LGEA Presentation

City of Asbury Park

July 1, 2022

New Jersey's
Clean Energy Program

Lighting the way to New Jersey's Clean Energy Future

INTRODUCTIONS

- *City of Asbury Park*
  - Robert Bianchini – Director of Capital Projects & Public Facilities
  - Greg Toro – Assistant Superintendent of Public Works

- *NJ Clean Energy Program*
  - Sarah Walters – LGEA Project Manager
  - Moussa Traore – LGEA Lead Auditor
  - Michelle Rossi – ESIP Coordinator (BPU)
  - Arif Welcher – Government/Business Manager (BPU)

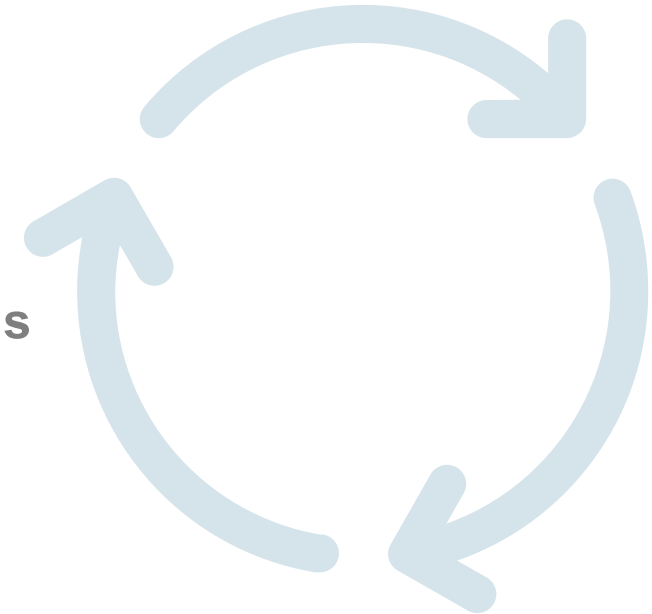
- *Utility Energy Efficiency Programs*
  - John Sousa – JCP&L
  - Sirajuddin Shaikh – JCP&L

AGENDA

- The audit process overview
- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**easures (ECMs) identified & other recommendations
- Energy Savings Improvement Program (ESIP)
- C&I Transition of EE Programs
- Questions regarding the draft audit report
- Next steps for City of Asbury Park

LGEA Process

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



New Jersey's cleanenergy program™

Site Visit & Utility Analysis

Overview of Systems, Baseline & Existing Conditions:

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

Utility Consumption:

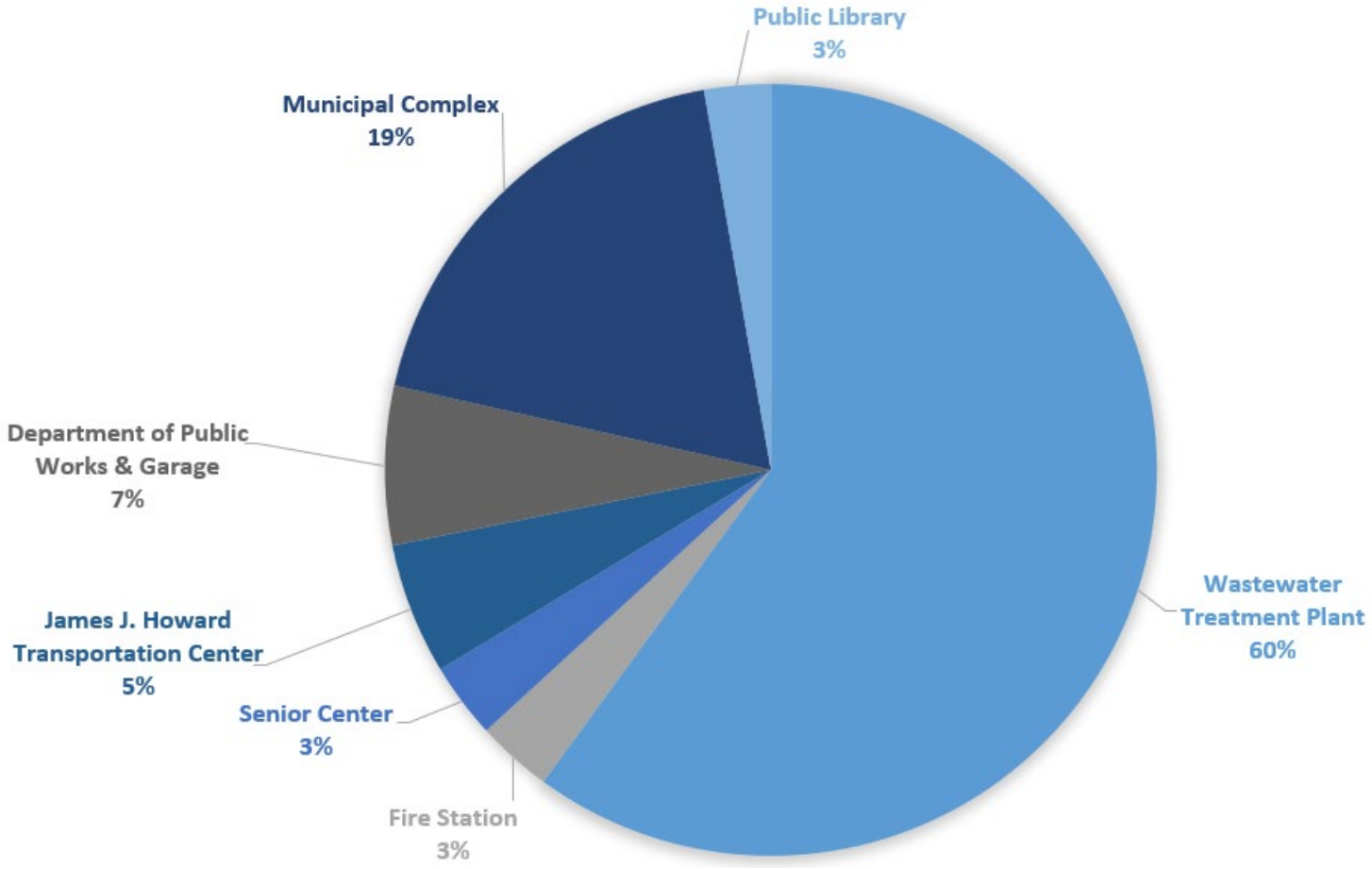
- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Sites Visited/Analyzed

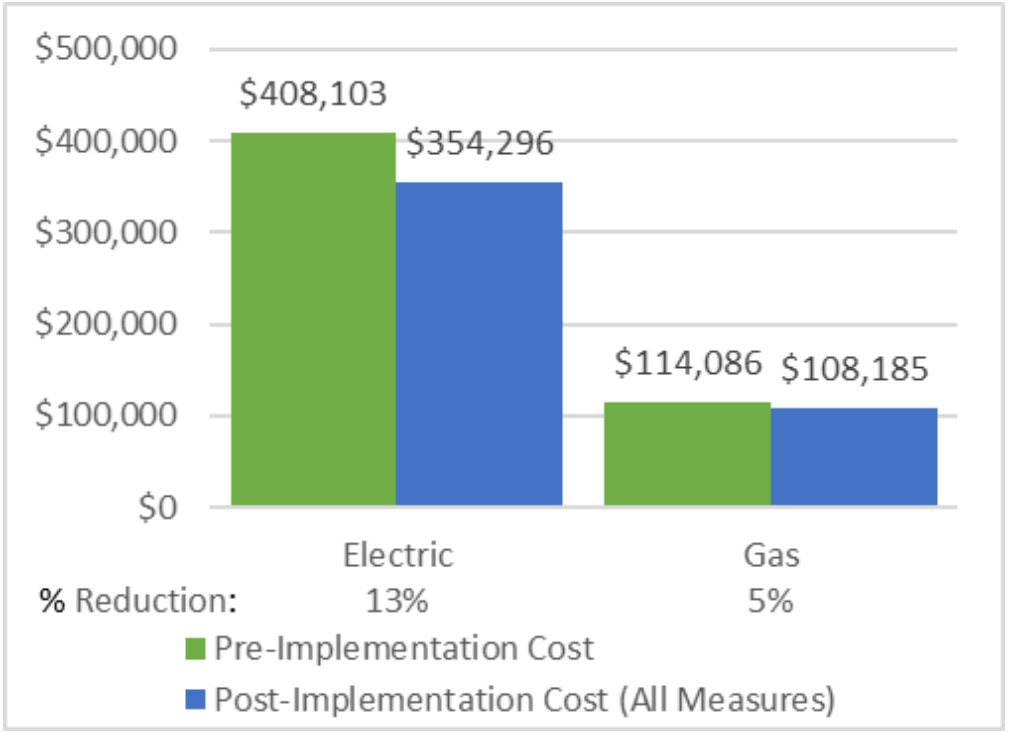
- Senior Center
- Wastewater Treatment Plant
- James J. Howard Transportation Center
- Fire Station
- Public Library
- Municipal Complex
- Department of Public Works & Garage

Utility Breakout

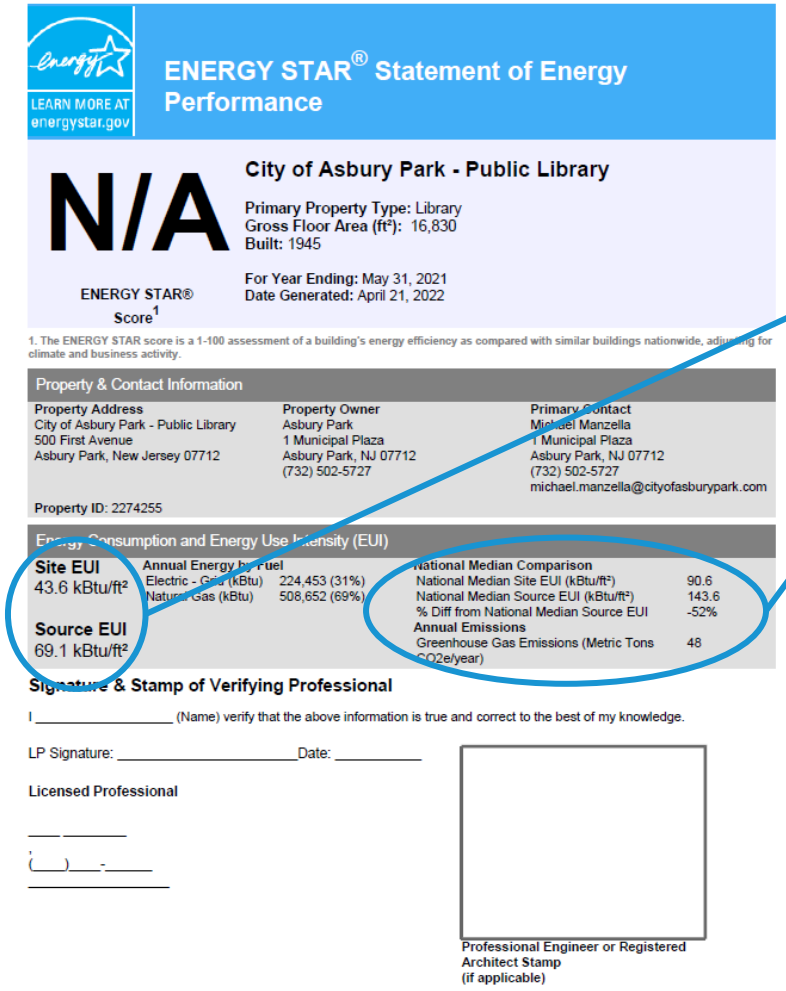
Percent of Total Annual Energy Costs



Pre & Post Implementation Cost



BENCHMARKING



ENERGY STAR® Statement of Energy Performance

LEARN MORE AT energystar.gov

N/A

ENERGY STAR® Score[1]

City of Asbury Park - Public Library

Primary Property Type: Library
Gross Floor Area (ft²): 16,830
Built: 1945

For Year Ending: May 31, 2021
Date Generated: April 21, 2022

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	Property Owner	Primary Contact
City of Asbury Park - Public Library 500 First Avenue Asbury Park, New Jersey 07712	Asbury Park 1 Municipal Plaza Asbury Park, NJ 07712 (732) 502-5727	Michael Manzella 1 Municipal Plaza Asbury Park, NJ 07712 (732) 502-5727 michael.manzella@cityofasburypark.com

Property ID: 2274255

Energy Consumption and Energy Use Intensity (EUI)

Site EUI
43.6 kBtu/ft²

Source EUI
69.1 kBtu/ft²

Annual Energy by Fuel

Electric - Grid (kBtu)	224,453 (31%)	
Natural Gas (kBtu)	508,652 (69%)	

National Median Comparison

National Median Site EUI (kBtu/ft²)	90.6
National Median Source EUI (kBtu/ft²)	143.6
% Diff from National Median Source EUI	-52%

Annual Emissions

Greenhouse Gas Emissions (Metric Tons CO2e/year)	48

Signature & Stamp of Verifying Professional

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

LP Signature: _____ Date: _____

Licensed Professional

Professional Engineer or Registered Architect Stamp (if applicable)

Site EUI
43.6 kBtu/ft²

Source EUI
69.1 kBtu/ft²

National Median Comparison

National Median Site EUI (kBtu/ft²)	90.6
National Median Source EUI (kBtu/ft²)	143.6
% Diff from National Median Source EUI	-52%

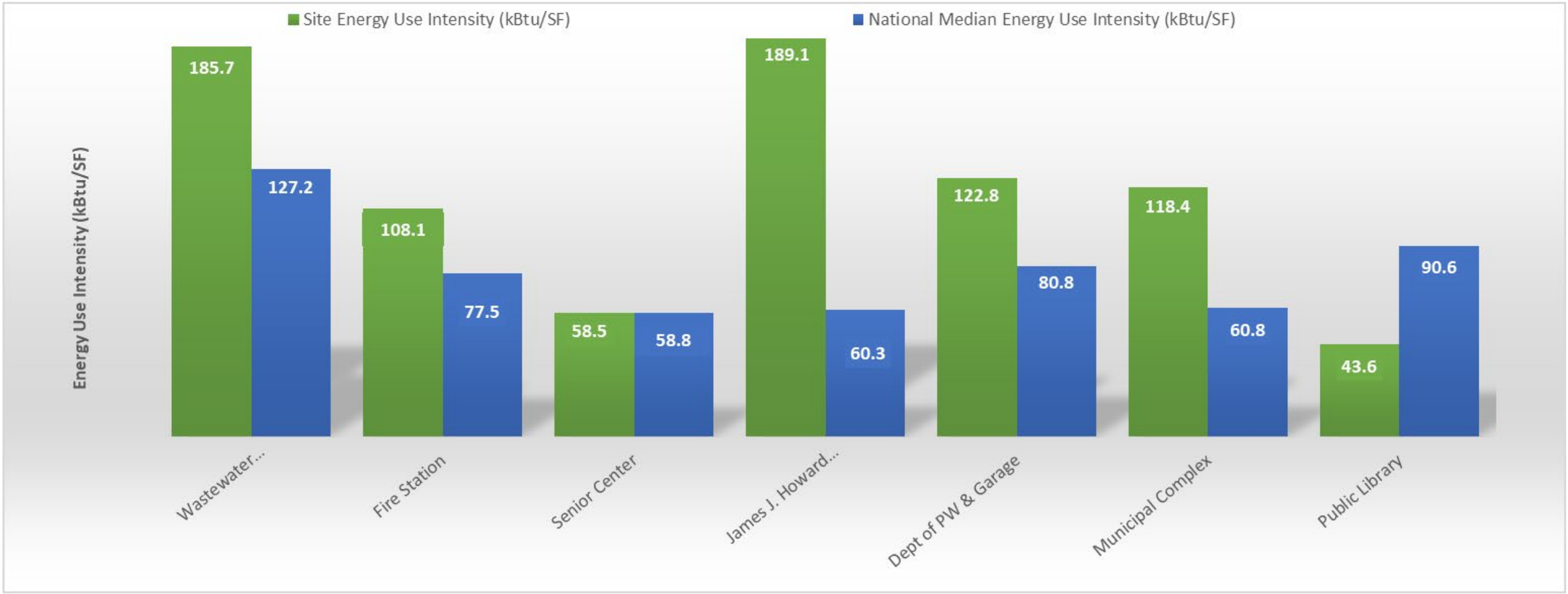
Site Name	ENERGY STAR® Score
Wastewater Treatment Facility	16
Fire Station	N/A
Senior Center	N/A
James J, Howard Transportation Center	N/A
Department of Public Works & Garage	N/A
Municipal Complex	N/A
Public Library	N/A

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

Wastewater Treatment Plants – MGD/kWh.
Metrics such as energy consumption (electric, gas, etc.), facility size, influent flow, BOD, plant load factor, etc. will impact score.

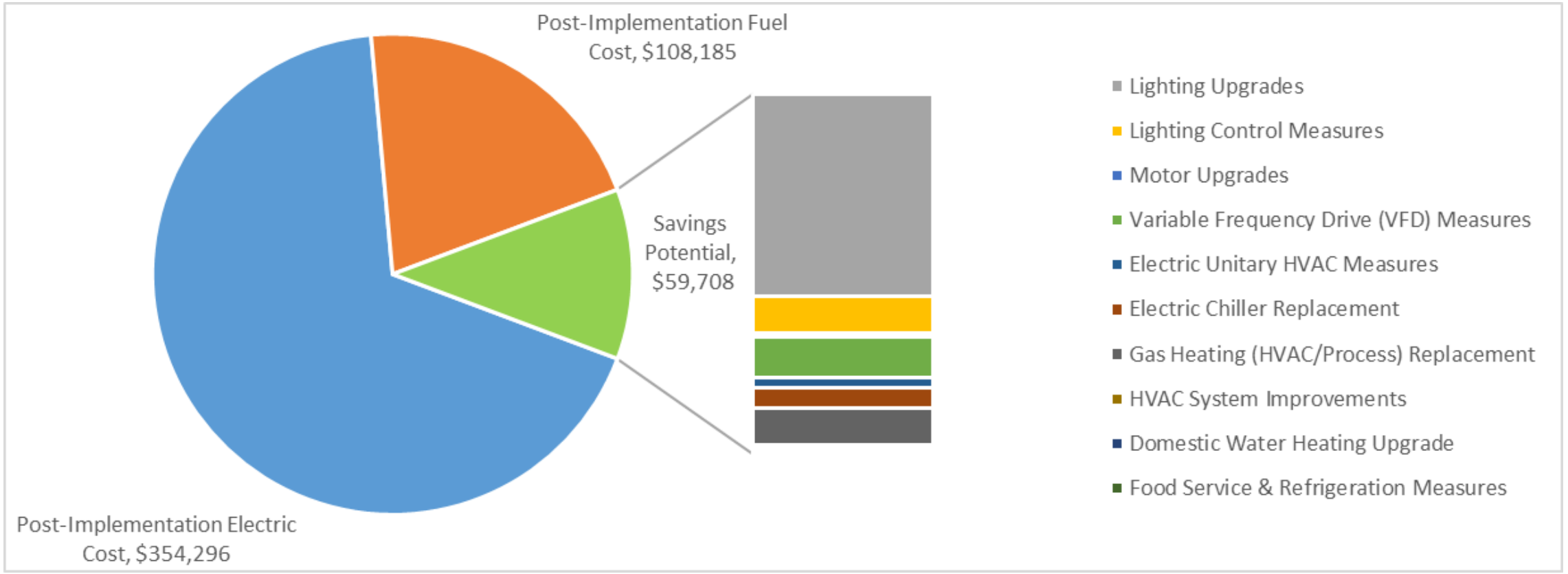
BPU New Jersey's cleanenergy program™

BENCHMARKING



All Opportunities

Savings Potential



ALL OPPORTUNITIES

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated M&L Cost ($)	Estimated Incentive ($)*	Estimated Net M&L Cost ($)	Simple Payback Period (yrs)**	CO_2e Emissions Reduction (lbs)
Lighting Upgrades		**285,697**	**42.7**	**-43.4**	**$33,640**	**$120,494**	**$24,942**	**$95,552**	**2.8**	**282,613**
ECM 1	Install LED Fixtures	103,175	3.4	-4.0	$12,424	$63,940	$11,830	$52,110	4.2	103,432
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	5,132	0.5	-1.1	$589	$848	$125	$723	1.2	5,036
ECM 3	Retrofit Fixtures with LED Lamps	177,050	38.8	-38.2	$20,580	$55,562	$12,987	$42,575	2.1	173,811
ECM 4	Install LED Exit Signs	341	0.0	-0.1	$46	$145	$0	$145	3.1	334
Lighting Control Measures		**51,963**	**9.1**	**-11.3**	**$5,931**	**$38,761**	**$8,300**	**$30,461**	**5.1**	**51,004**
ECM 5	Install Occupancy Sensor Lighting Controls	42,302	8.0	-9.2	$4,843	$32,911	$4,340	$28,571	5.9	41,521
ECM 6	Install High/Low Lighting Controls	9,661	1.1	-2.1	$1,088	$5,850	$3,960	$1,890	1.7	9,482
Motor Upgrades		**5,622**	**1.3**	**0.0**	**$612**	**$57,705**	**$0**	**$57,705**	**94.4**	**5,661**
ECM 7	Premium Efficiency Motors	5,622	1.3	0.0	$612	$57,705	$0	$57,705	94.4	5,661
Variable Frequency Drive (VFD) Measures		**63,365**	**15.7**	**0.0**	**$6,893**	**$55,765**	**$7,775**	**$47,990**	**7.0**	**63,808**
ECM 8	Install VFDs on Constant Volume (CV) Fans	47,245	12.9	0.0	$5,140	$31,614	$3,775	$27,839	5.4	47,576
ECM 9	Install VFDs on Heating Water Pumps	16,120	2.8	0.0	$1,754	$24,151	$4,000	$20,151	11.5	16,232
Electric Unitary HVAC Measures		**12,047**	**6.6**	**6.6**	**$1,515**	**$56,056**	**$4,680**	**$51,376**	**33.9**	**12,902**
ECM 10	Install High Efficiency Air Conditioning Units	12,047	6.6	6.6	$1,515	$56,056	$4,680	$51,376	33.9	12,902
Electric Chiller Replacement		**30,169**	**-7.2**	**0.0**	**$3,473**	**$98,473**	**$9,000**	**$89,473**	**25.8**	**30,380**
ECM 11	Install High Efficiency Chillers	30,169	-7.2	0.0	$3,473	$98,473	$9,000	$89,473	25.8	30,380

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_2e Emissions Reduction (lbs)
Gas Heating (HVAC/Process) Replacement		**0**	**0.0**	**565.5**	**$6,133**	**$140,820**	**$11,428**	**$129,392**	**21.1**	**66,208**
ECM 12	Install High Efficiency Hot Water Boilers	0	0.0	126.8	$1,307	$65,937	$4,928	$61,009	46.7	14,850
ECM 13	Install High Efficiency Furnaces	0	0.0	19.5	$215	$6,028	$500	$5,528	25.8	2,286
ECM 14	Install High Efficiency Unit Heaters	0	0.0	7.5	$87	$5,377	$0	$5,377	62.0	876
ECM 15	Install Infrared Heaters	0	0.0	411.6	$4,525	$63,478	$6,000	$57,478	12.7	48,195
HVAC System Improvements		**1,233**	**0.0**	**9.2**	**$257**	**$948**	**$100**	**$848**	**3.3**	**2,320**
ECM 16	Install Programmable Thermostats	605	0.0	9.2	$181	$660	$0	$660	3.6	1,689
ECM 17	Install Pipe Insulation	627	0.0	0.0	$77	$289	$100	$189	2.5	632
Domestic Water Heating Upgrade		**1,251**	**0.0**	**27.7**	**$460**	**$301**	**$151**	**$151**	**0.3**	**4,508**
ECM 18	Install Low-Flow DHW Devices	1,251	0.0	27.7	$460	$301	$151	$151	0.3	4,508
Food Service & Refrigeration Measures		**6,790**	**0.8**	**0.0**	**$794**	**$1,150**	**$200**	**$950**	**1.2**	**6,837**
ECM 19	Vending Machine Control	6,790	0.8	0.0	$794	$1,150	$200	$950	1.2	6,837
TOTALS		**458,136**	**68.9**	**554.3**	**$59,708**	**$570,474**	**$66,576**	**$503,898**	**8.4**	**526,241**

* - 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

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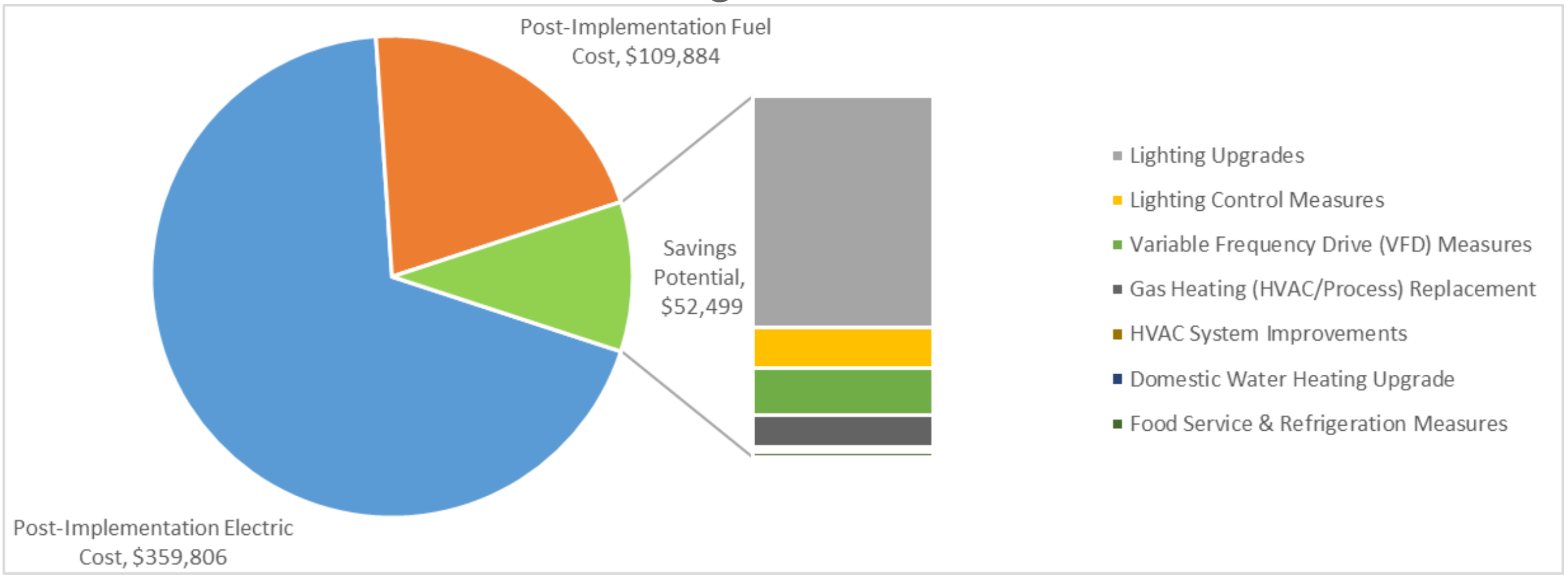
Cost Effective Opportunities

Savings Potential



Cost Effective Opportunities

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Lighting Upgrades		**285,697**	**42.7**	**-43.4**	**$33,640**	**$120,494**	**$24,942**	**$95,552**	**2.8**	**282,613**
ECM 1	Install LED Fixtures	103,175	3.4	-4.0	$12,424	$63,940	$11,830	$52,110	4.2	103,432
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ECM 3	Retrofit Fixtures with LED Lamps	177,050	38.8	-38.2	$20,580	$55,562	$12,987	$42,575	2.1	173,811
ECM 4	Install LED Exit Signs	341	0.0	-0.1	$46	$145	$0	$145	3.1	334
Lighting Control Measures		**51,963**	**9.1**	**-11.3**	**$5,931**	**$38,761**	**$8,300**	**$30,461**	**5.1**	**51,004**
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ECM 6	Install High/Low Lighting Controls	9,661	1.1	-2.1	$1,088	$5,850	$3,960	$1,890	1.7	9,482
Variable Frequency Drive (VFD) Measures		**63,365**	**15.7**	**0.0**	**$6,893**	**$55,765**	**$7,775**	**$47,990**	**7.0**	**63,808**
ECM 8	Install VFDs on Constant Volume (CV) Fans	47,245	12.9	0.0	$5,140	$31,614	$3,775	$27,839	5.4	47,576
ECM 9	Install VFDs on Heating Water Pumps	16,120	2.8	0.0	$1,754	$24,151	$4,000	$20,151	11.5	16,232
Gas Heating (HVAC/Process) Replacement		**0**	**0.0**	**411.6**	**$4,525**	**$63,478**	**$6,000**	**$57,478**	**12.7**	**48,195**
ECM 15	Install Infrared Heaters	0	0.0	411.6	$4,525	$63,478	$6,000	$57,478	12.7	48,195
HVAC System Improvements		**1,233**	**0.0**	**9.2**	**$257**	**$948**	**$100**	**$848**	**3.3**	**2,320**
ECM 16	Install Programmable Thermostats	605	0.0	9.2	$181	$660	$0	$660	3.6	1,689
ECM 17	Install Pipe Insulation	627	0.0	0.0	$77	$289	$100	$189	2.5	632
Domestic Water Heating Upgrade		**1,251**	**0.0**	**27.7**	**$460**	**$301**	**$151**	**$151**	**0.3**	**4,508**
ECM 18	Install Low-Flow DHW Devices	1,251	0.0	27.7	$460	$301	$151	$151	0.3	4,508
Food Service & Refrigeration Measures		**6,790**	**0.8**	**0.0**	**$794**	**$1,150**	**$200**	**$950**	**1.2**	**6,837**
ECM 19	Vending Machine Control	6,790	0.8	0.0	$794	$1,150	$200	$950	1.2	6,837
TOTALS		**410,299**	**68.3**	**393.9**	**$52,499**	**$280,897**	**$47,468**	**$233,430**	**4.4**	**459,286**

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SENIOR CENTER

#	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_2e Emissions Reduction (lbs)
Lighting Upgrades			**13,884**	**5.5**	**-3**	**$1,866**	**$8,138**	**$1,447**	**$6,691**	**3.6**	**13,684**
ECM 1	Install LED Fixtures	Yes	1,717	0.0	0	$235	$1,051	$200	$851	3.6	1,729
ECM 2	Retrofit Fixtures with LED Lamps	Yes	12,167	5.5	-3	$1,631	$7,088	$1,247	$5,841	3.6	11,956
Lighting Control Measures			**602**	**0.3**	**0**	**$81**	**$945**	**$350**	**$595**	**7.4**	**591**
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	317	0.1	0	$43	$270	$35	$235	5.5	312
ECM 4	Install High/Low Lighting Controls	Yes	285	0.1	0	$38	$675	$315	$360	9.4	280
Domestic Water Heating Upgrade			**0**	**0.0**	**7**	**$86**	**$50**	**$25**	**$25**	**0.3**	**778**
ECM 5	Install Low-Flow DHW Devices	Yes	0	0.0	7	$86	$50	$25	$25	0.3	778
TOTALS (COST EFFECTIVE MEASURES)			**14,486**	**5.8**	**4**	**$2,033**	**$9,133**	**$1,822**	**$7,311**	**3.6**	**15,053**
TOTALS (ALL MEASURES)			**14,486**	**5.8**	**4**	**$2,033**	**$9,133**	**$1,822**	**$7,311**	**3.6**	**15,053**

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WASTEWATER TREATMENT FACILITY

#	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_2e Emissions Reduction (lbs)
Lighting Upgrades			**30,303**	**2.0**	**-6**	**$3,243**	**$6,393**	**$746**	**$5,647**	**1.7**	**29,843**
ECM 1	Install LED Fixtures	Yes	5,339	0.0	0	$581	$2,409	$300	$2,109	3.6	5,377
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	1,546	0.1	0	$165	$206	$30	$176	1.1	1,515
ECM 3	Retrofit Fixtures with LED Lamps	Yes	23,418	1.9	-5	$2,497	$3,778	$416	$3,362	1.3	22,951
Lighting Control Measures			**11,943**	**1.0**	**-3**	**$1,273**	**$3,292**	**$930**	**$2,362**	**1.9**	**11,705**
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	9,486	0.8	-2	$1,012	$2,392	$285	$2,107	2.1	9,297
ECM 5	Install High/Low Lighting Controls	Yes	2,456	0.2	-1	$262	$900	$645	$255	1.0	2,407
Motor Upgrades			**5,622**	**1.3**	**0**	**$612**	**$57,705**	**$0**	**$57,705**	**94.4**	**5,661**
ECM 6	Premium Efficiency Motors	No	5,622	1.3	0	$612	$57,705	$0	$57,705	94.4	5,661
Variable Frequency Drive (VFD) Measures			**63,365**	**15.7**	**0**	**$6,893**	**$55,765**	**$7,775**	**$47,990**	**7.0**	**63,808**
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	47,245	12.9	0	$5,140	$31,614	$3,775	$27,839	5.4	47,576
ECM 8	Install VFDs on Heating Water Pumps	Yes	16,120	2.8	0	$1,754	$24,151	$4,000	$20,151	11.5	16,232
TOTALS (COST EFFECTIVE MEASURES)			**105,611**	**18.7**	**-8**	**$11,409**	**$65,450**	**$9,451**	**$55,999**	**4.9**	**105,356**
TOTALS (ALL MEASURES)			**111,233**	**20.0**	**-8**	**$12,021**	**$123,155**	**$9,451**	**$113,704**	**9.5**	**111,017**

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BPU New Jersey's cleanenergy program™

JAMES J HOWARD TRANSPORTATION CENTER

#	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_2e Emissions Reduction (lbs)
Lighting Upgrades			**59,497**	**1.0**	**-1**	**$7,330**	**$35,328**	**$8,008**	**$27,320**	**3.7**	**59,776**
ECM 1	Install LED Fixtures	Yes	53,997	0.0	0	$6,664	$33,898	$7,655	$26,243	3.9	54,374
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	35	0.0	0	$4	$51	$5	$46	10.6	35
ECM 3	Retrofit Fixtures with LED Lamps	Yes	5,465	1.0	-1	$661	$1,379	$348	$1,031	1.6	5,367
Lighting Control Measures			**396**	**0.1**	**0**	**$48**	**$656**	**$70**	**$586**	**12.2**	**389**
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	396	0.1	0	$48	$656	$70	$586	12.2	389
Unitary HVAC Measures			**6,459**	**3.6**	**7**	**$872**	**$34,499**	**$2,975**	**$31,524**	**36.2**	**7,275**
ECM 5	Install High Efficiency Air Conditioning Units	No	6,459	3.6	7	$872	$34,499	$2,975	$31,524	36.2	7,275
Domestic Water Heating Upgrade			**1,112**	**0.0**	**0**	**$137**	**$29**	**$14**	**$14**	**0.1**	**1,120**
ECM 6	Install Low-Flow DHW Devices	Yes	1,112	0.0	0	$137	$29	$14	$14	0.1	1,120
TOTALS (COST EFFECTIVE MEASURES)			**61,005**	**1.2**	**-1**	**$7,515**	**$36,012**	**$8,092**	**$27,920**	**3.7**	**61,285**
TOTALS (ALL MEASURES)			**67,464**	**4.7**	**5**	**$8,387**	**$70,511**	**$11,067**	**$59,444**	**7.1**	**68,560**

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FIRE STATION

#	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_2e Emissions Reduction (lbs)
Lighting Upgrades			**14,833**	**1.7**	**-3**	**$1,780**	**$3,870**	**$516**	**$3,354**	**1.9**	**14,610**
ECM 1	Install LED Fixtures	Yes	4,044	0.3	-1	$487	$2,186	$150	$2,036	4.2	4,003
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	2,738	0.3	-1	$328	$462	$70	$392	1.2	2,689
ECM 3	Retrofit Fixtures with LED Lamps	Yes	8,051	1.1	-2	$965	$1,221	$296	$925	1.0	7,917
Lighting Control Measures			**3,226**	**0.4**	**-1**	**$386**	**$2,380**	**$485**	**$1,895**	**4.9**	**3,168**
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	2,372	0.3	-1	$284	$1,930	$275	$1,655	5.8	2,329
ECM 5	Install High/Low Lighting Controls	Yes	854	0.1	0	$102	$450	$210	$240	2.3	839
Unitary HVAC Measures			**158**	**0.1**	**0**	**$19**	**$582**	**$0**	**$582**	**30.1**	**159**
ECM 6	Install High Efficiency Air Conditioning Units	No	158	0.1	0	$19	$582	$0	$582	30.1	159
Gas Heating (HVAC/Process) Replacement			**0**	**0.0**	**7**	**$87**	**$5,377**	**$0**	**$5,377**	**62.0**	**876**
ECM 7	Install High Efficiency Unit Heaters	No	0	0.0	7	$87	$5,377	$0	$5,377	62.0	876
HVAC System Improvements			**1,233**	**0.0**	**9**	**$257**	**$948**	**$100**	**$848**	**3.3**	**2,320**
ECM 8	Install Programmable Thermostats	Yes	605	0.0	9	$181	$660	$0	$660	3.6	1,689
ECM 9	Install Pipe Insulation	Yes	627	0.0	0	$77	$289	$100	$189	2.5	632
Domestic Water Heating Upgrade			**139**	**0.0**	**0**	**$17**	**$7**	**$4**	**$4**	**0.2**	**140**
ECM 10	Install Low-Flow DHW Devices	Yes	139	0.0	0	$17	$7	$4	$4	0.2	140
Food Service & Refrigeration Measures			**1,954**	**0.2**	**0**	**$239**	**$460**	**$50**	**$410**	**1.7**	**1,968**
ECM 11	Vending Machine Control	Yes	1,954	0.2	0	$239	$460	$50	$410	1.7	1,968
TOTALS (COST EFFECTIVE MEASURES)			**21,385**	**2.3**	**6**	**$2,679**	**$7,665**	**$1,155**	**$6,511**	**2.4**	**22,206**
TOTALS (ALL MEASURES)			**21,543**	**2.3**	**13**	**$2,786**	**$13,624**	**$1,155**	**$12,469**	**4.5**	**23,241**

* - 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).

PUBLIC 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_2e Emissions Reduction (lbs)
Lighting Upgrades			**22,810**	**8.1**	**-4**	**$3,119**	**$14,013**	**$3,696**	**$10,317**	**3.3**	**22,537**
ECM 1	Install LED Fixtures	Yes	5,462	0.0	0	$756	$3,535	$950	$2,585	3.4	5,500
ECM 2	Retrofit Fixtures with LED Lamps	Yes	17,008	8.1	-4	$2,316	$10,333	$2,746	$7,587	3.3	16,703
ECM 3	Install LED Exit Signs	Yes	341	0.0	0	$46	$145	$0	$145	3.1	334
Lighting Control Measures			**4,375**	**2.1**	**-1**	**$596**	**$7,477**	**$1,125**	**$6,352**	**10.7**	**4,296**
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	4,332	2.0	-1	$590	$7,252	$950	$6,302	10.7	4,254
ECM 5	Install High/Low Lighting Controls	Yes	42	0.0	0	$6	$225	$175	$50	8.6	42
TOTALS (COST EFFECTIVE MEASURES)			**27,185**	**10.2**	**-3**	**$3,726**	**$21,533**	**$4,843**	**$16,690**	**4.5**	**26,971**
TOTALS (ALL MEASURES)			**27,185**	**10.2**	**-3**	**$3,726**	**$21,533**	**$4,843**	**$16,690**	**4.5**	**26,971**

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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_2e Emissions Reduction (lbs)
Lighting Upgrades			**107,122**	**17.2**	**-22**	**$12,102**	**$32,126**	**$6,390**	**$25,736**	**2.1**	**105,247**
ECM 1	Install LED Fixtures	Yes	11,684	1.3	-2	$1,324	$9,098	$765	$8,333	6.3	11,521
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	811	0.1	0	$92	$129	$20	$109	1.2	797
ECM 3	Retrofit Fixtures with LED Lamps	Yes	94,627	15.8	-20	$10,687	$22,900	$5,605	$17,295	1.6	92,929
Lighting Control Measures			**29,752**	**4.6**	**-6**	**$3,360**	**$20,929**	**$4,500**	**$16,429**	**4.9**	**29,218**
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	23,974	4.1	-5	$2,708	$17,779	$2,335	$15,444	5.7	23,544
ECM 5	Install High/Low Lighting Controls	Yes	5,778	0.6	-1	$652	$3,150	$2,165	$985	1.5	5,674
Unitary HVAC Measures			**4,139**	**2.1**	**0**	**$477**	**$15,088**	**$1,113**	**$13,975**	**29.3**	**4,168**
ECM 6	Install High Efficiency Air Conditioning Units	No	4,139	2.1	0	$477	$15,088	$1,113	$13,975	29.3	4,168
Electric Chiller Replacement			**30,169**	**-7.2**	**0**	**$3,473**	**$98,473**	**$9,000**	**$89,473**	**25.8**	**30,380**
ECM 7	Install High Efficiency Chillers	No	30,169	-7.2	0	$3,473	$98,473	$9,000	$89,473	25.8	30,380
Gas Heating (HVAC/Process) Replacement			**0**	**0.0**	**127**	**$1,307**	**$65,937**	**$4,928**	**$61,009**	**46.7**	**14,850**
ECM 8	Install High Efficiency Hot Water Boilers	No	0	0.0	127	$1,307	$65,937	$4,928	$61,009	46.7	14,850
Domestic Water Heating Upgrade			**0**	**0.0**	**17**	**$176**	**$129**	**$65**	**$65**	**0.4**	**2,000**
ECM 9	Install Low-Flow DHW Devices	Yes	0	0.0	17	$176	$129	$65	$65	0.4	2,000
Food Service & Refrigeration Measures			**3,224**	**0.4**	**0**	**$371**	**$460**	**$100**	**$360**	**1.0**	**3,246**
ECM 10	Vending Machine Control	Yes	3,224	0.4	0	$371	$460	$100	$360	1.0	3,246
TOTALS (COST EFFECTIVE MEASURES)			**140,097**	**22.2**	**-12**	**$16,009**	**$53,644**	**$11,055**	**$42,589**	**2.7**	**139,711**
TOTALS (ALL MEASURES)			**174,405**	**17.1**	**115**	**$21,266**	**$233,142**	**$26,095**	**$207,046**	**9.7**	**189,109**

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DEPARTMENT OF PUBLIC WORKS & 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_2e Emissions Reduction (lbs)
Lighting Upgrades			**37,246**	**7.1**	**-5**	**$4,200**	**$20,627**	**$4,139**	**$16,488**	**3.9**	**36,916**
ECM 1	Install LED Fixtures	Yes	20,932	1.8	-1	$2,377	$11,764	$1,810	$9,954	4.2	20,927
ECM 2	Retrofit Fixtures with LED Lamps	Yes	16,314	5.4	-4	$1,823	$8,864	$2,329	$6,535	3.6	15,989
Lighting Control Measures			**1,671**	**0.6**	**0**	**$187**	**$3,082**	**$840**	**$2,242**	**12.0**	**1,637**
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	1,425	0.5	0	$159	$2,632	$390	$2,242	14.1	1,396
ECM 4	Install High/Low Lighting Controls	Yes	246	0.1	0	$27	$450	$450	$0	0.0	241
Unitary HVAC Measures			**1,290**	**0.9**	**0**	**$147**	**$5,887**	**$593**	**$5,295**	**35.9**	**1,299**
ECM 5	Install High Efficiency Air Conditioning Units	No	1,290	0.9	0	$147	$5,887	$593	$5,295	35.9	1,299
Gas Heating (HVAC/Process) Replacement			**0**	**0.0**	**431**	**$4,739**	**$69,506**	**$6,500**	**$63,006**	**13.3**	**50,481**
ECM 6	Install High Efficiency Furnaces	No	0	0.0	20	$215	$6,028	$500	$5,528	25.8	2,286
ECM 7	Install Infrared Heaters	Yes	0	0.0	412	$4,525	$63,478	$6,000	$57,478	12.7	48,195
Domestic Water Heating Upgrade			**0**	**0.0**	**3**	**$31**	**$43**	**$22**	**$22**	**0.7**	**333**
ECM 8	Install Low-Flow DHW Devices	Yes	0	0.0	3	$31	$43	$22	$22	0.7	333
Food Service & Refrigeration Measures			**1,612**	**0.2**	**0**	**$184**	**$230**	**$50**	**$180**	**1.0**	**1,623**
ECM 9	Vending Machine Control	Yes	1,612	0.2	0	$184	$230	$50	$180	1.0	1,623
TOTALS (COST EFFECTIVE MEASURES)			**40,529**	**7.9**	**409**	**$9,127**	**$87,460**	**$11,051**	**$76,410**	**8.4**	**88,705**
TOTALS (ALL MEASURES)			**41,819**	**8.8**	**429**	**$9,489**	**$99,376**	**$12,143**	**$87,233**	**9.2**	**92,290**

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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

	Wastewater Treatment Plant	Municipal Complex
Potential:	**HIGH**	**HIGH**
System Potential: (kW)	193	107
Electric Generation: (kWh per year)	229,934	127,477
Displaced Cost: (per year)	$25,010	$14,680

Successor Solar Incentive Program

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

Community Solar Energy Pilot Program

http://www.NJCleanEnergy.com/CommunitySolar

FINANCING MECHANISM: ESIP

ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

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

BPU | New Jersey's cleanenergy program™

Financing Mechanism: ESIP

Preliminary Energy Audit

LGEA

Select Path

- ESCO Model
- Hybrid Model
- DIY Model

Investment Grade Energy Audit

Prioritize ECM's to determine project

Energy Savings Plan Developed

- Cash Flow Positive
- Third Part Audit of Plan

Submit to BPU for Approval

ESIP Coordinator

New Jersey's cleanenergy program™

ENERGY SAVINGS IMPROVEMENT PROGRAM

FOR MORE INFORMATION

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C&I Transition of Energy Efficiency Programs

https://www.njcleanenergy.com/transition

	EXISTING BUILDINGS		NEW CONSTRUCTION	DISTRIBUTED ENERGY RESOURCES
	MEASUREMENT & AUDITS	RETROFITS		
LOCAL GOVERNMENT CUSTOMERS	FREE Energy Audits	Prescriptive & Custom Rebates Direct Install Engineered Solutions **And more from your local utility!**	Prescriptive & Custom Rebates for New Construction and Gut Rehabs	Combined Heat & Power and Fuel Cell Installation Incentives Microgrid Development Battery Storage Muni EV Fleets
COMMERCIAL & INSTITUTIONAL CUSTOMERS				
LARGE ENERGY CUSTOMERS		Incentives up to $4 million for eligible projects	Pay for Performance incentives for buildings over 50,000 sq. ft.	

Key:

Programs run by investor-owned utility companies

Programs run by NJCEP

Utility Run Energy Efficiency Programs

PRESCRIPTIVE & CUSTOM REBATES:

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

DIRECT INSTALL:

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

ENGINEERED SOLUTIONS:

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

UTILITY RUN ENERGY EFFICIENCY PROGRAMS

JCP&L

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Clean Fleet Electric Vehicle Incentive Program

www.NJCleanEnergy.com/EV

- Electric vehicles are now included on the State Purchasing Contract under Award T0099
- Clean Fleet Electric Vehicle Incentive Program
  - Designed to encourage local and state governments to add EVs to their fleet
    - $4,000 per battery electric vehicle (maximum of 2); and
    - $1,500 for one Level-Two EV charging station
- Questions? **EV.programs@bpu.nj.gov**

For More Information

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THANK YOU