS (COST EFFECTIVE MEASURES)		2,095	0.6	2	\$503	\$2,250	\$320	\$1,930	3.8	2,352
	TOTALS (ALL MEASURES)		3,148	1.4	51	\$1,448	\$34,750	\$3,120	\$31,630	21.8	9,192

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

^{**** -} Negative payback explained in section 4.4



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

LAKEWOOD FIRE DISTRICT STATION 5

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (Ibs)
Lighting	Upgrades		8,090	0.8	-2	\$1,710	\$1,280	\$280	\$1,000	0.6	7,945
ECM 1	Retrofit Fixtures with LED Lamps	Yes	8,090	0.8	-2	\$1,710	\$1,280	\$280	\$1,000	0.6	7,945
Lighting	Control Measures		5,910	0.6	-1	\$1,249	\$3,830	\$690	\$3,140	2.5	5,804
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	4,974	0.5	-1	\$1,051	\$3,270	\$410	\$2,860	2.7	4,884
ECM 3	Install High/Low Lighting Controls	Yes	936	0.1	0	\$198	\$560	\$280	\$280	1.4	919
Gas Hea	ting (HVAC/Process) Replacement		0	0.0	13	\$218	\$11,400	\$1,000	\$10,400	47.6	1,565
ECM 4	Install High Efficiency Unit Heaters	No	0	0.0	4	\$60	\$2,600	\$0	\$2,600	43.5	428
ECM 5	Install Infrared Heaters	No	0	0.0	10	\$159	\$8,800	\$1,000	\$7,800	49.1	1,138
Domest	ic Water Heating Upgrade		0	0.0	2	\$28	\$120	\$30	\$90	3.2	203
ECM 6	Install Low-Flow DHW Devices	Yes	0	0.0	2	\$28	\$120	\$30	\$90	3.2	203
Food Se	rvice & Refrigeration Measures		653	0.1	0	\$140	\$3,200	\$0	\$3,200	22.8	658
ECM 7	Replace Refrigeration Equipment	No	653	0.1	0	\$140	\$3,200	\$0	\$3,200	22.8	658
	TOTALS (COST EFFECTIVE MEASURES)		14,000	1.3	-1	\$2,988	\$5,230	\$1,000	\$4,230	1.4	13,952
	TOTALS (ALL MEASURES)		14,653	1.4	12	\$3,347	\$19,830	\$2,000	\$17,830	5.3	16,175

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

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



LAKEWOOD FIRE DISTRICT HEADQUARTERS

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)		Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	100	CO ₂ e Emissions Reduction (lbs)
Lighting	Upgrades		2,942	0.6	-1	\$647	\$890	\$210	\$680	1.1	2,889
ECM 1	Retrofit Fixtures with LED Lamps	Yes	2,942	0.6	-1	\$647	\$890	\$210	\$680	1.1	2,889
Lighting	Control Measures		5,987	1.1	-1	\$1,316	\$4,440	\$930	\$3,510	2.7	5,879
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	5,296	1.0	-1	\$1,164	\$3,600	\$430	\$3,170	2.7	5,201
	Install High/Low Lighting Controls	Yes	691	0.1	0	\$152	\$840	\$500	\$340	2.2	679
Unitary	HVAC Measures		4,575	3.3	0	\$1,023	\$21,700	\$1,100	\$20,600	20.1	4,607
ECM 4	Install High Efficiency Air Conditioning Units	No	4,575	3.3	0	\$1,023	\$21,700	\$1,100	\$20,600	20.1	4,607
Gas Hea	ting (HVAC/Process) Replacement		0	0.0	28	\$496	\$17,200	\$2,500	\$14,700	29.6	3,301
ECM 5	Install High Efficiency Furnaces	No	0	0.0	10	\$184	\$9,600	\$1,500	\$8,100	44.0	1,224
ECM 6	Install Infrared Heaters	No	0	0.0	18	\$312	\$7,600	\$1,000	\$6,600	21.1	2,077
Domest	ic Water Heating Upgrade		0	0.0	3	\$61	\$240	\$50	\$190	3.1	406
ECM 7	Install Low-Flow DHW Devices	Yes	0	0.0	3	\$61	\$240	\$50	\$190	3.1	406
Food Se	rvice & Refrigeration Measures		653	0.1	0	\$146	\$3,200	\$0	\$3,200	21.9	658
ECM 8	Replace Refrigeration Equipment	No	653	0.1	0	\$146	\$3,200	\$0	\$3,200	21.9	658
	TOTALS (COST EFFECTIVE MEASURES)		8,928	1.7	2	\$2,024	\$5,570	\$1,190	\$4,380	2.2	9,174
	TOTALS (ALL MEASURES)		14,156	5.0	30	\$3,689	\$47,670	\$4,790	\$42,880	11.6	17,740

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

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



LAKEWOOD FIRE DISTRICT STATION 2

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO₂e Emissions Reduction (lbs)
Lighting	Control Measures		2,072	0.6	0	\$453	\$1,150	\$290	\$860	1.9	2,035
	Install Occupancy Sensor Lighting Controls Install High/Low Lighting Controls	Yes Yes	1,838 234	0.5 0.1	0	\$402 \$51	\$870 \$280	\$110 \$180	\$760 \$100	1.9 2.0	1,805 230
Motor U	pgrades		544	0.1	0	\$120	\$500	\$0	\$500	4.2	548
ECM 3	Premium Efficiency Motors	Yes	544	0.1	0	\$120	\$500	\$0	\$500	4.2	548
Unitary	HVAC Measures		828	0.6	-8	\$69	\$9,500	\$500	\$9,000	130.3	-116
ECM 4	Install High Efficiency Air Conditioning Units	No	828	0.6	-8	\$69	\$9,500	\$500	\$9,000	130.3	-116
Gas Hea	ting (HVAC/Process) Replacement		0	0.0	17	\$240	\$21,900	\$2,500	\$19,400	80.9	1,991
ECM 5	Install Infrared Heaters	No	0	0.0	17	\$240	\$21,900	\$2,500	\$19,400	80.9	1,991
Domest	c Water Heating Upgrade		0	0.0	5	\$73	\$3,540	\$350	\$3,190	43.9	604
ECM 6	Install Tankless Water Heater	No	0	0.0	2	\$24	\$3,300	\$300	\$3,000	125.9	198
ECM 7	Install Low-Flow DHW Devices	Yes	0	0.0	3	\$49	\$240	\$50	\$190	3.9	406
Food Se	rvice & Refrigeration Measures		653	0.1	0	\$145	\$3,200	\$0	\$3,200	22.1	658
ECM 8	Replace Refrigeration Equipment	No	653	0.1	0	\$145	\$3,200	\$0	\$3,200	22.1	658
Custom	Measures****		-1,004	0.0	11	-\$67	\$3,400	\$0	\$3,400	-50.7	277
	Replace Gas Fired Water Heater with Heat Pump Water Heater****	No	-1,004	0.0	11	-\$67	\$3,400	\$0	\$3,400	-50.7	277
	TOTALS (COST EFFECTIVE MEASURES)		2,616	0.6	3	\$622	\$1,890	\$340	\$1,550	2.5	2,989
	TOTALS (ALL MEASURES)		3,093	1.3	25	\$1,033	\$43,190	\$3,640	\$39,550	38.3	5,996

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

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

^{**** -} Negative pay back explained in section 4.7

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 Best Practices by building



WATER BEST PRACTICES





- Leak Detection and Repair
- Toilets and Urinals
- Faucets and Showerheads
- Commercial Kitchen Equipment
- Laundry Equipment
- Cooling Towners
- Steam Boiler System
- Pools and Spas

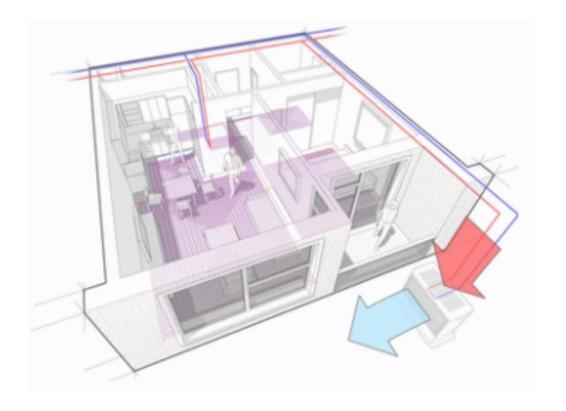
- Laboratory and Medical Equipment
- Water Metering and Submetering
- Vehicle Washing
- Single Pass Cooling System
- Landscaping and Irrigation
- On-Site Alternative Water Sources

See individual reports for specific Water Best Practices by building



MEASURES FOR FUTURE CONSIDERATION

Upgrade to a Heat Pump System





EV CHARGING STATION POTENTIAL

NJCleanEnergy.com/EV

Know your EV Charging Stations







LEVEL 1



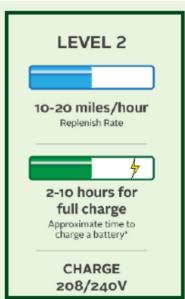
4-6 miles/hour Replinish Rate

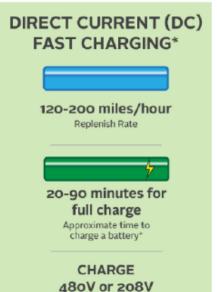


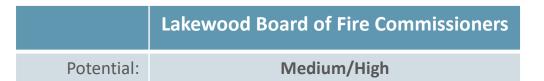
7-30 hours for full charge

Approximate time to charge a battery*

> CHARGE 110/120V









FINANCING MECHANISM: ESIP

NJCleanEnergy.com/ESIP

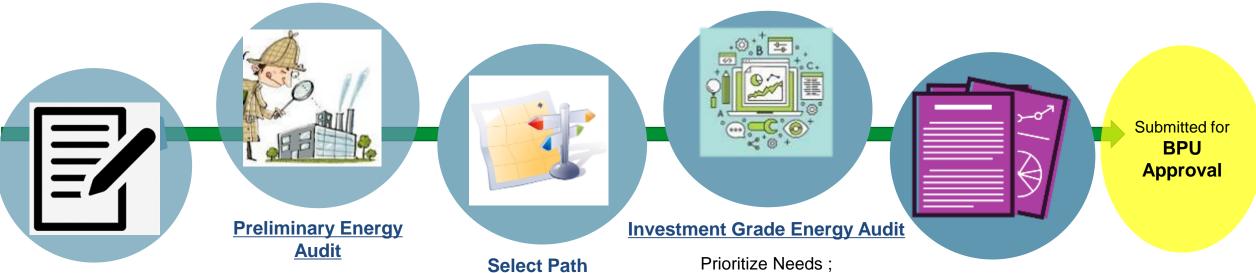
ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- Energy Performance Contracting = NJ ESIP Program
- A creative tool and financing mechanism that allows public entities to make energy efficiency improvements without impacting their budgets
- Administered by the NJBPU
- Project is paid for with the value of its own energy savings
- 2 Options: Lease Purchase Loan or Bond
- 15 or 20 year pay back term
- NJBPU Approved Incentive Programs
 - Utility or NJCEP
- Can be combined with Federal/State Grants
- No upfront capital expenses
- No referendum or impact to tax payers



ENERGY SAVINGS IMPROVEMENT PROGRAM

NJCleanEnergy.com/ESIP



ESIP Intake Form

Get informed; Begin the process Free LGEA

or

other ASHRAE Level II Audit

ESCO, Hybrid or DIY Model; Local Public Contract Law **Public School Contract Law** Compliance

Select Project's ECM's

Energy Savings Plan

Must be Cash Flow Positive; **Purchase Savings Guarantee?** Third Party Verification



ENERGY SAVINGS IMPROVEMENT PROGRAM

NJCleanEnergy.com/ESIP

FOR MORE INFORMATION

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c: 609.915.0903



Sustainable Jersey – Direct Pay



Combining NJBPU Incentives with Direct Pay

Direct Pay (Elective Pay), part of Inflation Reduction Act (IRA), allows tax-exempt entities, including municipalities and school districts, to receive tax credits for clean energy projects.

About Direct Pay

- All eligible projects receive tax credits (not competitive)
- Currently authorized for 10 years
- Projects completed in 2023 are eligible for tax credits until Nov 15
 For local governments filing on a calendar year, fiscal year deadline is May 15

Eligible Projects Include

- Renewables solar, geothermal, wind, etc.
- Electric vehicles
- Electric vehicle charging infrastructure (limited)
- Combined heat and power; Electric storage

Direct Pay can be used in combination with other funding sources like NJBPU incentives.

Examp	le
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Lightweight EV \$24,000

NJBPU Clean Fleet Grant -\$4,000

Direct Pay Tax Credit -\$7,500

Total cost to entity \$12,500

Note: Total incentive can not exceed total project cost.

For more information, visit Sustainable Jersey's Direct Pay Tax Credits page.

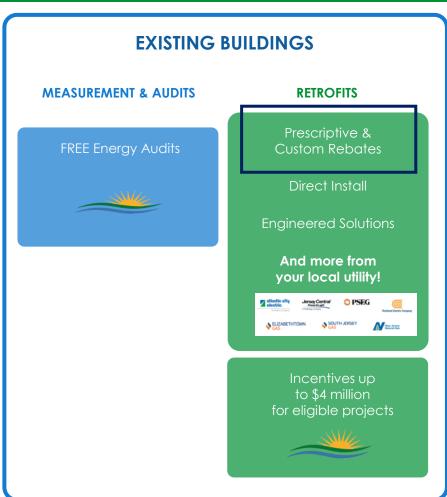
C&I ENERGY EFFICIENCY PROGRAMS

NJCleanEnergy.com

LOCAL GOVERNMENT CUSTOMERS

COMMERCIAL & INSTITUTIONAL CUSTOMERS

LARGE ENERGY CUSTOMERS

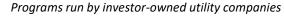
















UTILITY RUN ENERGY EFFICIENCY PROGRAMS*

NJCleanEnergy.com/Transition

PRESCRIPTIVE & CUSTOM REBATES:

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

DIRECT INSTALL:

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

ENERGY MANAGEMENT:

• Includes the Building Tune-up (BT), Retro-commissioning (RCx), and Strategic Energy Management (SEM) subprograms. These subprograms offer a comprehensive mix of custom energy-savings measures such as basic HVAC tune-ups, building systems tune-ups, controls' calibration, diagnostic testing, and installation of measures to enhance your building's energy performance and savings.



ENGINEERED SOLUTIONS:

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

*Other programs may be available to you. Check with your Utility Provider to see a full list of offering and what you may be qualified for.

Utility Run Energy Efficiency Programs

JCP&L

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