



New Jersey's Clean Energy Program

LG&E Exit Meeting for:
Bergen Performing Arts Center

TRC Companies

July 10, 2019

Introductions



Bergen Performing Arts Center

- Dominic Roncace – President & CEO
- Marc Farrand – Director of Operations
- Joe Feola – Technical Director & Facilities Manager
- Dan Hayden – Maintenance Manager

NJ Clean Energy Program

- Aimee Lalonde – TRC Auditor
- Amanda Muench – TRC Account Manager
- Mike Mandzik – TRC Outreach Manager
- Amanda Newman – TRC Outreach Account Manager

Agenda



- The audit process overview
- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**easures (ECMs) identified
- Questions or concerns regarding the draft audit report
- Overview of NJCEP equipment incentives
- Next steps for Bergen Performing Arts Center

LGEA Process



- Application Approval
- Scheduling Call
- Audit
- Benchmarking & Analysis
- Draft Report
- Exit Meeting Presentation
- Final Report

Overview of Systems, Baseline & Existing Conditions:

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

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Benchmarking



ENERGY STAR® Statement of Energy Performance

N/A

Bergen Performing Arts Center
 Primary Property Type: Performing Arts
 Gross Floor Area (ft²): 35,000
 Built: 1926

For Year Ending: June 30, 2018
 Date Generated: June 07, 2019

**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 Bergen Performing Arts Center 30 N Van Brunt Street Englewood, New Jersey 07631	Property Owner Bergen Performing Arts Center Inc. 30 N Van Brunt Street Englewood, NJ 07631 () - - - -	Primary Contact Marc Farrand 30 N Van Brunt Street Englewood, NJ 07631 201-816-8160 x 31 mfarrand@bergenpac.org
Property ID: 6894197		

Energy Consumption and Energy Use Intensity (EUI)			
Site EUI 89 kBtu/ft ²	Annual Energy by Fuel		National Median Comparison
	Electric - Grid (kBtu)	1,819,754 (58%)	National Median Site EUI (kBtu/ft ²) 54.1
	Natural Gas (kBtu)	1,295,969 (42%)	National Median Source EUI (kBtu/ft ²) 112
			% Diff from National Median Source EUI 65%
Source EUI 184.5 kBtu/ft ²			Annual Emissions
			Greenhouse Gas Emissions (Metric Tons CO ₂ e/year) 253

Signature & Stamp of Verifying Professional

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

Signature: _____ Date: _____

Licensed Professional

Marc Farrand
 30 N Van Brunt Street
 Englewood, NJ 07631
 201-816-8160 x 31
 mfarrand@bergenpac.org

Professional Engineer Stamp
(if applicable)

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.

Energy Conservation Measure Summary



* Opportunities considered cost effective have a payback period less than 2/3rds of the useful life of the measure

#	Energy Conservation Measure	Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			108,363	114.7	-7	\$16,850	\$252,744	\$206,014	\$8,115	\$197,899	11.7	108,357
ECM 1	Install LED Fixtures	Yes	2,754	0.5	0	\$430	\$6,447	\$6,400	\$1,600	\$4,800	11.2	2,773
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	25,398	11.2	-5	\$3,911	\$58,662	\$17,519	\$2,468	\$15,051	3.8	24,942
ECM 3	Retrofit Fixtures with LED Lamps	Yes	80,211	103.0	-1	\$12,509	\$187,635	\$182,094	\$4,047	\$178,047	14.2	80,642
Lighting Control Measures			4,265	1.7	-1	\$657	\$5,254	\$9,094	\$705	\$8,389	12.8	4,189
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	3,825	1.5	-1	\$589	\$4,712	\$7,294	\$705	\$6,589	11.2	3,757
ECM 5	Install High/Low Lighting Controls	No	440	0.2	0	\$68	\$542	\$1,800	\$0	\$1,800	26.6	432
Variable Frequency Drive (VFD) Measures			49,187	16.6	0	\$7,677	\$115,161	\$45,248	\$4,440	\$40,808	5.3	49,531
ECM 6	Install VFDs on Constant Volume (CV) Fans	Yes	46,905	16.0	0	\$7,321	\$109,818	\$38,726	\$4,440	\$34,286	4.7	47,233
ECM 7	Install VFDs on Heating Water Pumps	No	2,282	0.6	0	\$356	\$5,343	\$6,522	\$0	\$6,522	18.3	2,298
Electric Unitary HVAC Measures			8,199	6.7	0	\$1,280	\$19,196	\$64,624	\$3,512	\$61,112	47.8	8,256
ECM 8	Install High Efficiency Air Conditioning Units	No	8,199	6.7	0	\$1,280	\$19,196	\$64,624	\$3,512	\$61,112	47.8	8,256
Gas Heating (HVAC/Process) Replacement			0	0.0	76	\$754	\$15,088	\$40,383	\$3,150	\$37,233	49.4	8,927
ECM 9	Install High Efficiency Hot Water Boilers	No	0	0.0	76	\$754	\$15,088	\$40,383	\$3,150	\$37,233	49.4	8,927
HVAC System Improvements			8,602	0.0	120	\$2,526	\$27,790	\$7,125	\$0	\$7,125	2.8	22,669
ECM 10	Install Programmable Thermostats	Yes	8,602	0.0	29	\$1,633	\$17,968	\$6,597	\$0	\$6,597	4.0	12,102
ECM 11	Install Pipe Insulation	Yes	0	0.0	90	\$893	\$9,822	\$527	\$0	\$527	0.6	10,566
Domestic Water Heating Upgrade			834	0.0	0	\$130	\$1,302	\$215	\$0	\$215	1.7	840
ECM 12	Install Low-Flow DHW Devices	Yes	834	0.0	0	\$130	\$1,302	\$215	\$0	\$215	1.7	840
TOTALS (COST EFFECTIVE MEASURES)			168,529	132.3	112	\$27,416	\$396,366	\$259,373	\$13,260	\$246,113	9.0	182,855
TOTALS (ALL MEASURES)			179,450	139.7	188	\$29,874	\$436,536	\$372,702	\$19,922	\$352,781	11.8	202,769

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

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

Solar Energy Generation Potential



	Theater
<i>Potential:</i>	HIGH
<i>System Potential: (kW)</i>	90
<i>Electric Generation: (kWh per year)</i>	107,224
<i>Displaced Cost: (per year)</i>	\$16,740

For more information on the SREC Registration Program (SRP) please visit:

<http://www.njcleanenergy.com/renewable-energy/programs/solar-renewable-energy-certificates-srec/new-jersey-solar-renewable-energy>

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

Clean Energy Program Portfolio



ELIGIBLE SECTORS

Commercial, Industrial, Government, Non-Profit, Institutional and Multifamily

INCENTIVE PROGRAMS

Equipment Rebates:

- SmartStart
- CTEEP
(Customer Tailored Energy Efficiency Pilot)
- Direct Install
- Large Energy Users

Whole Buildings:

- Pay for Performance

Energy Generation:

- Combined Heat and Power (CHP)

OTHER PROGRAMS

Renewable Energy Generation:

- SREC Registration Program (SRP)

* eligible programs are highlighted in yellow

Recommended NJCEP Incentives per Building



Bergen PAC	Pay For Performance	Direct Install	SmartStart	CTEEP
Theater	X	X	X	X

- Eligibility for NJCEP incentives will need to be revisited to determine qualification

Notes:

- P4P Generally requires the peak demand > 200 kW for at least one month, > 15% source savings where, lighting accounts for < 50% of savings. The Bergen PAC does not currently qualify but with additional measures identified by an ESCO, may qualify.
- Direct Install requires the average monthly electric demand to be <200kW. The Bergen PAC does not currently qualify if using Aug 2017-July 2018 as the baseline period (206 kW), however with using a different baseline, may qualify.

Pay for Performance: Process



Submittal and Approval of Application

Development and Approval of Energy Reduction Plan (ERP)

Installation of Recommended Measures

Submittal and Approval of As-Built ERP and Cx Report

Post Construction Verification of Savings

Incentive #1
fixed between \$3,750-\$25,000

Incentive #2
up to 25% project cost

Incentive #3
up to 25% project cost

1 year

Pay for Performance: Details



Incentive #1: Energy Reduction Plan			
	Incentive Amount:	\$0.15	per sq ft
	Minimum Incentive:	\$3,750	
	Maximum Incentive:	\$25,000	or 50% of facility annual energy cost
Incentive #2: Installation of Recommended Measures			
	Minimum Performance Target:	15%	
Electric Incentives	Base Incentive based on 15% savings:	\$0.09	per projected kWh saved
	For each % over 15% add:	\$0.005	
	Maximum Incentive:	\$0.11	
Gas Incentives	Base Incentive based on 15 % savings:	\$0.90	per projected Therm saved
	For each % over 15% add:	\$0.05	
	Maximum Incentive:	\$1.25	
	Incentive Cap:	25%	of total project cost
Incentive #3: Post-Construction Benchmarking Report			
	Minimum Performance Target:	15%	
Electric Incentives	Base Incentive based on 15% savings:	\$0.09	per projected kWh saved
	For each % over 15% add:	\$0.005	
	Maximum Incentive:	\$0.11	
Gas Incentives	Base Incentive based on 15% savings:	\$0.90	per projected Therm saved
	For each % over 15% add:	\$0.05	
	Maximum Incentive:	\$1.25	
	Incentive Cap:	25%	of total project cost

Direct Install: Overview



- Turn-key retrofit program to replace outdated and inefficient equipment, including lighting, HVAC, refrigeration, etc.
- Open to Small to Mid-Sized Commercial and Industrial facilities with an average electric demand ≤ 200 kW
- Provides incentives of up to 70% of the installed cost
- Incentives are paid directly to the contractor
 - Customer only pays remaining 30% of installed cost
 - \$125,000 project/building cap
 - \$250,000 per entity cap (up to \$500,000 if using ESIP)
- Participating contractors provide support and process all paperwork
- Fast turnaround time: Average length of time for job completion (4-6 months)

www.NJCleanEnergy/DI

SmartStart: Overview



- Two types of incentives for high efficiency equipment installation:
 - Prescriptive
 - Custom
- Project Categories:
 - New Construction
 - Renovation
 - Remodeling
 - Equipment Replacement
- Project pre-approval required for lighting and custom measures
- Incentives up to \$500,000 per electric account & \$500,000 per natural gas account
- Specific incentives and individual applications for Lighting, HVAC, VFDs, Refrigeration, Controls and more!

www.NJCleanEnergy/SSB

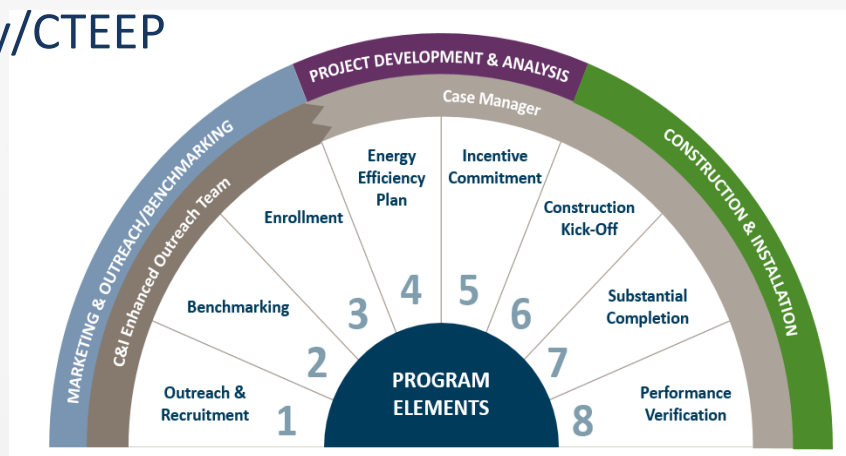
CTEEP: Overview



Customer Tailored Energy Efficiency Pilot (CTEEP)

- Provide customers with **on-site assistance** to discuss project opportunities and program incentives.
- A **single application** submission streamlines multiple prescriptive and custom measures.
- Provide **technical assistance incentives** to help offset soft costs associated with developing and planning an energy efficiency project.
- Incentives up to \$250,000 entity cap.

www.NJCleanEnergy.com/CTEEP



Recommended NJCEP Incentives per Building



Bergen PAC	Pay For Performance	Direct Install	SmartStart	CTEEP
Theater	X	X	X	X

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Questions



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FOR MORE INFORMATION

Visit NJCleanEnergy.com

Call (866) NJSMART

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