LGEA Presentation

Paulsboro Public Schools

April 5, 2022

New Jersey's
Clean Energy Program

Lighting the way to New Jersey's Clean Energy Future

INTRODUCTIONS

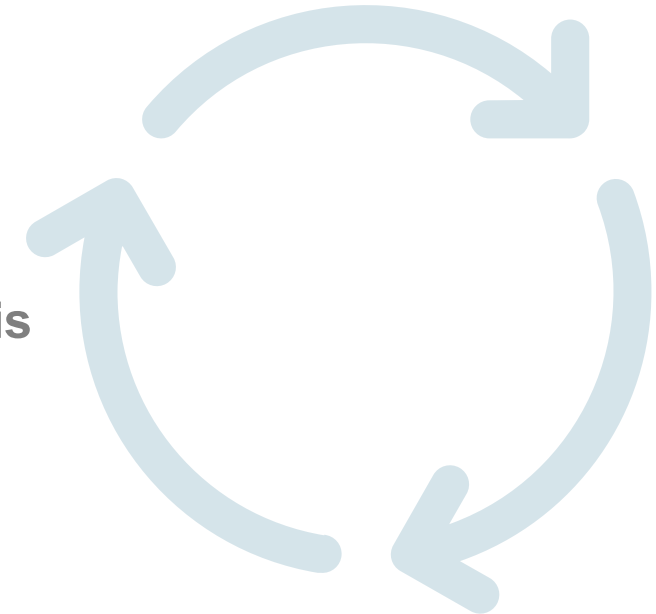
- *Paulsboro Public Schools*
  - Frank Domain – District Special Projects Consultant
- *Schneider Electric*
  - Bryan C. McGair – Paulsboro PS Designated Representative
- *NJ Clean Energy Program*
  - Sarah Walters – LGEA Project Manager
  - Moussa Traore – LGEA Lead Auditor
  - Ganiyu Husseini – LGEA Project Auditor
  - Michelle Rossi – ESIP Coordinator (BPU)
  - Arif Welcher – Government/Business Manager (BPU)
- *Utility Energy Efficiency Programs*
  - Paul Miles – Atlantic City Electric
  - Kim Bodine – South Jersey Gas

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 Paulsboro Public Schools

LGEA Process

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



Site Visit & Utility Analysis

Overview of Systems, Baseline & Existing Conditions:

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

Utility Consumption:

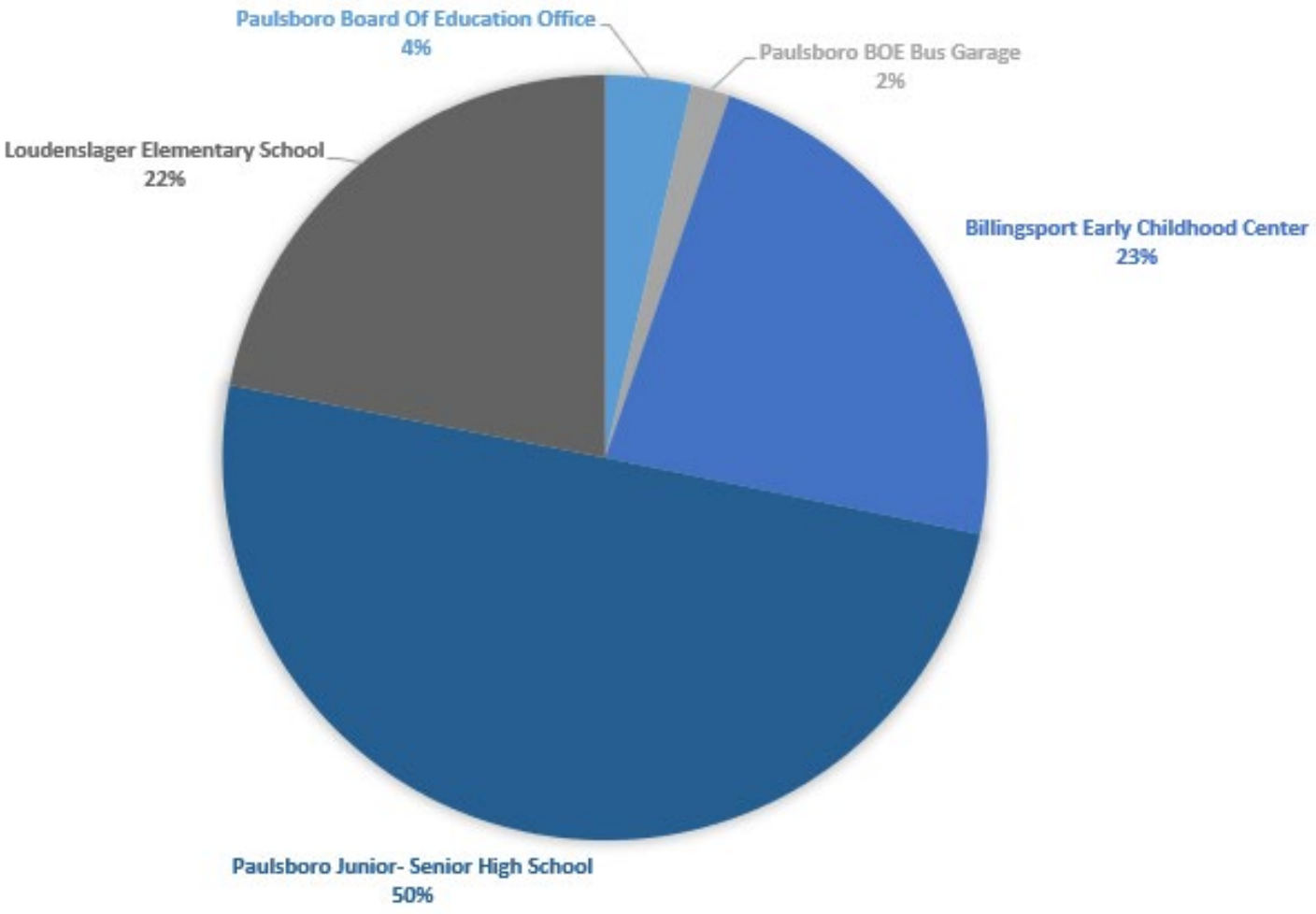
- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Sites Visited/Analyzed

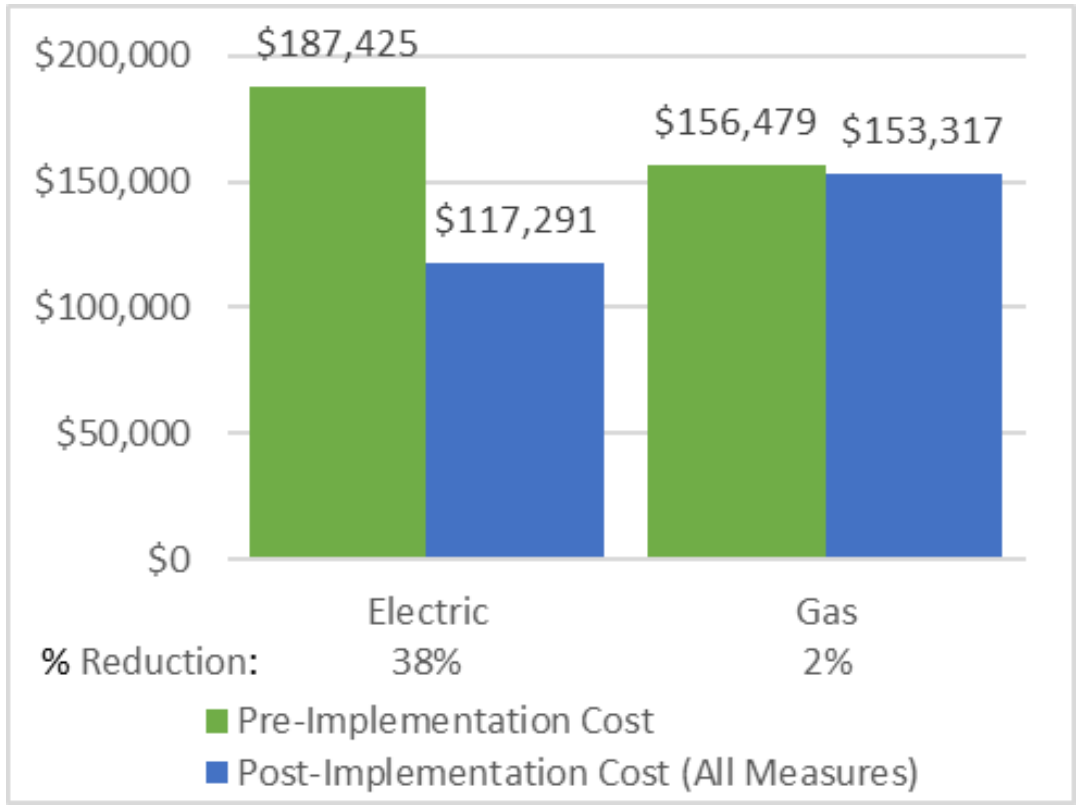
- Paulsboro Junior-Senior High School
- Loudenslager Elementary School
- Billingsport Early Childhood Center
- Paulsboro Board of Education
- Paulsboro BOE Bus Garage

UTILITY BREAKOUT

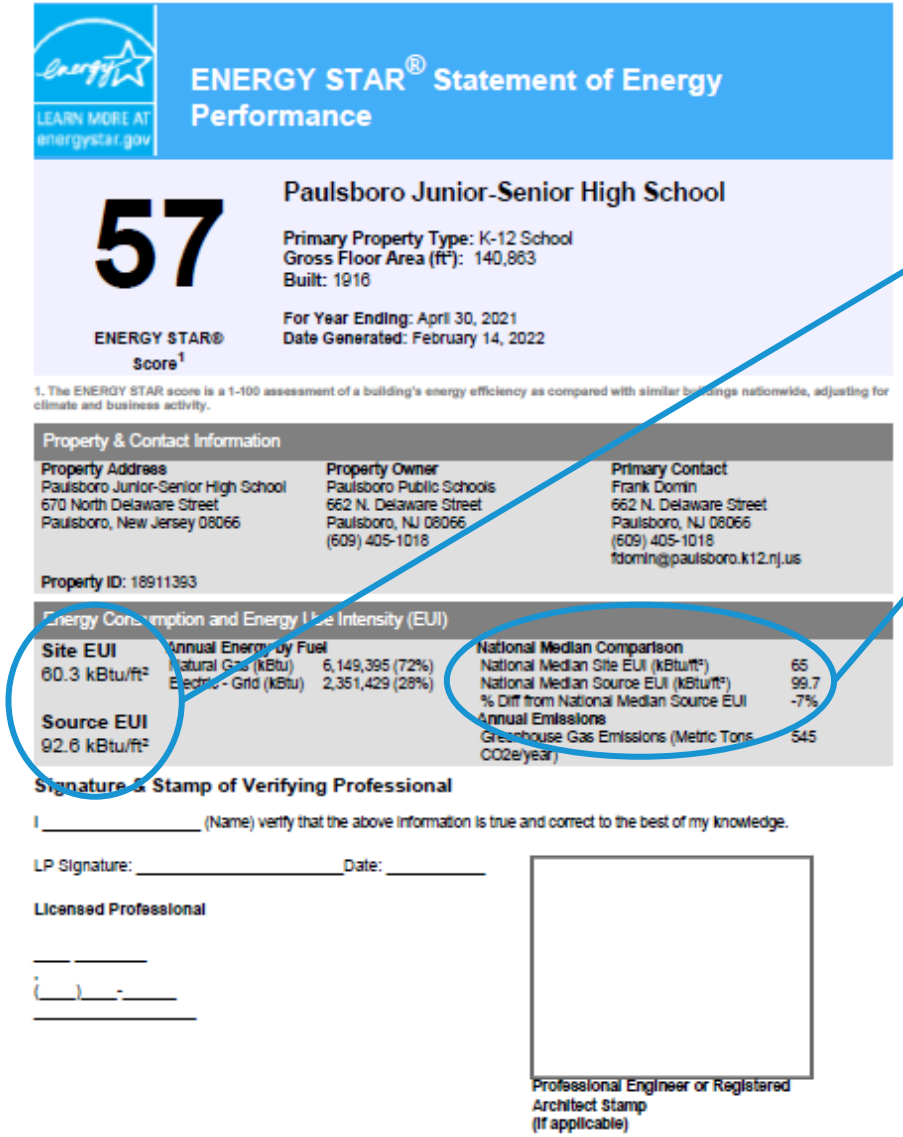
Percent of Total Annual Energy Costs



Pre & Post Implementation Cost



BENCHMARKING



ENERGY STAR® Statement of Energy Performance

LEARN MORE AT energystar.gov

57

ENERGY STAR® Score[1]

Paulsboro Junior-Senior High School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 140,863
Built: 1916

For Year Ending: April 30, 2021
Date Generated: February 14, 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
Paulsboro Junior-Senior High School 670 North Delaware Street Paulsboro, New Jersey 08066	Paulsboro Public Schools 662 N. Delaware Street Paulsboro, NJ 08066 (609) 405-1018	Frank Domin 662 N. Delaware Street Paulsboro, NJ 08066 (609) 405-1018 fdomin@paulsboro.k12.nj.us

Property ID: 18911393

Energy Consumption and Energy Use Intensity (EUI)

Site EUI
60.3 kBtu/ft²

Source EUI
92.6 kBtu/ft²

Annual Energy by Fuel
Natural Gas (kBtu) 6,149,395 (72%)
Electric - Grid (kBtu) 2,351,429 (28%)

National Median Comparison

National Median Site EUI (kBtu/ft²)	65
National Median Source EUI (kBtu/ft²)	99.7
% Diff from National Median Source EUI	-7%

Annual Emissions
Greenhouse Gas Emissions (Metric Tons CO2e/year) 545

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
60.3 kBtu/ft²

Source EUI
92.6 kBtu/ft²

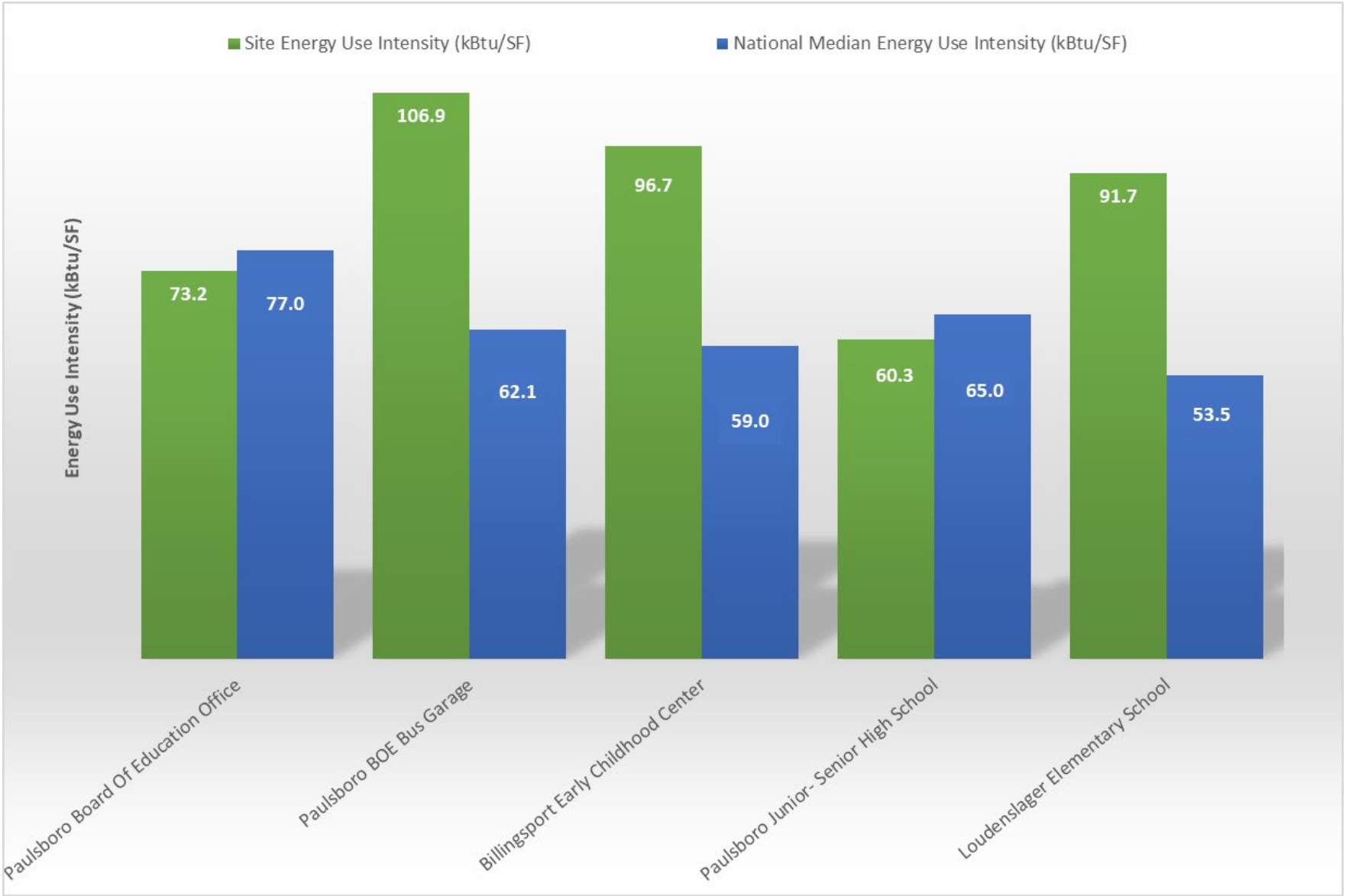
National Median Comparison

National Median Site EUI (kBtu/ft²)	65
National Median Source EUI (kBtu/ft²)	99.7
% Diff from National Median Source EUI	-7%

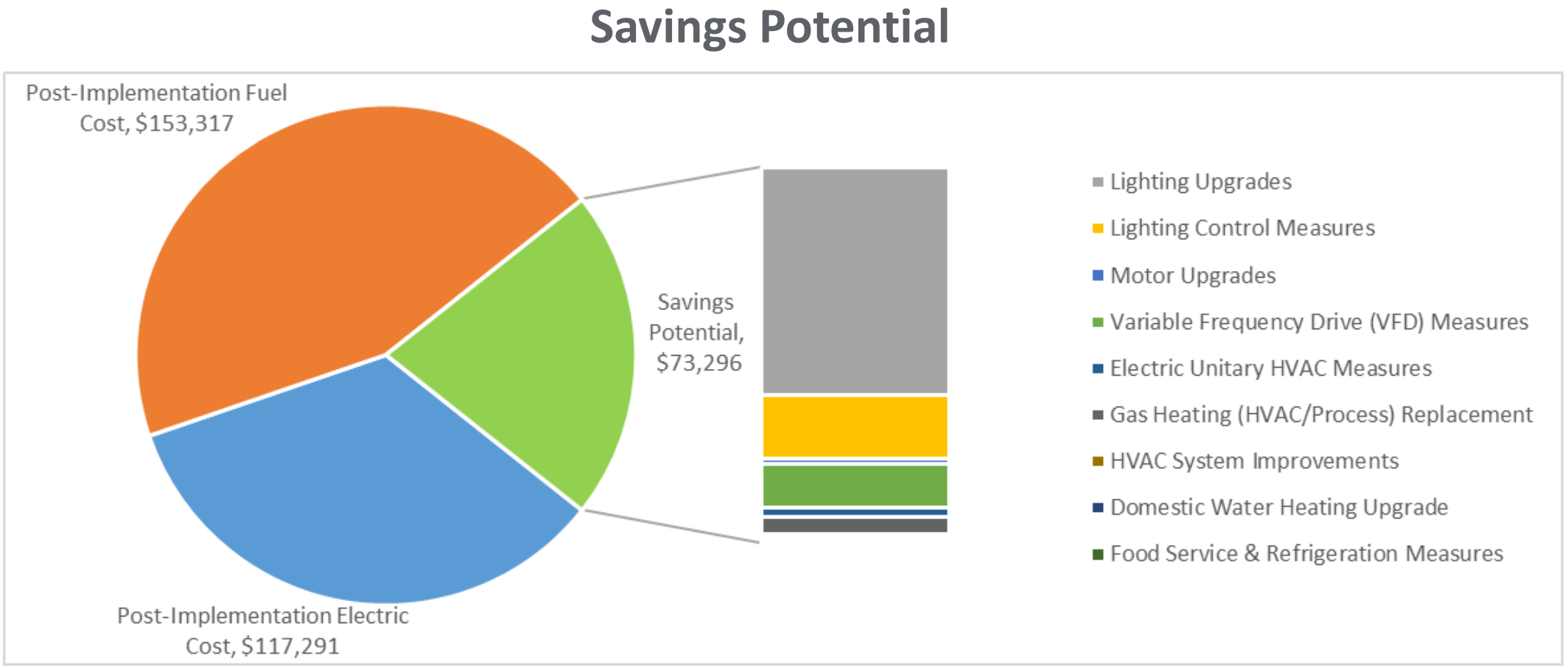
Site Name	ENERGY STAR® Score
Paulsboro Junior-Senior High School	57
Loudenslager Elementary School	7
Billingsport Early Childhood Center	8
Paulsboro BOE Office	53
Paulsboro BOE Bus Garage	N/A

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

BENCHMARKING



All Opportunities



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		**318,034**	**55.4**	**-65.6**	**$44,513**	**$111,235**	**$28,371**	**$82,864**	**1.9**	**312,575**
ECM 1	Install LED Fixtures	11,401	0.0	0.0	$1,719	$5,795	$1,200	$4,595	2.7	11,481
ECM 2	Retrofit Fixtures with LED Lamps	306,633	55.4	-65.6	$42,793	$105,440	$27,171	$78,269	1.8	301,095
Lighting Control Measures		**89,032**	**14.9**	**-18.6**	**$12,502**	**$59,404**	**$11,335**	**$48,069**	**3.8**	**87,477**
ECM 3	Install Occupancy Sensor Lighting Controls	80,887	14.0	-17.4	$11,405	$53,204	$6,725	$46,479	4.1	79,419
ECM 4	Install Daylight Dimming/Photocell Controls	2,269	0.0	0.0	$329	$800	$0	$800	2.4	2,285
ECM 5	Install High/Low Lighting Controls	5,876	0.9	-1.2	$769	$5,400	$4,610	$790	1.0	5,773
Motor Upgrades		**6,509**	**1.7**	**0.0**	**$910**	**$25,016**	**$0**	**$25,016**	**27.5**	**6,555**
ECM 6	Premium Efficiency Motors	6,509	1.7	0.0	$910	$25,016	$0	$25,016	27.5	6,555
Variable Frequency Drive (VFD) Measures		**59,477**	**16.2**	**34.8**	**$8,655**	**$83,271**	**$7,050**	**$76,221**	**8.8**	**63,969**
ECM 7	Install VFDs on Constant Volume (CV) Fans	49,237	15.1	0.0	$6,669	$57,156	$6,450	$50,706	7.6	49,581
ECM 8	Install VFDs on Heating Water Pumps	7,462	0.9	0.0	$1,173	$12,542	$350	$12,192	10.4	7,514
ECM 9	Install VFDs on Kitchen Hood Fan Motors	2,778	0.2	34.8	$813	$13,572	$250	$13,322	16.4	6,874
Electric Unitary HVAC Measures		**12,726**	**13.4**	**0.0**	**$1,781**	**$119,633**	**$6,283**	**$113,350**	**63.6**	**12,815**
ECM 10	Install High Efficiency Air Conditioning Units	5,093	5.4	0.0	$708	$60,834	$3,323	$57,511	81.2	5,128
ECM 11	Install High Efficiency Heat Pumps	7,633	8.0	0.0	$1,074	$58,799	$2,960	$55,840	52.0	7,687

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**	**261.3**	**$3,347**	**$119,651**	**$10,621**	**$109,030**	**32.6**	**30,591**
ECM 12	Install High Efficiency Hot Water Boilers	0	0.0	261.3	$3,347	$119,651	$10,621	$109,030	32.6	30,591
HVAC System Improvements		**428**	**0.0**	**6.8**	**$181**	**$660**	**$0**	**$660**	**3.7**	**1,227**
ECM 13	Install Programmable Thermostats	428	0.0	6.8	$181	$660	$0	$660	3.7	1,227
Domestic Water Heating Upgrade		**2,085**	**0.0**	**32.8**	**$747**	**$631**	**$315**	**$315**	**0.4**	**5,940**
ECM 14	Install Low-Flow DHW Devices	2,085	0.0	32.8	$747	$631	$315	$315	0.4	5,940
Food Service & Refrigeration Measures		**4,949**	**0.4**	**0.0**	**$660**	**$5,755**	**$420**	**$5,335**	**8.1**	**4,983**
ECM 15	Refrigerator/Freezer Case Electrically Commutated Motors	786	0.1	0.0	$105	$910	$120	$790	7.5	792
ECM 16	Refrigeration Controls	2,208	0.0	0.0	$295	$4,385	$250	$4,135	14.0	2,223
ECM 17	Vending Machine Control	1,954	0.2	0.0	$261	$460	$50	$410	1.6	1,968
TOTALS		**493,240**	**102.0**	**251.5**	**$73,296**	**$525,256**	**$64,395**	**$460,861**	**6.3**	**526,132**

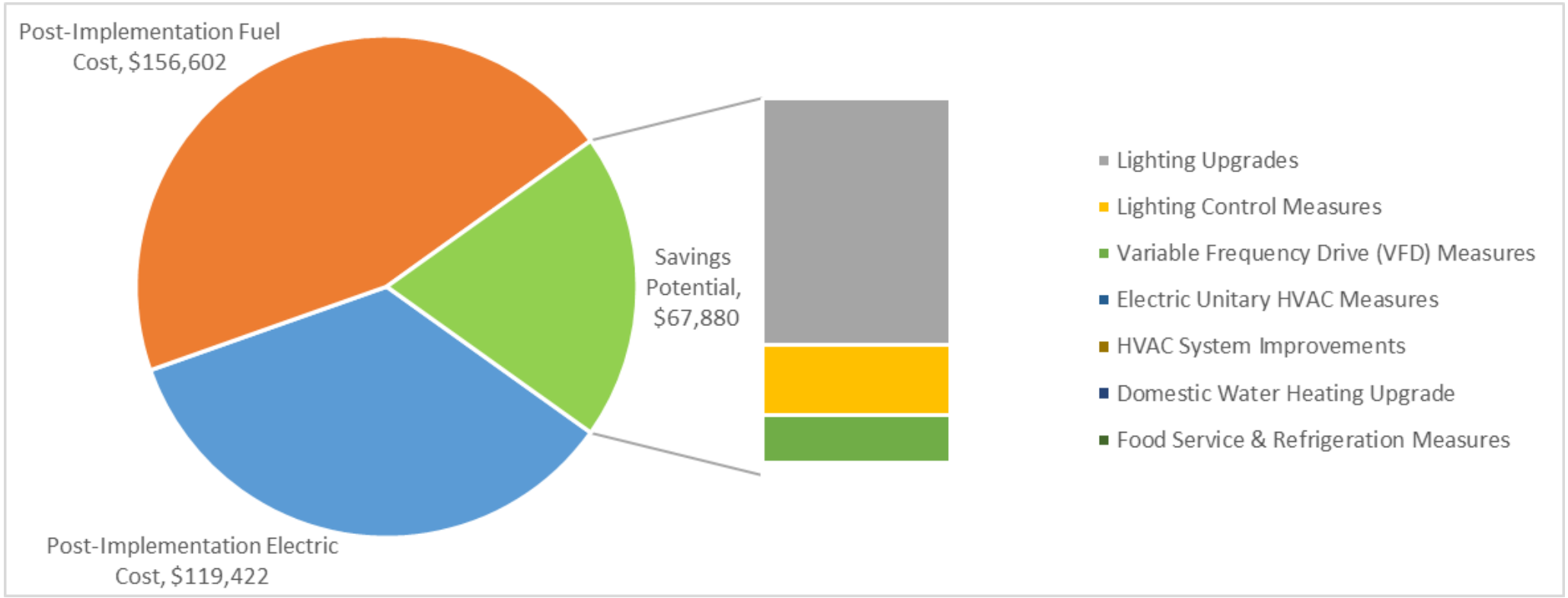
* - All incentives presented in this table are included as placesholders and are based on previously run state rebate programs. Contact your utility provider for details on current programs

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

BPU New Jersey's cleanenergy program™

Cost Effective Opportunities

Savings Potential



Cost Effective Opportunities

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated M&L Cost ($)	Estimated Incentive ($)*	Estimated Net M&L Cost ($)	Simple Payback Period (yrs)**	CO_2e Emissions Reduction (lbs)
Lighting Upgrades		**318,034**	**55.4**	**-65.6**	**$44,513**	**$111,235**	**$28,371**	**$82,864**	**1.9**	**312,575**
ECM 1	Install LED Fixtures	11,401	0.0	0.0	$1,719	$5,795	$1,200	$4,595	2.7	11,481
ECM 2	Retrofit Fixtures with LED Lamps	306,633	55.4	-65.6	$42,793	$105,440	$27,171	$78,269	1.8	301,095
Lighting Control Measures		**89,032**	**14.9**	**-18.6**	**$12,502**	**$59,404**	**$11,335**	**$48,069**	**3.8**	**87,477**
ECM 3	Install Occupancy Sensor Lighting Controls	80,887	14.0	-17.4	$11,405	$53,204	$6,725	$46,479	4.1	79,419
ECM 4	Install Daylight Dimming/Photocell Controls	2,269	0.0	0.0	$329	$800	$0	$800	2.4	2,285
ECM 5	Install High/Low Lighting Controls	5,876	0.9	-1.2	$769	$5,400	$4,610	$790	1.0	5,773
Variable Frequency Drive (VFD) Measures		**59,477**	**16.2**	**34.8**	**$8,655**	**$83,271**	**$7,050**	**$76,221**	**8.8**	**63,969**
ECM 7	Install VFDs on Constant Volume (CV) Fans	49,237	15.1	0.0	$6,669	$57,156	$6,450	$50,706	7.6	49,581
ECM 8	Install VFDs on Heating Water Pumps	7,462	0.9	0.0	$1,173	$12,542	$350	$12,192	10.4	7,514
ECM 9	Install VFDs on Kitchen Hood Fan Motors	2,778	0.2	34.8	$813	$13,572	$250	$13,322	16.4	6,874
Electric Unitary HVAC Measures		**4,250**	**2.6**	**0.0**	**$622**	**$6,485**	**$188**	**$6,297**	**10.1**	**4,280**
ECM 11	Install High Efficiency Heat Pumps	4,250	2.6	0.0	$622	$6,485	$188	$6,297	10.1	4,280
HVAC System Improvements		**428**	**0.0**	**6.8**	**$181**	**$660**	**$0**	**$660**	**3.7**	**1,227**
ECM 13	Install Programmable Thermostats	428	0.0	6.8	$181	$660	$0	$660	3.7	1,227
Domestic Water Heating Upgrade		**2,085**	**0.0**	**32.8**	**$747**	**$631**	**$315**	**$315**	**0.4**	**5,940**
ECM 14	Install Low-Flow DHW Devices	2,085	0.0	32.8	$747	$631	$315	$315	0.4	5,940
Food Service & Refrigeration Measures		**4,949**	**0.4**	**0.0**	**$660**	**$5,755**	**$420**	**$5,335**	**8.1**	**4,983**
ECM 15	Refrigerator/Freezer Case Electrically Commutated Motors	786	0.1	0.0	$105	$910	$120	$790	7.5	792
ECM 16	Refrigeration Controls	2,208	0.0	0.0	$295	$4,385	$250	$4,135	14.0	2,223
ECM 17	Vending Machine Control	1,954	0.2	0.0	$261	$460	$50	$410	1.6	1,968
TOTALS		**478,255**	**89.5**	**-9.8**	**$67,880**	**$267,440**	**$47,679**	**$219,761**	**3.2**	**480,451**

* - 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).

PAULSBORO JUNIOR-SENIOR HIGH SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated M&L Cost ($)	Estimated Incentive ($)*	Estimated Net M&L Cost ($)	Simple Payback Period (yrs)**	CO_2e Emissions Reduction (lbs)
Lighting Upgrades			**163,388**	**32.3**	**-33**	**$21,383**	**$58,653**	**$14,162**	**$44,491**	**2.1**	**160,673**
ECM 1	Install LED Fixtures	Yes	5,063	0.0	0	$676	$2,475	$300	$2,175	3.2	5,099
ECM 2	Retrofit Fixtures with LED Lamps	Yes	158,325	32.3	-33	$20,708	$56,178	$13,862	$42,316	2.0	155,574
Lighting Control Measures			**40,799**	**7.9**	**-8**	**$5,337**	**$36,814**	**$8,410**	**$28,404**	**5.3**	**40,100**
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	34,686	7.0	-7	$4,537	$31,214	$3,800	$27,414	6.0	34,089
ECM 4	Install Photocell Controls	Yes	237	0.0	0	$32	$200	$0	$200	6.3	238
ECM 5	Install High/Low Lighting Controls	Yes	5,876	0.9	-1	$768	$5,400	$4,610	$790	1.0	5,773
Motor Upgrades			**4,777**	**1.3**	**0**	**$637**	**$19,860**	**$0**	**$19,860**	**31.2**	**4,810**
ECM 6	Premium Efficiency Motors	No	4,777	1.3	0	$637	$19,860	$0	$19,860	31.2	4,810
Variable Frequency Drive (VFD) Measures			**44,379**	**13.3**	**35**	**$6,364**	**$66,652**	**$5,800**	**$60,852**	**9.6**	**48,765**
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	41,601	13.1	0	$5,551	$53,080	$5,550	$47,530	8.6	41,892
ECM 8	Install VFDs on Kitchen Hood Fan Motors	Yes	2,778	0.2	35	$813	$13,572	$250	$13,322	16.4	6,874
Unitary HVAC Measures			**7,449**	**9.9**	**0**	**$994**	**$101,032**	**$5,580**	**$95,452**	**96.0**	**7,501**
ECM 9	Install High Efficiency Air Conditioning Units	No	4,065	4.5	0	$542	$48,717	$2,808	$45,910	84.6	4,093
ECM 10	Install High Efficiency Heat Pumps	No	3,384	5.4	0	$451	$52,314	$2,772	$49,542	109.7	3,407
Domestic Water Heating Upgrade			**0**	**0.0**	**26**	**$332**	**$394**	**$197**	**$197**	**0.6**	**3,055**
ECM 11	Install Low-Flow DHW Devices	Yes	0	0.0	26	$332	$394	$197	$197	0.6	3,055
Food Service & Refrigeration Measures			**4,949**	**0.4**	**0**	**$660**	**$5,755**	**$420**	**$5,335**	**8.1**	**4,983**
ECM 12	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	786	0.1	0	$105	$910	$120	$790	7.5	792
ECM 13	Refrigeration Controls	Yes	2,208	0.0	0	$295	$4,385	$250	$4,135	14.0	2,223
ECM 14	Vending Machine Control	Yes	1,954	0.2	0	$261	$460	$50	$410	1.6	1,968
TOTALS (COST EFFECTIVE MEASURES)			**253,515**	**53.8**	**20**	**$34,077**	**$168,268**	**$28,989**	**$139,279**	**4.1**	**257,577**
TOTALS (ALL MEASURES)			**265,740**	**65.0**	**20**	**$35,708**	**$289,160**	**$34,569**	**$254,592**	**7.1**	**269,888**

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

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LOUDENSLAGER ELEMENTARY SCHOOL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated M&L Cost ($)	Estimated Incentive ($)*	Estimated Net M&L Cost ($)	Simple Payback Period (yrs)**	CO_2e Emissions Reduction (lbs)
Lighting Upgrades			79,195	11.3	-18	$11,358	$29,517	$8,040	$21,477	1.9	77,616
ECM 1	Retrofit Fixtures with LED Lamps	Yes	79,195	11.3	-18	$11,358	$29,517	$8,040	$21,477	1.9	77,616
Lighting Control Measures			27,293	3.6	-6	$3,920	$13,484	$1,690	$11,794	3.0	26,804
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	25,261	3.6	-6	$3,623	$12,884	$1,690	$11,194	3.1	24,757
ECM 3	Install Photocell Controls	Yes	2,032	0.0	0	$297	$600	$0	$600	2.0	2,047
Variable Frequency Drive (VFD) Measures			7,636	2.0	0	$1,118	$4,076	$900	$3,176	2.8	7,690
ECM 4	Install VFDs on Constant Volume (CV) Fans	Yes	7,636	2.0	0	$1,118	$4,076	$900	$3,176	2.8	7,690
Unitary HVAC Measures			4,250	2.6	0	$622	$6,485	$188	$6,297	10.1	4,280
ECM 5	Install High Efficiency Heat Pumps	Yes	4,250	2.6	0	$622	$6,485	$188	$6,297	10.1	4,280
Gas Heating (HVAC/Process) Replacement			0	0.0	222	$2,851	$57,913	$5,988	$51,925	18.2	26,025
ECM 6	Install High Efficiency Hot Water Boilers	No	0	0.0	222	$2,851	$57,913	$5,988	$51,925	18.2	26,025
Domestic Water Heating Upgrade			0	0.0	6	$75	$100	$50	$50	0.7	686
ECM 7	Install Low-Flow DHW Devices	Yes	0	0.0	6	$75	$100	$50	$50	0.7	686
TOTALS (COST EFFECTIVE MEASURES)			118,374	19.4	-18	$17,093	$53,662	$10,868	$42,795	2.5	117,075
TOTALS (ALL MEASURES)			118,374	19.4	204	$19,943	$111,575	$16,855	$94,720	4.7	143,101

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BILLINGSPORT EARLY CHILDHOOD 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			**62,973**	**9.8**	**-13**	**$9,730**	**$17,942**	**$4,870**	**$13,072**	**1.3**	**61,871**
ECM 1	Retrofit Fixtures with LED Lamps	Yes	62,973	9.8	-13	$9,730	$17,942	$4,870	$13,072	1.3	61,871
Lighting Control Measures			**19,930**	**3.1**	**-4**	**$3,079**	**$7,254**	**$985**	**$6,269**	**2.0**	**19,581**
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	19,930	3.1	-4	$3,079	$7,254	$985	$6,269	2.0	19,581
Motor Upgrades			**1,732**	**0.4**	**0**	**$272**	**$5,156**	**$0**	**$5,156**	**18.9**	**1,744**
ECM 3	Premium Efficiency Motors	No	1,732	0.4	0	$272	$5,156	$0	$5,156	18.9	1,744
Variable Frequency Drive (VFD) Measures			**7,462**	**0.9**	**0**	**$1,173**	**$12,542**	**$350**	**$12,192**	**10.4**	**7,514**
ECM 4	Install VFDs on Heating Water Pumps	Yes	7,462	0.9	0	$1,173	$12,542	$350	$12,192	10.4	7,514
Unitary HVAC Measures			**508**	**0.6**	**0**	**$80**	**$5,831**	**$201**	**$5,630**	**70.4**	**512**
ECM 5	Install High Efficiency Air Conditioning Units	No	508	0.6	0	$80	$5,831	$201	$5,630	70.4	512
Gas Heating (HVAC/Process) Replacement			**0**	**0.0**	**30**	**$389**	**$54,275**	**$4,234**	**$50,042**	**128.7**	**3,570**
ECM 6	Install High Efficiency Hot Water Boilers	No	0	0.0	30	$389	$54,275	$4,234	$50,042	128.7	3,570
Domestic Water Heating Upgrade			**1,963**	**0.0**	**0**	**$308**	**$115**	**$57**	**$57**	**0.2**	**1,976**
ECM 7	Install Low-Flow DHW Devices	Yes	1,963	0.0	0	$308	$115	$57	$57	0.2	1,976
TOTALS (COST EFFECTIVE MEASURES)			**92,328**	**13.9**	**-17**	**$14,291**	**$37,853**	**$6,262**	**$31,591**	**2.2**	**90,943**
TOTALS (ALL MEASURES)			**94,568**	**14.9**	**13**	**$15,032**	**$103,115**	**$10,697**	**$92,418**	**6.1**	**96,770**

* - 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).

PAULSBORO BOE OFFICE

#	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			**12,205**	**2.0**	**-1**	**$1,994**	**$4,868**	**$1,229**	**$3,639**	**1.8**	**12,146**
ECM 1	Install LED Fixtures	Yes	6,338	0.0	0	$1,044	$3,321	$900	$2,421	2.3	6,382
ECM 2	Retrofit Fixtures with LED Lamps	Yes	5,867	2.0	-1	$951	$1,547	$329	$1,218	1.3	5,764
Lighting Control Measures			**832**	**0.3**	**0**	**$135**	**$1,582**	**$215**	**$1,367**	**10.1**	**818**
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	832	0.3	0	$135	$1,582	$215	$1,367	10.1	818
Unitary HVAC Measures			**519**	**0.3**	**0**	**$86**	**$6,286**	**$315**	**$5,971**	**69.8**	**523**
ECM 4	Install High Efficiency Air Conditioning Units	No	519	0.3	0	$86	$6,286	$315	$5,971	69.8	523
Gas Heating (HVAC/Process) Replacement			**0**	**0.0**	**9**	**$108**	**$7,463**	**$400**	**$7,063**	**65.6**	**995**
ECM 5	Install High Efficiency Hot Water Boilers	No	0	0.0	9	$108	$7,463	$400	$7,063	65.6	995
Domestic Water Heating Upgrade			**0**	**0.0**	**1**	**$11**	**$14**	**$7**	**$7**	**0.7**	**98**
ECM 6	Install Low-Flow DHW Devices	Yes	0	0.0	1	$11	$14	$7	$7	0.7	98
TOTALS (COST EFFECTIVE MEASURES)			**13,037**	**2.3**	**-1**	**$2,140**	**$6,464**	**$1,451**	**$5,013**	**2.3**	**13,062**
TOTALS (ALL MEASURES)			**13,556**	**2.6**	**8**	**$2,333**	**$20,213**	**$2,166**	**$18,047**	**7.7**	**14,581**

* - 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).

PAULSBORO BOE BUS 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			**273**	**0.1**	**0**	**$47**	**$256**	**$70**	**$186**	**3.9**	**268**
ECM 1	Retrofit Fixtures with LED Lamps	Yes	273	0.1	0	$47	$256	$70	$186	3.9	268
Lighting Control Measures			**177**	**0.1**	**0**	**$31**	**$270**	**$35**	**$235**	**7.7**	**174**
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	177	0.1	0	$31	$270	$35	$235	7.7	174
HVAC System Improvements			**428**	**0.0**	**7**	**$181**	**$660**	**$0**	**$660**	**3.7**	**1,227**
ECM 3	Install Programmable Thermostats	Yes	428	0.0	7	$181	$660	$0	$660	3.7	1,227
Domestic Water Heating Upgrade			**123**	**0.0**	**0**	**$22**	**$7**	**$4**	**$4**	**0.2**	**124**
ECM 4	Install Low-Flow DHW Devices	Yes	123	0.0	0	$22	$7	$4	$4	0.2	124
TOTALS (COST EFFECTIVE MEASURES)			**1,001**	**0.1**	**7**	**$280**	**$1,193**	**$109**	**$1,084**	**3.9**	**1,793**
TOTALS (ALL MEASURES)			**1,001**	**0.1**	**7**	**$280**	**$1,193**	**$109**	**$1,084**	**3.9**	**1,793**

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

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

Energy Efficient Best Practices

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

See individual reports for specific EE practices by building

Measures for Future Consideration

- Window Replacements

Solar Energy Generation Potential

	High School	Loudenslager ES	Billingsport ECC
Potential:	**MEDIUM**	**HIGH**	**HIGH**
System Potential: (kW)	149	69	82
Electric Generation: (kWh per year)	112,114	82,204	97,692
Displaced Cost: (per year)	$14,960	$12,030	$15,350

Successor Solar Incentive Program

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

Community Solar Energy Pilot Program

http://www.NJCleanEnergy.com/CommunitySolar

FINANCING MECHANISM: ESIP

ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

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

Financing Mechanism: ESIP

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 Pay for Performance incentives for buildings over 50,000 sq. ft.	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		

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

Atlantic City Electric

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Greg Reinert - GReinert@trccompanies.com

South Jersey Gas

Kim Bodine - KBodine@sjindustries.com
Kim Byk - KByk@appliedenergygroup.com
Ben Adams - BenAdams@magrann.com

School & Small Business Energy Efficiency Stimulus Program

NJCleanEnergy.com/SSBEE

ABOUT

Provides grants to ensure facilities have functional HVAC systems that are tested, adjusted, and, if necessary or cost effective, repaired, upgraded or replaced to improve performance. *(SSB-VEEVR)*

Provides grants to replace noncompliant plumbing fixtures and appliances that fail to meet water efficiency standards. *(SSB-NPFA)*

REQUIREMENTS

Assessment verified by a Certified Energy Auditor or TAB Technician and proof of noncompliant equipment.

INCENTIVE CAP

Grants shall provide no more than 75% of the approved project cost up to $5 million.

For More Information

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THANK YOU