



LGEA Presentation

State of NJ – Motor Vehicle Commission

225 E State Street

January 15, 2025

New Jersey's Clean Energy Program

Lighting the way to New Jersey's Clean Energy Future

INTRODUCTIONS

- State of New Jersey MVC/DPMC/BPU
 - Anthony Faraca III
 - Mike Gresco
 - Sara Bluhm
 - Yulia Grinberg
- NJ Clean Energy Program
 - Sarah Walters LGEA Project Manager
 - Moussa Traore LGEA Technical Manager
 - Ryan Gibson LGEA Project Auditor
 - Dan Krasowsky LGEA Account Manager



- Meridian Properties Services
 - Don Nawn

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 MVC (225 E State Street)



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
- Building Automation System

Utility Consumption and Costs:

- Electric
- Chilled Water (Vicinity)
- Hot Water (Vicinity)
- Water

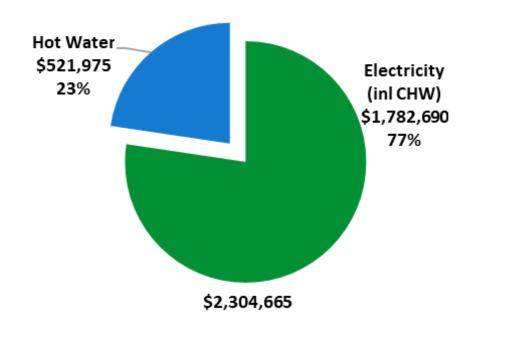


Sites Visited/Analyzed

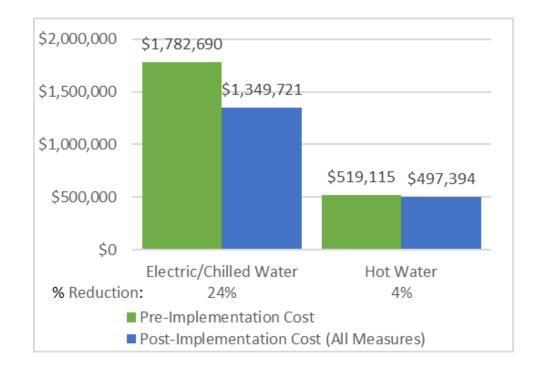
- MVC Central Headquarters
- Trenton Office Complex Parling Garage

UTILITY BREAKOUT

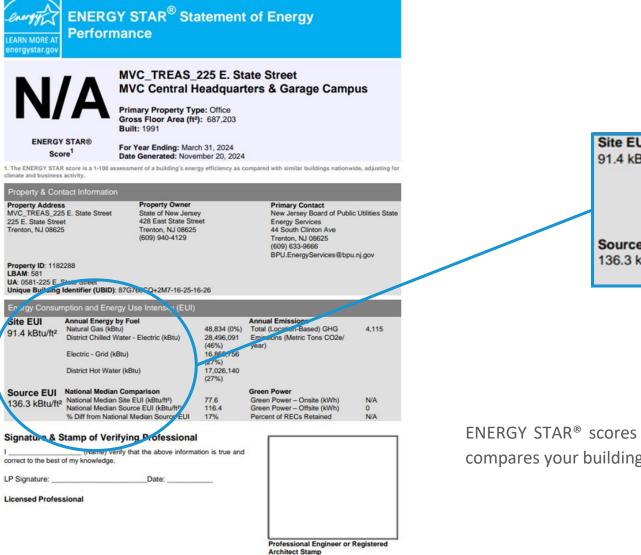
Percent of Total Annual Energy Costs



Pre & Post Implementation Cost







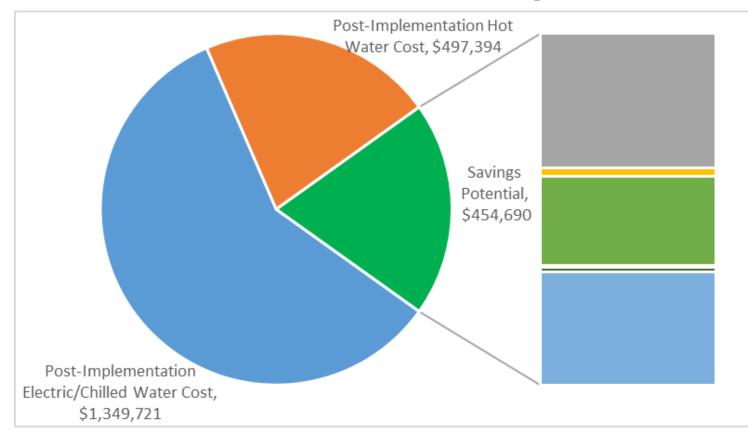
(if applicable)

Site EUI 91.4 kBtu/ft ²	Annual Energy by Fuel Natural Gas (kBtu) District Chilled Water - Electric (kBtu)	48,834 (0%) 28,496,091 (46%)
	Electric - Grid (kBtu)	16,865,756 (27%)
	District Hot Water (kBtu)	17,026,140 (27%)
Source EUI	National Median Comparison	
136.3 kBtu/ft ²	National Median Site EUI (kBtu/ft²)	77.6
100.0 KDtu/It	National Median Source EUI (KBtu/ft*)	116.4
	% Diff from National Median Source EUI	17%

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



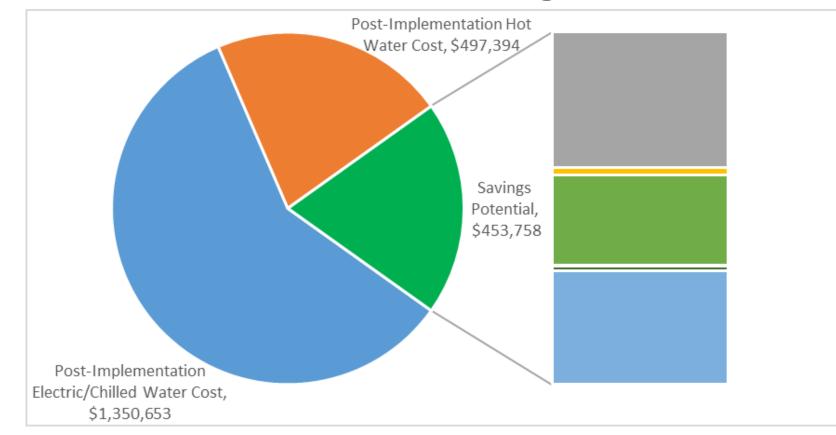


Lighting Upgrades

- Lighting Control Measures
- Variable Frequency Drive (VFD) Measures
- Electric Unitary HVAC Measures
- Electric Chiller Replacement
- HVAC System Improvements
- Domestic Water Heating Upgrade
- Food Service & Refrigeration Measures
- Custom Measures

COST EFFECTIVE OPPORTUNITIES

Savings Potential



New Jersey's Cleanenergy program.

Lighting Upgrades

Custom Measures

Lighting Control Measures

HVAC System Improvements

Domestic Water Heating Upgrade

Food Service & Refrigeration Measures

Variable Frequency Drive (VFD) Measures

225 E STATE STREET - MVC CENTRAL HEADQUARTERS & GARAGE CAMPUS

#	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	g Upgrades		693,758	121.8	-145	\$174,499	\$208,580	\$34,320	\$174,260	1.0	681,624
ECM 1	Retrofit Fixtures with LED Lamps	Yes	693,758	121.8	-145	\$174,499	\$208,580	\$34,320	\$174,260	1.0	681,624
Lighting	g Control Measures		40,309	8.7	-8	\$10,139	\$38,130	\$4,610	\$33,520	3.3	39,604
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	40,309	8.7	-8	\$10,139	\$38,130	\$4,610	\$33,520	3.3	39,604
Variabl	e Frequency Drive (VFD) Measures		447,250	111.3	0	\$115,311	\$540,500	\$33,100	\$507,400	4.4	450,377
ECM 3	Install VFDs on Constant Volume (CV) Fans	Yes	413,073	108.0	0	\$106,500	\$517,900	\$29,800	\$488,100	4.6	415,961
ECM 4	Install VFDs on Water Supply Pump	Yes	34,177	3.3	0	\$8,812	\$22,600	\$3,300	\$19,300	2.2	34,416
Unitary	HVAC Measures		2,217	1.5	0	\$572	\$14,800	\$800	\$14,000	24.5	2,232
ECM 5	Install High Efficiency Air Conditioning Units	No	2,217	1.5	0	\$572	\$14,800	\$800	\$14,000	24.5	2,232
Electric	Chiller Replacement		1,398	-2.1	0	\$360	\$44,300	\$1,400	\$42,900	119.0	1,408
ECM 6	Install High Efficiency Chillers	No	1,398	-2.1	0	\$360	\$44,300	\$1,400	\$42,900	119.0	1,408
HVAC S	ystem Improvements		5,588	0.0	0	\$1,441	\$660	\$120	\$540	0.4	5,627
ECM 7	Install Pipe Insulation	Yes	5,588	0.0	0	\$1,441	\$660	\$120	\$540	0.4	5,627
Domest	tic Water Heating Upgrade		556	0.0	0	\$143	\$690	\$330	\$360	2.5	560
ECM 8	Install Low-Flow DHW Devices	Yes	556	0.0	0	\$143	\$690	\$330	\$360	2.5	560
Food Se	ervice & Refrigeration Measures		22,646	2.6	0	\$5,839	\$6,430	\$600	\$5,830	1.0	22,805
ECM 9	Vending Machine Control	Yes	22,646	2.6	0	\$5,839	\$6 <i>,</i> 430	\$600	\$5,830	1.0	22,805
Custom	n Measures		465,603	0.0	875	\$146,386	\$720,800	\$0	\$720,800	4.9	571,309
ECM 10	Retro-Commissioning Study	Yes	347,429	0.0	875	\$115,916	\$691,800	\$0	\$691,800	6.0	452,309
ECM 11	Replace Electric Water Heater with Heat Pump Water Heater	Yes	118,174	0.0	0	\$30,470	\$29,000	\$0	\$29,000	1.0	119,000
	TOTALS (COST EFFECTIVE MEASURES)		1,675,709	244.3	722	\$453 <i>,</i> 758	\$1,515,790	\$73,080	\$1,442,710	3.2	1,771,906
	TOTALS (ALL MEASURES)		1,679,324	243.7	722	\$454,690	\$1,574,890	\$75,280	\$1,499,610	3.3	1,775,546

* - 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 Towners
- Steam Boiler System
- Pools and Spas

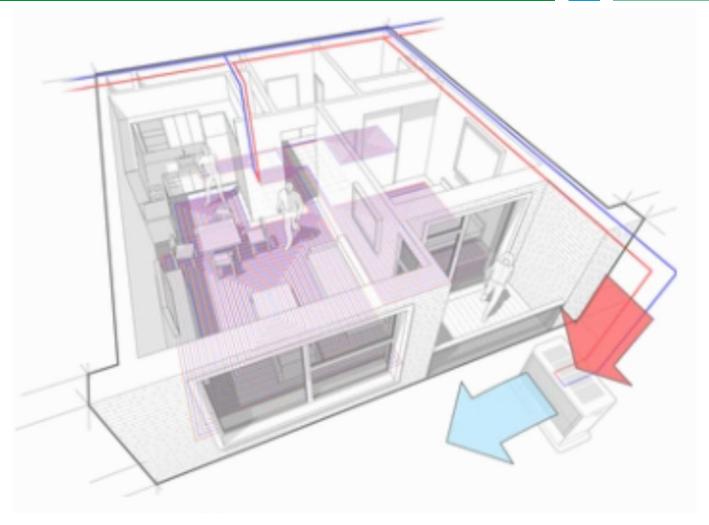
- Laboratory and Medical Equipment
- Water Metering and Submetering
- Vehicle Washing
- Single Pass Cooling System
- Landscaping and Irrigation
- On-Site Alternative Water Sources

See individual reports for specific Water Best Practices by building



MEASURES FOR FUTURE CONSIDERATION

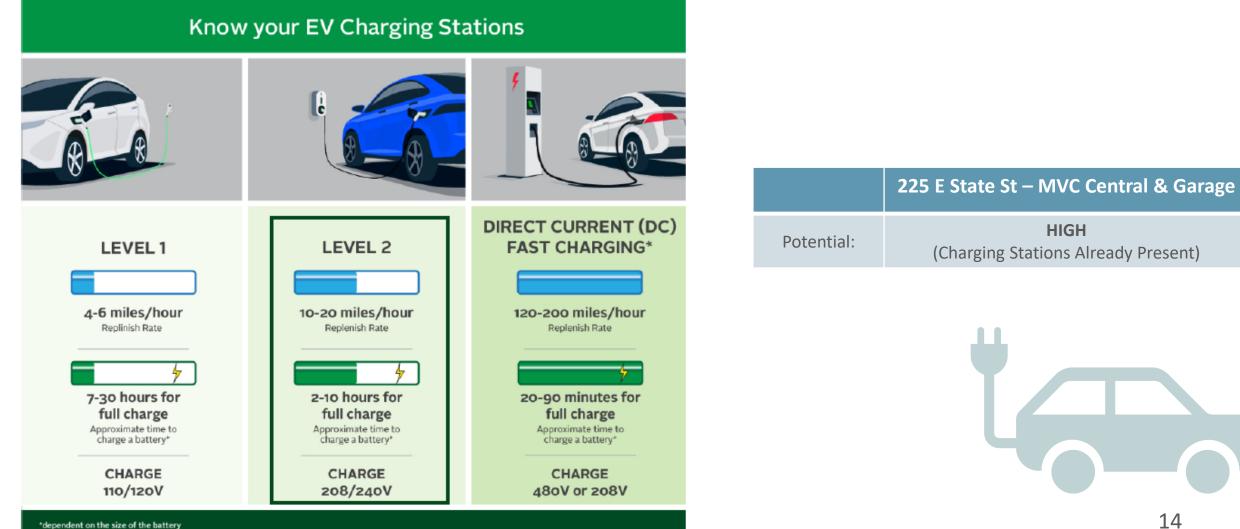
• Upgrade to a Heat Pump System





EV CHARGING STATION POTENTIAL

NJCleanEnergy.com/EV



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SOLAR ENERGY GENERATION POTENTIAL

NJCleanEnergy.com/renewable-energy

	MVC Central & Garage
Potential:	MEDIUM
System Potential: (kW)	268
Electric Generation: (kWh per year)	319,287
Displaced Cost: (per year)	\$82,320



FINANCING MECHANISM: ESIP

NJCleanEnergy.com/ESIP

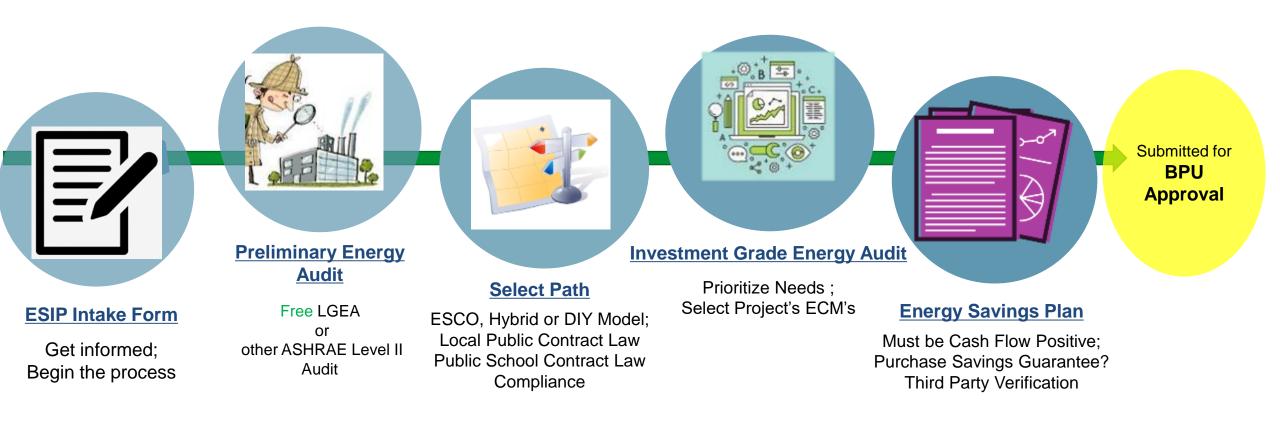
ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- 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

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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

Full list of Direct Pay eligible tax credits at https://www.irs.gov/pub/irs-pdf/p5817a.pdf

Direct Pay can be used in other funding sources like	
Example	e
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 to	tal project cost.

For more information, visit Sustainable Jersey's <u>Direct Pay Tax Credits page</u>.

STATE FACILITIES INITIATIVE (SFI)

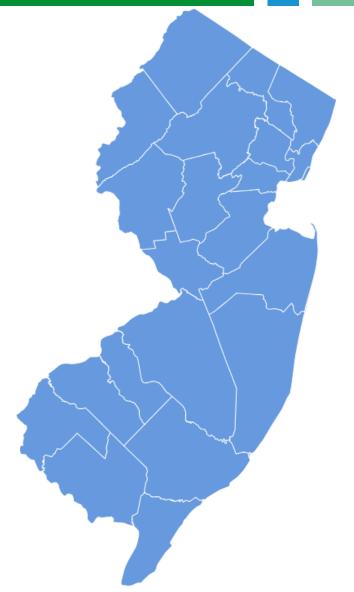
The State Facilities Initiative (SFI)

This program is for State-owned facilities.

The program identifies and implements Energy Efficiency projects in Stateowned 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.

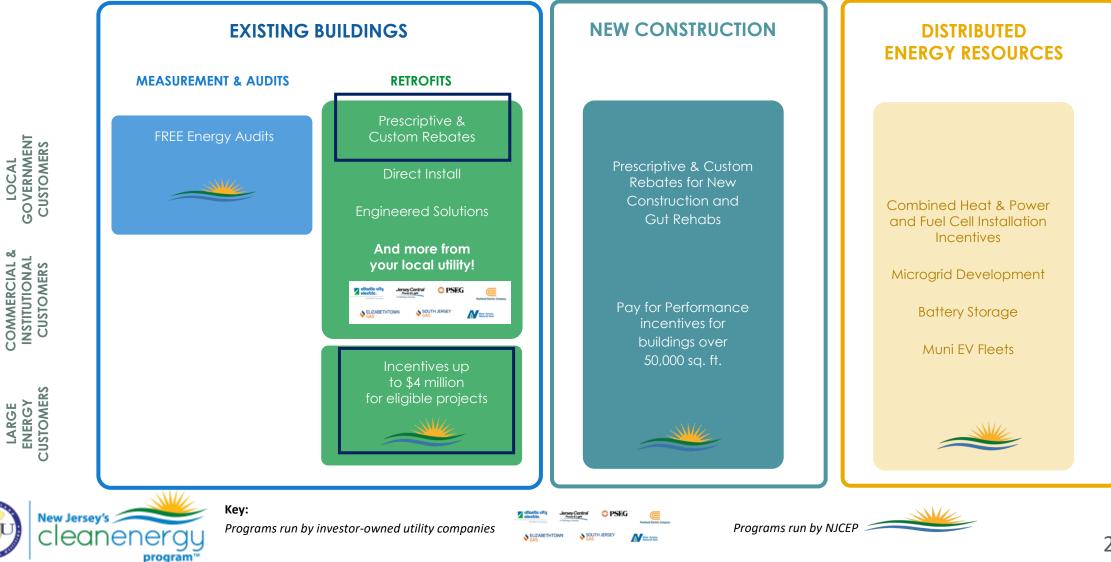
EMP Goal 3.3.5 seeks to "[i]mprove energy efficiency in, and retrofit state buildings to, a high performance standard."

EMP Goal 4.1.1 addresses electrifying State facilities.



C&I ENERGY EFFICIENCY PROGRAMS

NJCleanEnergy.com



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

ENERGY MANAGEMENT :

- 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
- 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

PSE&G

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LARGE ENERGY USERS

NJCleanEnergy.com/LEUP

- Large C&I entities who have paid a minimum of \$5,000,000 in the WHO previous 12 months of utility bills
- The average peak demand of all facilities submitted \geq 400kW SIZE TO and/or 4,000 DTh QUALIFY
- ABOUT • Encourages large C&I utility customers to self-invest in energy efficiency, combined heat & power, and fuel cell projects
 - Must have ability to "bank" funds for up to two fiscal years

INCENTIVE Maximum incentive per entity is the lesser of: CAP

- •\$4 million,
- •75% of total project cost, or
- 90% of NJCEP contribution or annual energy saving caps (\$0.33/kWh and \$3.75/therm)



LARGE ENERGY USERS

NJCleanEnergy.com/LEUP





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THANK YOU

