



LGEA Presentation

Morris Township Regional Day School

May 6, 2024

New Jersey's
Clean Energy Program

Lighting the way to New Jersey's Clean Energy Future

INTRODUCTIONS

- *Morris Regional Day School*
 - Angelo Vilardi – Superintendent
 - Denise Moore – Principal
 - Robert Cueto – Energy Manager
 - Frank Romano – Director of Transportation
- *NJ Clean Energy Program*
 - Sarah Walters – LGEA Project Manager
 - Moussa Traore – LGEA Technical Manager
 - Juno Romanick – LGEA Project Auditor
 - Dan Krasowsky – LGEA Account Manager
- *New Jersey BPU*
 - Sara Bluhm Gibson
 - Yulia Grinberg
- *JCP&L*
 - John Sousa
 - Andrew Doss

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)
- Energy Efficiency Incentive Programs
- Questions regarding the draft audit report
- Next steps for Morris Regional Day School

LGEA PROCESS

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



MORRIS REGIONAL DAY SCHOOL

Overview of Systems, Baseline & Existing Conditions:

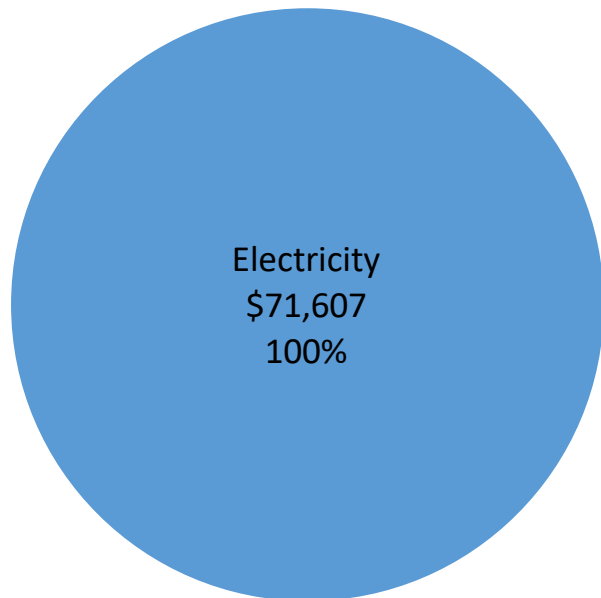
- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Plug Load Equipment

Utility Consumption:

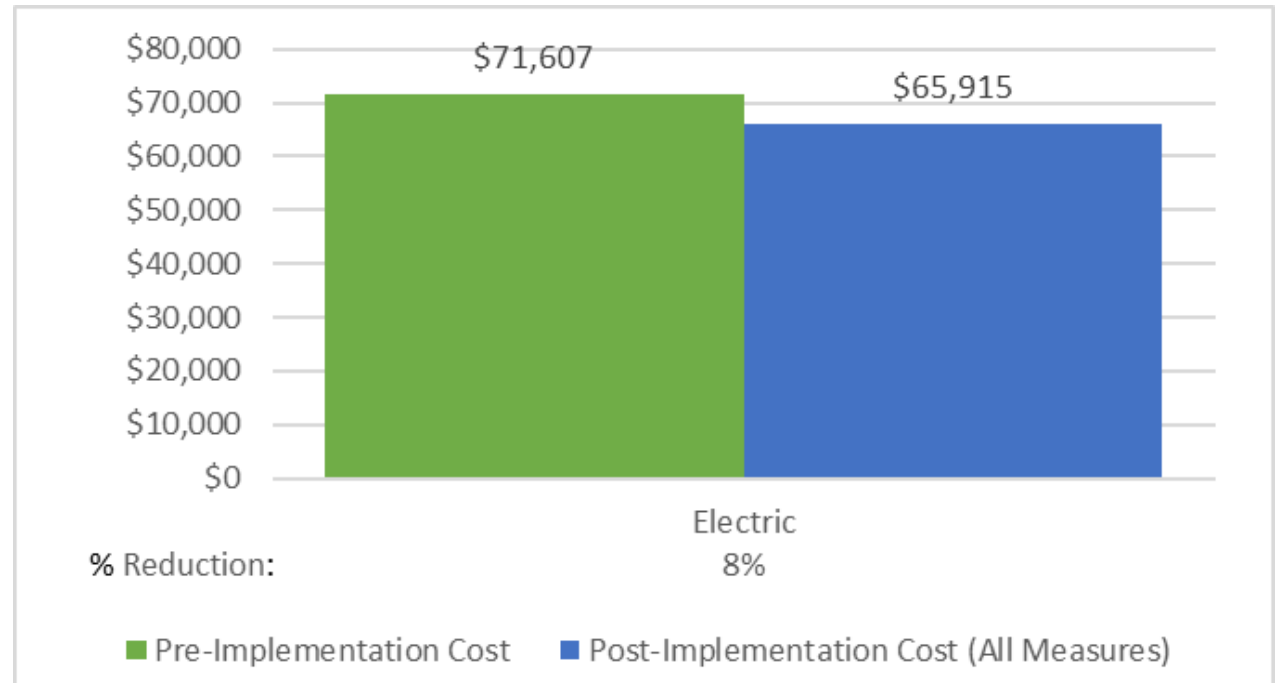
- Electric Consumption and Costs
- Water Consumption and Costs

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

DOE - Morris Township Regional Day School (Central Park School)
Primary Property Type: Other - Education
Gross Floor Area (ft²): 25,865
Built: 1981
For Year Ending: March 31, 2023
Date Generated: January 19, 2024

ENERGY STAR® Score¹

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 DOE - Morris Township Regional Day School (Central Park School) 5 Jean Street Morristown, New Jersey 07960	Property Owner State of New Jersey 428 East State Street Trenton, NJ 08625 (609) 940-4129	Primary Contact New Jersey Board of Public Utilities State Energy Services 44 South Clinton Ave Trenton, NJ 08625 6096339666 BPU.EnergyServices@bpu.nj.gov
Property ID: 30540377 Unique Building Identifier (UBID): 87G7RFFW+WX4-17-12-17-12		
Energy Consumption and Energy Use Intensity (EUI)		
Site EUI 77.4 kBtu/ft²	Annual Energy by Fuel Electric Grid (kBtu) 2,001,252 (100%)	National Median Comparison National Median Site EUI (kBtu/ft²) 39.4 National Median Source EUI (kBtu/ft²) 110.4 % Diff from National Median Source EUI 96%
Source EUI 216.6 kBtu/ft²	Annual Emissions Total (Location-Based) GHG Emissions (Metric Tons CO2e/year) 180	

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

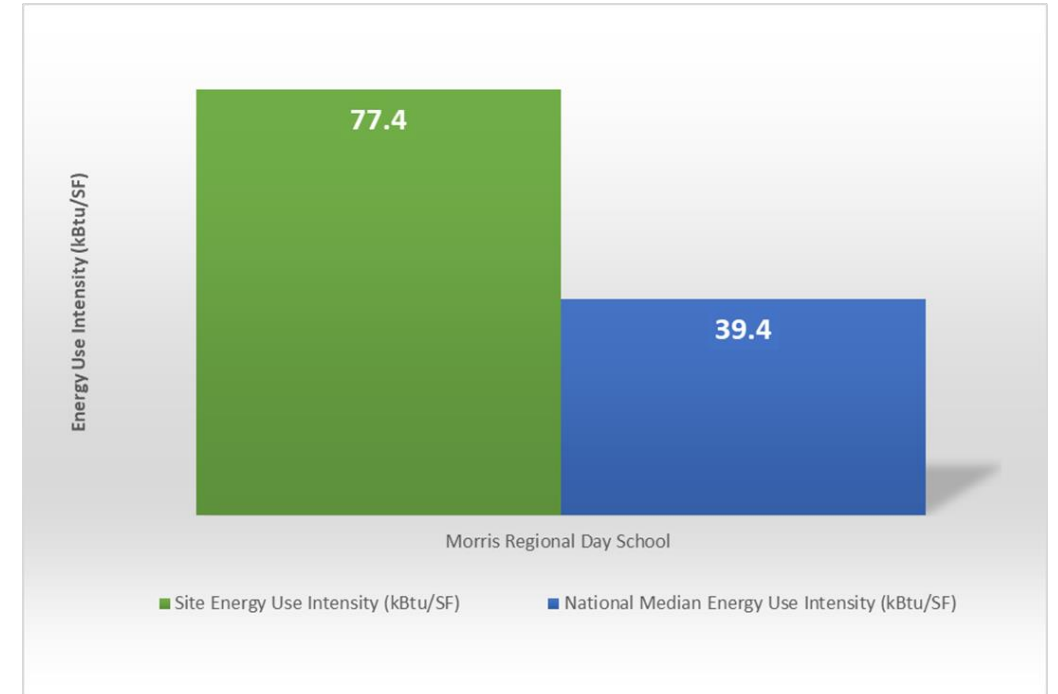
Professional Engineer or Registered Architect Stamp (if applicable)

Site EUI
77.4 kBtu/ft²

Source EUI
216.6 kBtu/ft²

National Median Comparison

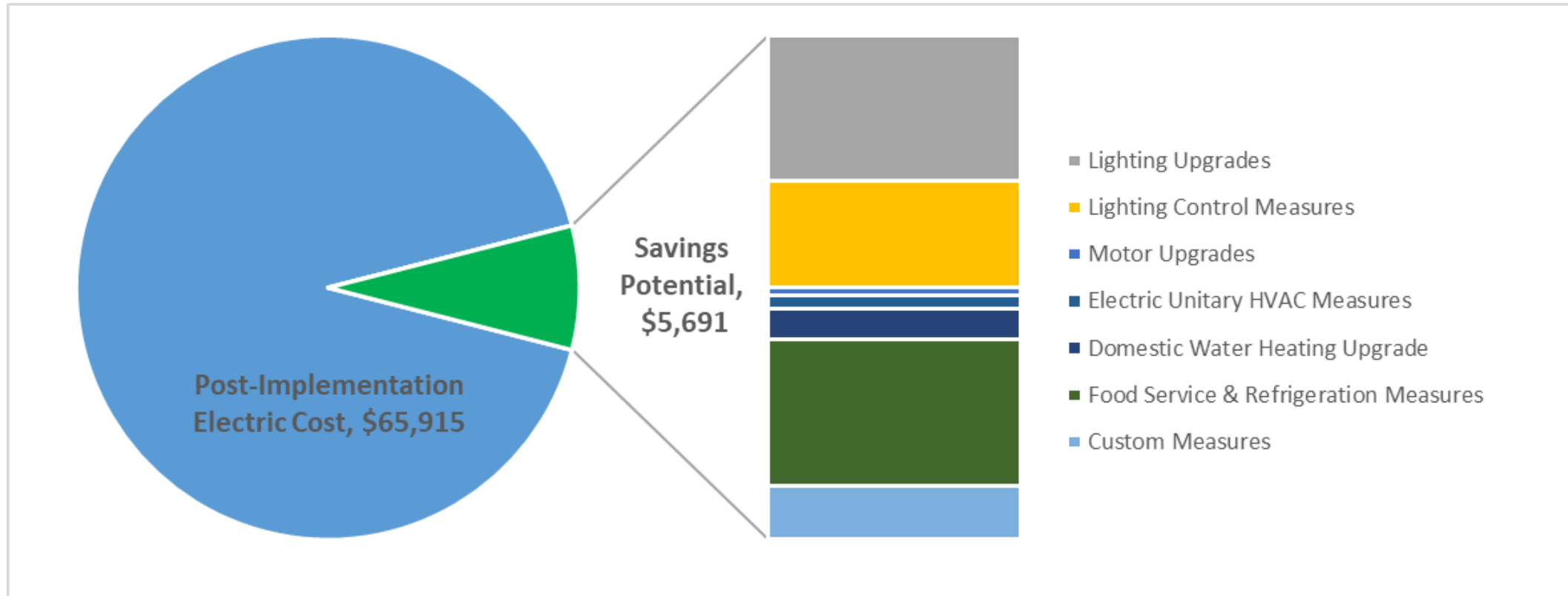
National Median Site EUI (kBtu/ft²)	39.4
National Median Source EUI (kBtu/ft²)	110.4
% Diff from National Median Source EUI	96%



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.

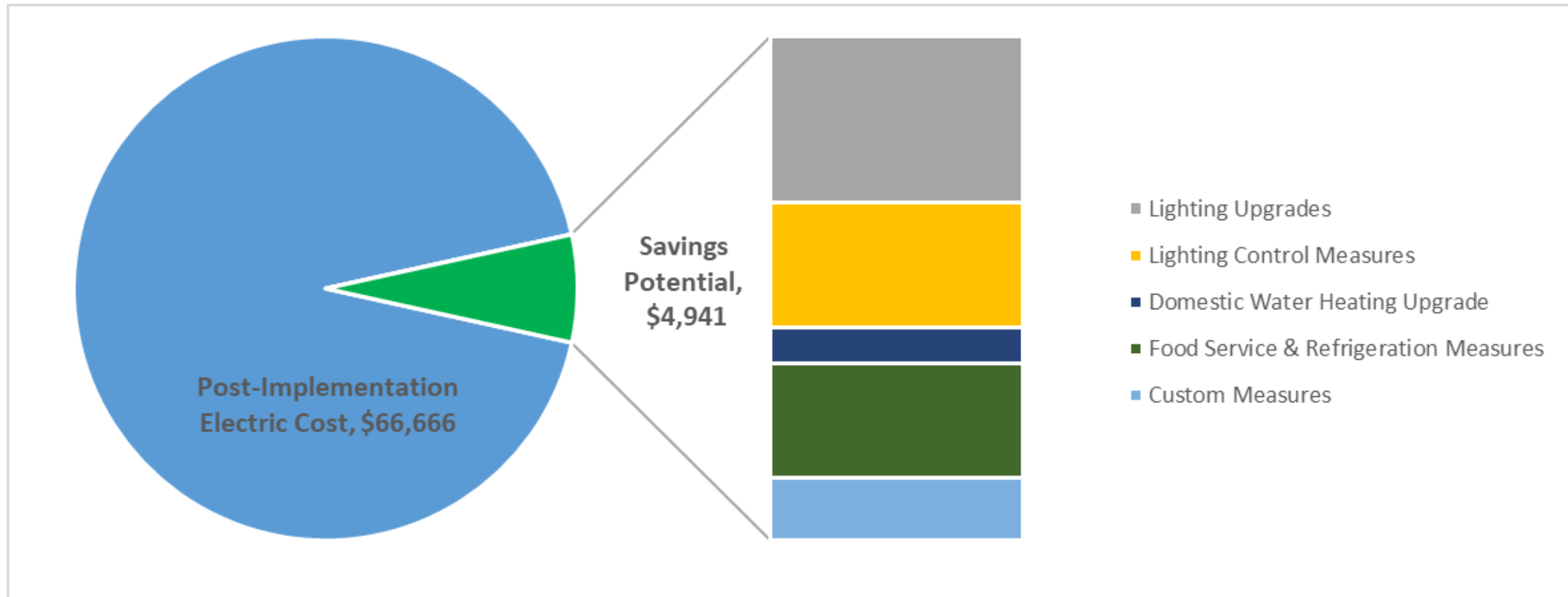
ALL OPPORTUNITIES

Savings Potential



COST EFFECTIVE OPPORTUNITIES

Savings Potential



MORRIS REGIONAL DAY 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			13,200	2.5	0	\$1,636	\$5,250	\$770	\$4,480	2.7	13,292
ECM 1	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	12,101	2.4	0	\$1,500	\$4,890	\$690	\$4,200	2.8	12,186
ECM 2	Retrofit Fixtures with LED Lamps	Yes	1,098	0.2	0	\$136	\$360	\$80	\$280	2.1	1,106
Lighting Control Measures			9,800	1.9	0	\$1,215	\$12,100	\$3,010	\$9,090	7.5	9,869
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	8,287	1.6	0	\$1,027	\$10,260	\$1,500	\$8,760	8.5	8,345
ECM 4	Install High/Low Lighting Controls	Yes	1,513	0.3	0	\$188	\$1,840	\$1,510	\$330	1.8	1,524
Motor Upgrades			692	0.1	0	\$86	\$4,300	\$0	\$4,300	50.2	697
ECM 5	Premium Efficiency Motors	No	692	0.1	0	\$86	\$4,300	\$0	\$4,300	50.2	697
Unitary HVAC Measures			1,173	0.9	0	\$145	\$13,700	\$600	\$13,100	90.1	1,181
ECM 6	Install High Efficiency Heat Pumps	No	1,173	0.9	0	\$145	\$13,700	\$600	\$13,100	90.1	1,181
Domestic Water Heating Upgrade			2,870	0.0	0	\$356	\$200	\$110	\$90	0.3	2,890
ECM 7	Install Low-Flow DHW Devices	Yes	2,870	0.0	0	\$356	\$200	\$110	\$90	0.3	2,890
Food Service & Refrigeration Measures			13,264	2.5	0	\$1,644	\$35,900	\$1,900	\$34,000	20.7	13,356
ECM 8	Food Service Equipment Replacement	No	558	1.1	0	\$69	\$15,800	\$1,000	\$14,800	214.0	562
ECM 9	Dishwasher Replacement	Yes	9,072	1.0	0	\$1,124	\$9,300	\$700	\$8,600	7.6	9,136
ECM 10	Replace Refrigeration Equipment	No	3,633	0.4	0	\$450	\$10,800	\$200	\$10,600	23.5	3,659
Custom Measures			4,924	0.0	0	\$610	\$3,300	\$0	\$3,300	5.4	4,958
ECM 11	Replace Electric Water Heater with Heat Pump Water Heater	Yes	4,924	0.0	0	\$610	\$3,300	\$0	\$3,300	5.4	4,958
TOTALS (COST EFFECTIVE MEASURES)			39,867	5.5	0	\$4,941	\$30,150	\$4,590	\$25,560	5.2	40,145
TOTALS (ALL MEASURES)			45,923	8.0	0	\$5,691	\$74,750	\$6,390	\$68,360	12.0	46,244

* - 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 Best Practices by building

WATER BEST PRACTICES



- Leak Detection and Repair
- Toilets and Urinals
- Faucets and Showerheads
- Commercial Kitchen Equipment
- Laundry Equipment
- Cooling Towers
- 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	LEVEL 2	DIRECT CURRENT (DC) FAST CHARGING*
4-6 miles/hour Replenish Rate	10-20 miles/hour Replenish Rate	120-200 miles/hour Replenish Rate
7-30 hours for full charge Approximate time to charge a battery*	2-10 hours for full charge Approximate time to charge a battery*	20-90 minutes for full charge Approximate time to charge a battery*
CHARGE 110/120V	CHARGE 208/240V	CHARGE 480V or 208V

*dependent on the size of the battery

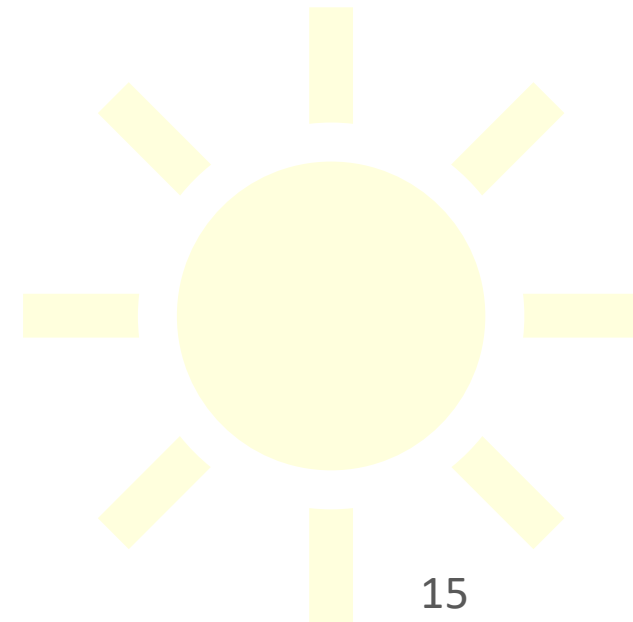
	Morris Regional Day School
Potential:	Medium



SOLAR ENERGY GENERATION POTENTIAL

NJCleanEnergy.com/renewable-energy

	Morris Regional Day School
<i>Potential:</i>	MEDIUM
<i>System Potential: (kW)</i>	157
<i>Electric Generation: (kWh per year)</i>	118,134
<i>Displaced Cost: (per year)</i>	\$14,640



FINANCING MECHANISM: ESIP

NJCleanEnergy.com/ESIP

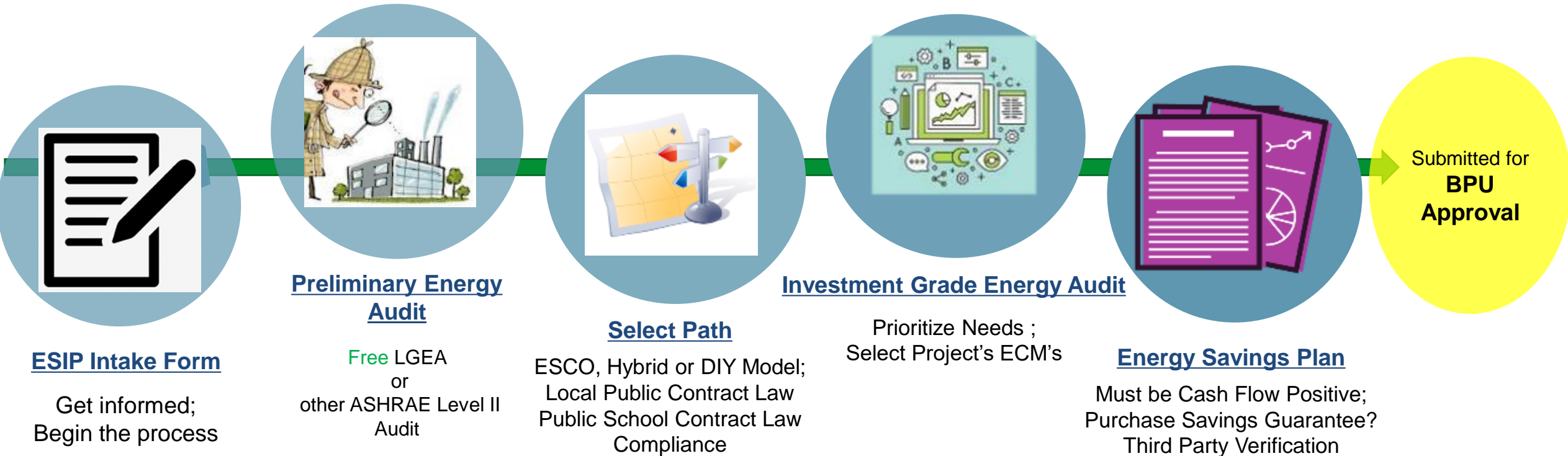
ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- 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



ENERGY SAVINGS IMPROVEMENT PROGRAM

NJCleanEnergy.com/ESIP

FOR MORE INFORMATION

Michelle Rossi

ESIP Coordinator

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c: 609.915.0903

STATE FACILITIES INITIATIVE (SFI)

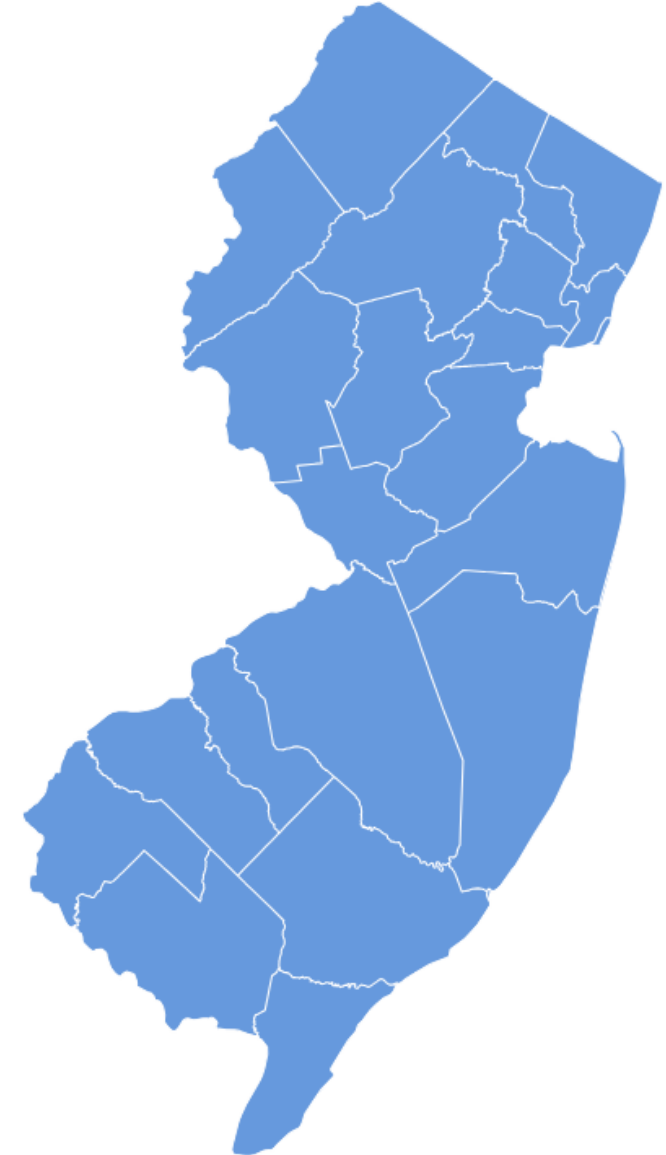
The State Facilities Initiative (SFI)

This program is for State-owned facilities.

The program identifies and implements Energy Efficiency projects in State-owned facilities or State-sponsored projects with the objective of producing energy and cost savings. The funding provided to the SFI is directly in line with EMP Goals 3.3.5 and 4.1.1.

EMP Goal 3.3.5 seeks to “[i]mprove energy efficiency in, and retrofit state buildings to, a high performance standard.”

EMP Goal 4.1.1 addresses electrifying State facilities.



C&I ENERGY EFFICIENCY PROGRAMS

NJCleanEnergy.com

LOCAL
GOVERNMENT
CUSTOMERS

COMMERCIAL &
INSTITUTIONAL
CUSTOMERS

LARGE
ENERGY
CUSTOMERS

EXISTING BUILDINGS

MEASUREMENT & AUDITS

FREE Energy Audits



RETROFITS

Prescriptive &
Custom Rebates

Direct Install

Engineered Solutions

And more from
your local utility!



Incentives up
to \$4 million
for eligible projects



NEW CONSTRUCTION

Prescriptive & Custom
Rebates for New
Construction and
Gut Rehabs

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



DISTRIBUTED ENERGY RESOURCES

Combined Heat & Power
and Fuel Cell Installation
Incentives

Microgrid Development

Battery Storage

Muni EV Fleets



Key:
Programs run by investor-owned utility companies



Programs run by NJCEP



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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THANK YOU

