



LGEA Presentation New Jersey City University

May 20, 2022

New Jersey's Clean Energy Program

Lighting the way to New Jersey's Clean Energy Future

INTRODUCTIONS

- New Jersey City University
 - Aaron Aska Chief Operating Officer
- NJ Clean Energy Program
 - Sarah Walters LGEA Project Manager
 - Moussa Traore LGEA Lead Auditor
 - Nicholas Nocco LGEA Project Auditor
 - Amanda Muench LGEA Account Manager
 - Arif Welcher Government/Business Manager (BPU)



Agenda

- The audit process overview
- Energy use & existing conditions
- Review of Energy Conservation Measures (ECMs) identified & other recommendations
- Energy Savings Improvement Program (ESIP)
- C&I Transition of EE Programs
- Applicable NJCEP Incentives
- Questions regarding the draft audit report
- Next steps for New Jersey City University



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
- Refrigeration & Cooking Equipment

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Sites Visited/Analyzed

- Hepburn Hall
- Fries Hall
- Gilligan Student Union
- Grossnickle Hall
- Guarini Library
- Karnoutsos Hall
- Rossey Hall
- Science Hall
- John J. Moore Athletic & Fitness Complex (JMAC)
- Professional Studies Building
- Vodra Hall
- Co-op Dormitory
- West Campus Village (WCV)
- Visual Arts Building (VAB)
- University Academy Charter HS BDI
- Central Plant



UTILITY BREAKOUT

Ē



6

UTILITY BREAKOUT

Pre & Post Implementation Costs – Annual Savings





BENCHMARKING

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 STAR[®] Statement of Energy

Primary Property Type: College/University Gross Floor Area (ft²): 1,137,518

For Year Ending: January 31, 2019

New Jersey City University (Campus)

Performance

EARN MORE A nergystar.gov

> 114.5 180.6 7%

8

Site EUI

122.7 kBtu/ft²

Source EUI

ALL OPPORTUNITIES

Savings Potential



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

9

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 ₂ e Emissions Reduction (lbs)
Lighting	Upgrades	1,615,895	281.7	-320.8	\$185,573	\$624,397	\$107,657	\$516,740	2.8	1,589,627
ECM 1	Install LED Fixtures	110,319	2.6	-4.3	\$13,532	\$62,567	\$8,380	\$54,187	4.0	110,587
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	126,413	22.8	-26.5	\$13,918	\$47,514	\$6,153	\$41,361	3.0	124,193
ECM 3	Retrofit Fixtures with LED Lamps	1,379,163	256.3	-290.0	\$158,122	\$514,317	\$93,124	\$421,193	2.7	1,354,848
Lighting	Control Measures	485,466	82.1	-103.1	\$56,138	\$456,256	\$131,945	\$324,311	5.8	476,789
ECM 4	Install Occupancy Sensor Lighting Controls	377,131	67.8	-80.0	\$43,439	\$345,781	\$46,080	\$299,701	6.9	370,401
ECM 5	Install High/Low Lighting Controls	108,334	14.4	-23.1	\$12,700	\$110,475	\$85 <i>,</i> 865	\$24,610	1.9	106,388
Motor U	pgrades	20,372	3.9	0.0	\$2,378	\$42,830	\$0	\$42,830	18.0	20,514
ECM 6	Premium Efficiency Motors	20,372	3.9	0.0	\$2,378	\$42 <i>,</i> 830	\$0	\$42,830	18.0	20,514
Variable	Frequency Drive (VFD) Measures	947,593	225.8	182.5	\$113,596	\$854,036	\$89,500	\$764,536	6.7	975,584
ECM 7	Install VFD on Variable Air Volume (VAV) Fans	73,957	13.4	0.0	\$9,246	\$18,617	\$2,700	\$15,917	1.7	74,474
ECM 8	Install VFDs on Constant Volume (CV) Fans	361,717	97.2	0.0	\$42,516	\$284,372	\$34,525	\$249,847	5.9	364,246
ECM 9	Install VFDs on Chilled Water Pumps	156,996	44.3	0.0	\$18,748	\$350,570	\$16,800	\$333,770	17.8	158,093
ECM 10	Install VFDs on Heating Water Pumps	70,821	11.4	0.0	\$9,174	\$69,821	\$13,200	\$56,621	6.2	71,316
ECM 11	Install VFDs on Cooling Tower Fans	14,908	-1.0	0.0	\$1,985	\$17 <i>,</i> 866	\$3,000	\$14,866	7.5	15,012
ECM 12	Install Boiler Draft Fan VFDs	21,136	6.0	0.0	\$2,351	\$10,303	\$2,200	\$8,103	3.4	21,283
ECM 13	Install VFDs on Boiler Feedwater Pumps	150,403	49.8	0.0	\$16,732	\$35,003	\$6,000	\$29,003	1.7	151,455
ECM 14	Install VFDs on Kitchen Hood Fan Motors	22,541	0.2	182.5	\$3,940	\$14,304	\$1,325	\$12,979	3.3	44,065
ECM 15	Install VFDs on Condensate Pumps	35,332	4.5	0.0	\$3,931	\$39,010	\$7,350	\$31,660	8.1	35,579
ECM 16	Install VFDs on Process Pumps	39,783	0.0	0.0	\$4,974	\$14,172	\$2,400	\$11,772	2.4	40,061
Electric I	Jnitary HVAC Measures	62,013	38.9	8.3	\$6,982	\$235,296	\$17,589	\$217,707	31.2	63,423
ECM 17	Install High Efficiency Air Conditioning Units	62,013	38.9	8.3	\$6,982	\$235,296	\$17,589	\$217,707	31.2	63,423

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 ₂ e Emissions Reduction (lbs)
Electric	Chiller Replacement	96,688	-52.0	0.0	\$11,078	\$647,478	\$53,442	\$594,036	53.6	97,364
ECM 18	Install High Efficiency Chillers	96,688	-52.0	0.0	\$11,078	\$647 <i>,</i> 478	\$53,442	\$594,036	53.6	97,364
Gas Hea	ting (HVAC/Process) Replacement	0	0.0	641.3	\$4,687	\$366,753	\$9,449	\$357,304	76.2	75,086
ECM 19	Install High Efficiency Hot Water Boilers	0	0.0	197.8	\$1,740	\$110,227	\$8,949	\$101,278	58.2	23,157
ECM 20	Install High Efficiency Steam Boilers	0	0.0	435.6	\$2,894	\$249,525	\$0	\$249,525	86.2	51,005
ECM 21	Install High Efficiency Furnaces	0	0.0	7.9	\$53	\$7,001	\$500	\$6 <i>,</i> 501	122.3	923
HVAC Sy	stem Improvements	11,513	0.0	129.6	\$2,366	\$6,649	\$348	\$6,301	2.7	26,773
ECM 22	Implement Demand Control Ventilation (DCV)	7,593	0.0	52.5	\$1,315	\$5,438	\$0	\$5 <i>,</i> 438	4.1	13,793
ECM 23	Install Pipe Insulation	3,920	0.0	77.1	\$1,051	\$1,212	\$348	\$864	0.8	12,980
Domest	c Water Heating Upgrade	7,229	0.0	111.0	\$1,703	\$16,002	\$724	\$15,278	9.0	20,277
ECM 24	Install High Efficiency Gas-Fired Water Heater	0	0.0	29.3	\$207	\$14,554	\$0	\$14,554	70.3	3,426
ECM 25	Install Low-Flow DHW Devices	7,229	0.0	81.7	\$1,496	\$1,448	\$724	\$724	0.5	16,851
Food Se	rvice & Refrigeration Measures	46,788	4.8	0.0	\$5,455	\$29,074	\$2,530	\$26,544	4.9	47,115
ECM 26	Refrigerator/Freezer Case Electrically Commutated Motors	4,194	0.5	0.0	\$467	\$5,156	\$680	\$4,476	9.6	4,223
ECM 27	Refrigeration Controls	6,952	0.2	0.0	\$773	\$14,948	\$750	\$14,198	18.4	7,000
ECM 28	Vending Machine Control	35,642	4.1	0.0	\$4,215	\$8,970	\$1,100	\$7,870	1.9	35,891
Custom	Measures	92,320	0.0	562.0	\$14,322	\$70,512	\$0	\$70,512	4.9	158,769
ECM 29	Install Heat Pump Water Heater	92,320	0.0	0.0	\$10,408	\$12,509	\$0	\$12,509	1.2	92,966
ECM 30	Install Semi-Automatic Cover for Swimming Pool	0	0.0	562.0	\$3,914	\$58,004	\$0	\$58,004	14.8	65,803
	TOTALS	3,385,876	585.1	1,210.8	\$404,278	\$3,349,285	\$413,184	\$2,936,101	7.3	3,551,322

* - 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

COST EFFECTIVE OPPORTUNITIES

Savings Potential



= Lighting Upgrades

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



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)**	CO2e Emissions Reduction (Ibs)
Lighting	Upgrades	1,615,895	281.7	-320.8	\$185,573	\$624,397	\$107,657	\$516,740	2.8	1,589,627
ECM 1	Install LED Fixtures	110,319	2.6	-4.3	\$13,532	\$62,567	\$8,380	\$54,187	4.0	110,587
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	126,413	22.8	-26.5	\$13,918	\$47,514	\$6,153	\$41,361	3.0	124,193
ECM 3	Retrofit Fixtures with LED Lamps	1,379,163	256.3	-290.0	\$158,122	\$514,317	\$93,124	\$421,193	2.7	1,354,848
Lighting	Control Measures	485,466	82.1	-103.1	\$56,138	\$456,256	\$131,945	\$324,311	5.8	476,789
ECM 4	Install Occupancy Sensor Lighting Controls	377,131	67.8	-80.0	\$43,439	\$345,781	\$46,080	\$299,701	6.9	370,401
ECM 5	Install High/Low Lighting Controls	108,334	14.4	-23.1	\$12,700	\$110,475	\$85 <i>,</i> 865	\$24,610	1.9	106,388
Variable	Frequency Drive (VFD) Measures	811,596	195.6	182.5	\$97,974	\$504,333	\$77,475	\$426,858	4.4	838,637
ECM 7	Install VFD on Variable Air Volume (VAV) Fans	73,957	13.4	0.0	\$9,246	\$18,617	\$2,700	\$15,917	1.7	74,474
ECM 8	Install VFDs on Constant Volume (CV) Fans	351,930	95.0	0.0	\$41,427	\$267,419	\$34,150	\$233,269	5.6	354,390
ECM 9	Install VFDs on Chilled Water Pumps	36,082	17.2	0.0	\$4,803	\$30,813	\$5 <i>,</i> 500	\$25,313	5.3	36,334
ECM 10	Install VFDs on Heating Water Pumps	68,203	11.0	0.0	\$8,883	\$63,299	\$13,000	\$50,299	5.7	68,679
ECM 11	Install VFDs on Cooling Tower Fans	14,908	-1.0	0.0	\$1,985	\$17,866	\$3,000	\$14,866	7.5	15,012
ECM 12	Install Boiler Draft Fan VFDs	21,136	6.0	0.0	\$2,351	\$10,303	\$2,200	\$8,103	3.4	21,283
ECM 13	Install VFDs on Boiler Feedwater Pumps	150,403	49.8	0.0	\$16,732	\$35,003	\$6,000	\$29,003	1.7	151,455
ECM 14	Install VFDs on Kitchen Hood Fan Motors	22,541	0.2	182.5	\$3,940	\$14,304	\$1,325	\$12,979	3.3	44,065
ECM 15	Install VFDs on Condensate Pumps	32,655	4.1	0.0	\$3,633	\$32,538	\$7,200	\$25,338	7.0	32,883
ECM 16	Install VFDs on Process Pumps	39,783	0.0	0.0	\$4,974	\$14,172	\$2,400	\$11,772	2.4	40,061
HVAC Sy	stem Improvements	11,513	0.0	129.6	\$2,366	\$6,649	\$348	\$6,301	2.7	26,773
ECM 22	Implement Demand Control Ventilation (DCV)	7,593	0.0	52.5	\$1,315	\$5,438	\$0	\$5,438	4.1	13,793
ECM 23	Install Pipe Insulation	3,920	0.0	77.1	\$1,051	\$1,212	\$348	\$864	0.8	12,980
Domesti	ic Water Heating Upgrade	7,229	0.0	81.7	\$1,496	\$1,448	\$724	\$724	0.5	16,851
ECM 25	Install Low-Flow DHW Devices	7,229	0.0	81.7	\$1,496	\$1,448	\$724	\$724	0.5	16,851
Food Se	rvice & Refrigeration Measures	39,836	4.6	0.0	\$4,682	\$14,126	\$1,780	\$12,346	2.6	40,114
ECM 26	Refrigerator/Freezer Case Electrically Commutated Motors	4,194	0.5	0.0	\$467	\$5,156	\$680	\$4,476	9.6	4,223
ECM 28	Vending Machine Control	35,642	4.1	0.0	\$4,215	\$8,970	\$1,100	\$7,870	1.9	35,891
Custom	Measures	92,320	0.0	562.0	\$14,322	\$70,512	\$0	\$70,512	4.9	158,769
ECM 29	Install Heat Pump Water Heater	92,320	0.0	0.0	\$10,408	\$12,509	\$0	\$12,509	1.2	92,966
ECM 30	Install Semi-Automatic Cover for Swimming Pool	0	0.0	562.0	\$3,914	\$58,004	\$0	\$58,004	14.8	65,803
	TOTALS	3,063,854	564.0	531.9	\$362,551	\$1,677,722	\$319,929	\$1,357,793	3.7	3,147,560

* - 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

HEPBURN HALL

#	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 _z e Emissions Reduction (Ibs)
Lighting	Upgrades		148,704	29.9	-31	\$16,339	\$69,819	\$9,108	\$60,711	3.7	146,151
ECM 1	Install LED Fixtures	Yes	1,879	0.0	0	\$209	\$1,037	\$150	\$887	4.2	1,892
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	13,351	2.9	-3	\$1,467	\$6, 195	\$948	\$5,247	3.6	13,118
ECM 3	Retrofit Fixtures with LED Lamps	Yes	133,473	26.9	- 28	\$14,663	\$62, 587	\$8,010	\$54,577	3.7	131,141
Lighting	Control Measures		15,134	2.8	-3	\$1,663	\$15, 517	\$3,215	\$12,302	7.4	14,869
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	13,805	2.6	-3	\$1,517	\$13,042	\$1,505	\$11,537	7.6	13,564
ECM 5	Install High/Low Lighting Controls	Yes	1,328	0.2	0	\$146	\$2,475	\$1,710	\$765	5.2	1,305
Motor U	Jpgrades		6,092	1.2	0	\$678	\$11, 396	\$0	\$11,396	16.8	6,135
ECM 6	Premium Efficiency Motors	No	6,092	1.2	0	\$678	\$11,396	\$O	\$11,396	16.8	6,135
Variable	Frequency Drive (VFD) Measures		24,248	5.3	0	\$2,698	\$27,464	\$975	\$26,489	9.8	24,418
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	24,248	5.3	0	\$2,698	\$27,464	\$975	\$26,489	9.8	24,418
Unitary	HVAC Measures		5,621	2.3	0	\$625	\$20, 369	\$1,093	\$19,276	30.8	5,660
ECM 8	Install High Efficiency Air Conditioning Units	No	5,621	2.3	0	\$625	\$20, 369	\$1,093	\$19,276	30.8	5,660
Domest	ic Water Heating Upgrade		0	0.0	4	\$25	\$29	\$14	\$14	0.6	444
ECM 9	Install Low-Flow DHW Devices	Yes	0	0.0	4	\$25	\$29	\$14	\$14	0.6	444
Food Se	rvice & Refrigeration Measures		2,821	0.3	0	\$314	\$460	\$100	\$360	1.1	2,840
ECM 10	Vending Machine Control	Yes	2,821	0.3	0	\$314	\$460	\$100	\$360	1.1	2,840
	TOTALS (COST EFFECTIVE MEASURES)		190,906	38.3	-30	\$21,039	\$113,289	\$13,412	\$99,876	4.7	188,722
	TOTALS (ALL MEASURES)		202,619	41.8	-30	\$22,342	\$145,054	\$14,505	\$130,549	5.8	200,517

* - 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.

FRIES HALL

#	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)**	COze Emissions Reduction (Ibs)
Lighting	Upgrades		59,125	14.4	-12	\$6,497	\$16,796	\$3,074	\$13,722	2.1	58,123
ECM 1	Retrofit Fixtures with LED Lamps	Yes	59,125	14.4	-12	\$6,497	\$16,796	\$3,074	\$13,722	2.1	58,123
Lighting	Control Measures		10,829	2.3	-2	\$1,190	\$17,132	\$6,285	\$10,847	9.1	10,640
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	6,455	1.6	-1	\$709	\$10,382	\$1,455	\$8,927	12.6	6,342
ECM 3	Install High/Low Lighting Controls	Yes	4,375	0.7	-1	\$481	\$6,750	\$4,830	\$1,920	4.0	4,298
Motor U	Jpgrades		1,783	0.5	0	\$198	\$5,956	\$0	\$5,956	30.0	1,795
ECM 4	Premium Efficiency Motors	No	1,783	0.5	0	\$198	\$5,956	\$0	\$5,956	30.0	1,795
Variable	Frequency Drive (VFD) Measures		48,328	16.4	0	\$5,377	\$29,176	\$5,400	\$23,776	4.4	48,666
ECM 5	Install VFDs on Constant Volume (CV) Fans	Yes	48,328	16.4	0	\$5,377	\$29,176	\$5,400	\$23,776	4.4	48,666
Unitary	HVAC Measures		32,103	26.8	0	\$3,571	\$104,948	\$9,875	\$95,073	26.6	32,328
ECM 6	Install High Efficiency Air Conditioning Units	No	32,103	26.8	0	\$3,571	\$104,948	\$9,875	\$95,073	26.6	32,328
Domest	ic Water Heating Upgrade		0	0.0	3	\$20	\$57	\$29	\$29	1.4	353
ECM 7	Install Low-Flow DHW Devices	Yes	0	0.0	3	\$20	\$57	\$29	\$29	1.4	353
Food Se	rvice & Refrigeration Measures		1,954	0.2	0	\$217	\$460	\$50	\$410	1.9	1,968
ECM 8	Vending Machine Control	Yes	1,954	0.2	0	\$217	\$460	\$50	\$410	1.9	1,968
	TOTALS (COST EFFECTIVE MEASURES)		120,238	33.3	-11	\$13,301	\$63,621	\$14,838	\$48,783	3.7	119,750
	TOTALS (ALL MEASURES)		154,124	60.5	-11	\$17,071	\$174,526	\$24,713	\$149,813	8.8	153,873

* - 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.

GILLAIN STUDENT UNION

#	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 (Ibs)
Lighting	Upgrades		195,444	26.5	-40	\$21,477	\$57,126	\$8,343	\$48,783	2.3	192,180
ECM1	Install LED Fixtures	Yes	6,119	0.0	0	\$681	\$3,360	\$600	\$2,760	4.1	6,162
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	6,532	2.0	-1	\$717	\$4,787	\$625	\$4,162	5.8	6,417
ECM 3	Retrofit Fixtures with LED Lamps	Yes	182,794	24.5	-38	\$20,078	\$48,979	\$7,118	\$41,861	2.1	179,601
Lighting	Control Measures		39,763	5.5	-8	\$4,368	\$32,155	\$6,395	\$25,760	5.9	39,067
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	34,174	5.1	-7	\$3,754	\$28,780	\$3,490	\$25,290	6.7	33,577
ECM 5	Install High/Low Lighting Controls	Yes	5,588	0.5	-1	\$614	\$3,375	\$2,905	\$470	0.8	5,491
Variable	Frequency Drive (VFD) Measures		93,290	21.6	65	\$10,818	\$167,472	\$9,725	\$157,747	14.6	101,573
ECM6	Install VFDs on Constant Volume (CV) Fans	Yes	45,604	8.4	0	\$5,073	\$33,855	\$2,925	\$30,930	6.1	45,923
ECM 7	Install VFDs on Chilled Water Pumps	No	29,967	11.1	0	\$3,334	\$113,151	\$3,000	\$110,151	33.0	30,176
ECM8	Install VFDs on Heating Water Pumps	Yes	6,126	1.0	0	\$682	\$8,394	\$1,800	\$6,594	9.7	6,169
ECM9	Install VFDs on Kitchen Hood Fan Motors	Yes	6,282	0.1	65	\$1,138	\$3,812	\$200	\$3,612	3.2	13,956
ECM 10	Install VFDs on Condensate Pumps	Yes	5,311	1.0	0	\$591	\$8,260	\$1,800	\$6,460	10.9	5,348
Unitary	HVAC Measures		17,073	6.1	2	\$1,916	\$67,005	\$4,465	\$62,540	32.6	17,484
ECM 11	Install High Efficiency Air Conditioning Units	No	17,073	6.1	2	\$1,916	\$67,005	\$4,465	\$62,540	32.6	17,484
Electric	Chiller Replacement		76,181	-32.5	0	\$8,475	\$422,424	\$40,112	\$382,312	45.1	76,714
ECM 12	Install High Efficiency Chillers	No	76,181	-32.5	0	\$8,475	\$422,424	\$40,112	\$382,312	45.1	76,714
Gas Hea	ting (HVAC/Process) Replacement		0	0.0	8	\$53	\$7,001	\$500	\$6,501	122.3	923
ECM 13	Install High Efficiency Furnaces	No	0	0.0	8	\$53	\$7,001	\$500	\$6,501	122.3	923
HVAC S	ystem Improvements		0	0.0	4	\$24	\$46	\$16	\$30	1.3	411
ECM 14	Install Pipe Insulation	Yes	0	0.0	4	\$24	\$46	\$16	\$30	1.3	411
Domest	ic Water Heating Upgrade		0	0.0	13	\$90	\$100	\$50	\$50	0.6	1,556
ECM 15	Install Low-Flow DHW Devices	Yes	0	0.0	13	\$90	\$100	\$50	\$50	0.6	1,556
Food Se	rvice & Refrigeration Measures		9,000	0.8	0	\$1,001	\$9,117	\$745	\$8,372	8.4	9,063
ECM 16	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	1,835	0.2	0	\$204	\$2,426	\$320	\$2,106	10.3	1,848
ECM 17	Refrigeration Controls	No	2,854	0.1	0	\$317	\$5,541	\$275	\$5,266	16.6	2,873
ECM 18	Vending Machine Control	Yes	4,312	0.5	0	\$480	\$1,150	\$150	\$1,000	2.1	4,342
	TOTALS (COST EFFECTIVE MEASURES)		304,677	43.2	34	\$34,125	\$147,324	\$21,999	\$125,325	3.7	310,800
	TOTALS (ALL MEASURES)		430,751	28.0	44	\$48,220	\$762,446	\$70,351	\$692,095	14.4	438,971

* - 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.

GROSSNICKLE HALL

#	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)**	COze Emissions Reduction (Ibs)
Lighting	Upgrades		110,153	18.7	-23	\$12,056	\$41,654	\$5,486	\$36,168	3.0	108,227
ECM 1	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	80,479	14.3	-17	\$8,808	\$29,305	\$3,541	\$25,764	2.9	79,071
ECM 2	Retrofit Fixtures with LED Lamps	Yes	29,675	4.4	-6	\$3,248	\$12,350	\$1,945	\$10,405	3.2	29,156
Lighting	Control Measures		33,584	5.5	-7	\$3,676	\$33,119	\$8,740	\$24,379	6.6	32,996
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	24,629	4.4	-5	\$2,696	\$25,694	\$3,210	\$22,484	8.3	24,199
ECM 4	Install High/Low Lighting Controls	Yes	8,954	1.2	-2	\$980	\$7,425	\$5,530	\$1,895	1.9	8,798
Variable	Frequency Drive (VFD) Measures		9,788	2.2	0	\$1,089	\$16,953	\$375	\$16,578	15.2	9,856
ECM 5	Install VFDs on Constant Volume (CV) Fans	No	9,788	2.2	0	\$1,089	\$16,953	\$375	\$16,578	15.2	9,856
Unitary	HVAC Measures		106	0.0	0	\$12	\$1,032	\$0	\$1,032	87.4	107
ECM 6	Install High Efficiency Air Conditioning Units	No	106	0.0	0	\$12	\$1,032	\$0	\$1,032	87.4	107
Gas Hea	ting (HVAC/Process) Replacement		0	0.0	76	\$653	\$51,960	\$4,053	\$47,907	73.4	8,854
ECM 7	Install High Efficiency Hot Water Boilers	No	0	0.0	76	\$653	\$51,960	\$4,053	\$47,907	73.4	8,854
HVAC S	stem Improvements		3,104	0.0	0	\$345	\$144	\$40	\$104	0.3	3,126
ECM 8	Install Pipe Insulation	Yes	3,104	0.0	0	\$345	\$144	\$40	\$104	0.3	3,126
Domest	ic Water Heating Upgrade		2,780	0.0	0	\$309	\$143	\$72	\$72	0.2	2,800
ECM 9	Install Low-Flow DHW Devices	Yes	2,780	0.0	0	\$309	\$143	\$72	\$72	0.2	2,800
Food Se	rvice & Refrigeration Measures		1,954	0.2	0	\$217	\$460	\$50	\$410	1.9	1,968
ECM 10	Vending Machine Control	Yes	1,954	0.2	0	\$217	\$460	\$50	\$410	1.9	1,968
Custom	Measures		36,928	0.0	0	\$4,108	\$3,480	\$0	\$3,480	0.8	37,186
ECM 11	Install Heat Pump Water Heater	Yes	36,928	0.0	0	\$4,108	\$3,480	\$0	\$3,480	0.8	37,186
	TOTALS (COST EFFECTIVE MEASURES)		188,504	24.4	-30	\$20,712	\$79,000	\$14,388	\$64,613	3.1	186,303
	TOTALS (ALL MEASURES)		198,398	26.7	46	\$22,465	\$148,945	\$18,816	\$130,129	5.8	205,120

* - 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.

GUARINI LIBRARY

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MIMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	COze Emissions Reduction (Ibs)
Lighting	Upgrades		202,124	38.0	-42	\$22,208	\$60,791	\$15,423	\$45,368	2.0	198,632
ECM 1	Install LED Fixtures	Yes	1,288	0.0	0	\$143	\$788	\$150	\$638	4.5	1,297
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	61	0.0	0	\$7	\$69	\$10	\$59	8.8	60
ECM 3	Retrofit Fixtures with LED Lamps	Yes	200,776	37.9	-42	\$22,058	\$59,934	\$15,263	\$44,671	2.0	197,275
Lighting	Control Measures		60,224	11.3	-13	\$6,616	\$37,678	\$5,760	\$31,918	4.8	59,171
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	58,812	11.1	-12	\$6,461	\$35,878	\$4,710	\$31,168	4.8	57,783
ECM 5	Install High/Low Lighting Controls	Yes	1,412	0.2	0	\$155	\$1,800	\$1,050	\$750	4.8	1,387
Motor U	lpgrades		4,649	1.0	0	\$517	\$12,008	\$0	\$12,008	23.2	4,682
ECM 6	Premium Efficiency Motors	No	4,649	1.0	0	\$517	\$12,008	\$0	\$12,008	23.2	4,682
Domest	ic Water Heating Upgrade		0	0.0	2	\$10	\$29	\$14	\$14	1.4	176
ECM 7	Install Low-Flow DHW Devices	Yes	0	0.0	2	\$10	\$29	\$14	\$14	1.4	176
Food Se	rvice & Refrigeration Measures		3,848	0.4	0	\$428	\$5,237	\$370	\$4,867	11.4	3,875
ECM 8	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	786	0.1	0	\$87	\$910	\$120	\$790	9.0	792
ECM 9	Refrigeration Controls	No	1,107	0.0	0	\$123	\$3,867	\$200	\$3,667	29.8	1,115
ECM 10	Vending Machine Control	Yes	1,954	0.2	0	\$217	\$460	\$50	\$410	1.9	1,968
	TOTALS (COST EFFECTIVE MEASURES)		265,089	49.6	-53	\$29,139	\$99,867	\$21,367	\$78,500	2.7	260,739
	TOTALS (ALL MEASURES)		270,845	50.7	-53	\$29,779	\$115,742	\$21,567	\$94,174	3.2	266,535

* - 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.

KARNOUTSOS HALL

#	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 _z e Emissions Reduction (Ibs)
Lighting	Upgrades		135,996	33.4	-28	\$14,941	\$53,970	\$9,607	\$44,363	3.0	133,624
ECM 1	Install LED Fixtures	Yes	873	0.1	0	\$96	\$547	\$50	\$497	5.2	858
ECM 2	Retrofit Fixtures with LED Lamps	Yes	135,123	33.3	-28	\$14,845	\$53,424	\$9,557	\$43,867	3.0	132,766
Lighting	Control Measures		53,710	12.8	-11	\$5,901	\$66,106	\$17,870	\$48,236	8.2	52,770
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	40,755	9.8	-9	\$4,477	\$50,806	\$6,460	\$44,346	9.9	40,043
ECM 4	Install High/Low Lighting Controls	Yes	12,954	3.0	-3	\$1,423	\$15,300	\$11,410	\$3,890	2.7	12,728
Variable	Frequency Drive (VFD) Measures		27,018	9.8	0	\$3,006	\$28,188	\$4,250	\$23,938	8.0	27,207
EĆM 5	Install VFDs on Constant Volume (CV) Fans	Yes	24,341	9.4	0	\$2,708	\$21,716	\$4,100	\$17,616	6.5	24,511
ECM 6	Install VFDs on Condensate Pumps	No	2,677	0.4	0	\$298	\$6,471	\$150	\$6,321	21.2	2,696
Food Se	rvice & Refrigeration Measures		1,551	0.2	0	\$173	\$460	\$50	\$410	2.4	1,562
EĊM 7	Vending Machine Control	Yes	1,551	0.2	0	\$173	\$460	\$50	\$410	2.4	1,562
Custom	Measures		36,928	0.0	0	\$4,108	\$2,383	\$0	\$2,383	0.6	37,186
ECM 8	Install Heat Pump Water Heater	Yes	36,928	0.0	0	\$4,108	\$2,383	\$0	\$2,383	0.6	37,186
	TOTALS (COST EFFECTIVE MEASURES)		252,526	55.8	-40	\$27,830	\$144,636	\$31,627	\$113,009	4.1	249,654
	TOTALS (ALL MEASURES)		255,203	56.2	-40	\$28, 128	\$151,107	\$31,777	\$119,330	4.2	252,349

* - 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.

ROSSEY HALL

#	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 (Ibs)
Lighting	Upgrades		129,823	18.3	-29	\$14,253	\$77,908	\$11,218	\$66,690	4.7	127,378
ECM 1	Install LED Fixtures	Yes	4,257	0.0	0	\$474	\$2,307	\$300	\$2,007	4.2	4,287
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	3,503	1.0	-1	\$384	\$2,332	\$340	\$1,992	5.2	3,433
ECM 3	Retrofit Fixtures with LED Lamps	Yes	122,063	17.3	-28	\$13,395	\$73,268	\$10,578	\$62,690	4.7	119,657
Lighting	Control Measures		42,973	5.9	-10	\$4,715	\$44,717	\$12,170	\$32,547	6.9	42,116
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	34,125	4.8	-8	\$3,744	\$35,267	\$4,715	\$30,552	8.2	33,444
ECM 5	Install High/Low Lighting Controls	Yes	8,848	1.1	-2	\$971	\$9,450	\$7,455	\$1,995	2.1	8,672
Variable	Frequency Drive (VFD) Measures		73,245	13.1	0	\$8,148	\$133,479	\$6,100	\$127,379	15.6	73,757
ECM 6	Install VFDs on Constant Volume (CV) Fans	Yes	16,400	4.4	0	\$1,824	\$9,348	\$2,000	\$7,348	4.0	16,515
ECM 7	Install VFDs on Chilled Water Pumps	No	56,845	8.7	0	\$6,324	\$124,130	\$4,100	\$120,030	19.0	57,242
Unitary	HVAC Measures		104	0.0	0	\$12	\$498	\$0	\$498	43.0	105
ECM 8	Install High Efficiency Air Conditioning Units	No	104	0.0	0	\$12	\$498	\$O	\$498	43.0	105
Custom	Measures		12,309	0.0	0	\$1,369	\$3,323	\$0	\$3,323	2.4	12,395
ECM 9	Install Heat Pump Water Heater	Yes	12,309	0.0	0	\$1,369	\$3,323	\$O	\$3,323	2.4	12,395
	TOTALS (COST EFFECTIVE MEASURES)		201,505	28.7	-39	\$22,161	\$135,296	\$25,388	\$109,908	5.0	198,403
	TOTALS (ALL MEASURES)		258,454	37.4	-39	\$28,497	\$259,924	\$29,488	\$230,436	8.1	255,750

* - 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.

SCIENCE HALL

#	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 (Ibs)
Lighting	Upgrades		20,203	3.6	-4	\$2,222	\$7,483	\$1,723	\$5,760	2.6	19,907
ECM 1	Install LED Fixtures	Yes	2,365	0.0	0	\$263	\$1,313	\$250	\$1,063	4.0	2,382
ECM 2	Retrofit Fixtures with LED Lamps	Yes	17,837	3.6	-4	\$1,959	\$6,170	\$1,473	\$4,697	2.4	17,525
Lighting	Control Measures		11,733	2.0	-2	\$1,289	\$6,098	\$1,670	\$4,428	3.4	11,528
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	10,252	1.7	-2	\$1,126	\$4,748	\$590	\$4,158	3.7	10,073
ECM 4	Install High/Low Lighting Controls	Yes	1,481	0.2	0	\$163	\$1,350	\$1,080	\$270	1.7	1,455
Variable	e Frequency Drive (VFD) Measures		11,276	1.4	0	\$1,254	\$14,496	\$2,000	\$12,496	10.0	11,355
ECM 5	Install VFDs on Heating Water Pumps	No	2,619	0.4	0	\$291	\$6,522	\$200	\$6,322	21.7	2,637
ECM 6	Install VFDs on Condensate Pumps	Yes	8,657	1.0	0	\$963	\$7,974	\$1,800	\$6,174	6.4	8,718
Domest	ic Water Heating Upgrade		0	0.0	4	\$30	\$29	\$14	\$14	0.5	523
ECM 7	Install Low-Flow DHW Devices	Yes	0	0.0	4	\$30	\$29	\$14	\$14	0.5	523
Food Se	rvice & Refrigeration Measures		1,209	0.1	0	\$134	\$230	\$50	\$180	1.3	1,217
ECM 8	Vending Machine Control	Yes	1,209	0.1	0	\$134	\$230	\$50	\$180	1.3	1,217
	TOTALS (COST EFFECTIVE MEASURES)		41,802	6.7	-2	\$4,639	\$21,813	\$5,257	\$16,556	3.6	41,893
	TOTALS (ALL MEASURES)		44,421	7.1	-2	\$4,930	\$28,335	\$5,457	\$22,878	4.6	44,530

* - 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.

JOHN J. MOORE ATHLETICS COMPLEX

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MIMBtu)	Annual Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	COze Emissions Reduction (Ibs)
Lighting	Upgrades		79,569	8.9	-14	\$9,852	\$24,255	\$4,157	\$20,098	2.0	78,508
ECM 1	Install LED Fixtures	Yes	28,542	1.9	-3	\$3,547	\$12,010	\$1,130	\$10,880	3.1	28,373
ECM 2	Retrofit Fixtures with LED Lamps	Yes	51,028	7.0	-11	\$6,305	\$12,245	\$3,027	\$9,218	1.5	50,135
Lighting	Control Measures		55,985	7.3	-12	\$6,918	\$18,918	\$4,315	\$14,603	2.1	55,006
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	50,657	6.6	-11	\$6,260	\$15,318	\$1,935	\$13,383	2.1	49,771
ECM 4	Install High/Low Lighting Controls	Yes	5,328	0.6	-1	\$658	\$3,600	\$2,380	\$1,220	1.9	5,235
Motor L	Jpgrades		6,219	0.9	0	\$777	\$9,376	\$0	\$9,376	12.1	6,262
ECM 5	Premium Efficiency Motors	No	6,219	0.9	0	\$777	\$9,376	\$0	\$9,376	12.1	6,262
Variable	Frequency Drive (VFD) Measures		179,115	24.4	0	\$22,394	\$115,321	\$11,400	\$103,921	4.6	180,368
ECM 6	Install VFD on Variable Air Volume (VAV) Fans	Yes	73,957	13.4	0	\$9,246	\$18,617	\$2,700	\$15,917	1.7	74,474
ECM 7	Install VFDs on Constant Volume (CV) Fans	Yes	26,195	4.5	0	\$3,275	\$15,297	\$2,100	\$13,197	4.0	26,378
ECM 8	Install VFDs on Chilled Water Pumps	No	30,601	5.6	0	\$3,826	\$59,082	\$2,400	\$56,682	14.8	30,815
ECM 9	Install VFDs on Heating Water Pumps	Yes	8,580	1.0	0	\$1,073	\$8,152	\$1,800	\$6,352	5.9	8,640
ECM 10	Install VFDs on Process/Pool Filtration Pumps	Yes	39,783	0.0	0	\$4,974	\$14,172	\$2,400	\$11,772	2.4	40,061
HVAC S	ystem Improvements		7,917	0.0	82	\$1,559	\$5,805	\$106	\$5,699	3.7	17,537
ECM 11	Implement Demand Control Ventilation (DCV)	Yes	7,593	0.0	53	\$1,315	\$5,438	\$0	\$5,438	4.1	13,793
ECM 12	Install Pipe Insulation	Yes	324	0.0	29	\$244	\$367	\$106	\$261	1.1	3,744
Domest	ic Water Heating Upgrade		0	0.0	6	\$40	\$86	\$43	\$43	1.1	667
ECM 13	Install Low-Flow DHW Devices	Yes	0	0.0	6	\$40	\$86	\$43	\$43	1.1	667
Food Se	rvice & Refrigeration Measures		1,551	0.2	0	\$194	\$460	\$50	\$410	2.1	1,562
ECM 14	Vending Machine Control	Yes	1,551	0.2	0	\$194	\$460	\$50	\$410	2.1	1,562
Custom	Measures		0	0.0	562	\$3,914	\$58,004	\$ 0	\$58,004	14.8	65,803
ECM 15	Install Semi-Automatic Cover for Swimming Pool	Yes	0	0.0	562	\$3,914	\$58,004	\$0	\$58,004	14.8	65,803
	TOTALS (COST EFFECTIVE MEASURES)		293,537	35.1	624	\$41,045	\$163,766	\$17,671	\$146,095	3.6	368,636
	TOTALS (ALL MEASURES)		330,357	41.6	624	\$45,648	\$232,225	\$20,071	\$212,154	4.6	405,713

* - 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.

PROFESSIONAL STUDIES BUILDING

#	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 (Ibs)
Lighting	Upgrades		119,283	21.5	- 20	\$15,813	\$52,860	\$11,300	\$41,560	2.6	117,780
ECM 1	Install LED Fixtures	Yes	23,816	0.0	0	\$3,184	\$15,562	\$2,250	\$13,312	4.2	23,983
ECM 2	Retrofit Fixtures with LED Lamps	Yes	95,467	21.5	- 20	\$12,629	\$37,298	\$9,050	\$28,248	2.2	93,797
Lighting	Control Measures		28,651	6.1	-6	\$3,790	\$39,935	\$13,755	\$26,180	6.9	28,150
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	21,578	5.0	-5	\$2,855	\$28,460	\$4,095	\$24,365	8.5	21,200
ECM 4	Install High/Low Lighting Controls	Yes	7,074	1.1	-1	\$936	\$11,475	\$9,660	\$1,815	1.9	6,950
Variable	Frequency Drive (VFD) Measures		12,714	1.6	0	\$1,700	\$9,476	\$2,000	\$7,476	4.4	12,803
EĆM 5	Install VFDs on Heating Water Pumps	Yes	12,714	1.6	0	\$1,700	\$9,476	\$2,000	\$7,476	4.4	12,803
HVAC S	rstem Improvements		414	0.0	0	\$55	\$29	\$10	\$19	0.3	417
ECM 6	Install Pipe Insulation	Yes	414	0.0	0	\$55	\$29	\$10	\$19	0.3	417
Food Se	rvice & Refrigeration Measures		4,654	0.5	0	\$622	\$1,380	\$150	\$1,230	2.0	4,687
EĆM 7	Vending Machine Control	Yes	4,654	0.5	0	\$622	\$1,380	\$150	\$1,230	2.0	4,687
Custom	Measures		6,155	0.0	0	\$823	\$3,323	\$0	\$3,323	4.0	6,198
ECM 8	Install Heat Pump Water Heater	Yes	6,155	0.0	0	\$823	\$3,323	\$0	\$3,323	4.0	6,198
TOTALS (COST EFFECTIVE MEASURES)			171,871	29.8	- 26	\$22,804	\$107,003	\$27,215	\$79,788	3.5	170,034
	TOTALS (ALL MEASURES)		171,871	29.8	- 26	\$22,804	\$107,003	\$27,215	\$79,788	3.5	170,034

* - 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.

VODRA HALL

#	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 _z e Emissions Reduction (Ibs)
Lighting Upgrades			70,659	15.1	-14	\$7,740	\$37,140	\$6,220	\$30,920	4.0	69,487
ECM 1	Install LED Fixtures	Yes	2,593	0.0	0	\$288	\$1,649	\$400	\$1,249	4.3	2,611
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	2,166	0.6	0	\$237	\$1,073	\$155	\$918	3.9	2,128
ECM 3	Retrofit Fixtures with LED Lamps	Yes	65,900	14.4	-14	\$7,215	\$34,418	\$5,665	\$28,753	4.0	64,748
Lighting	Control Measures		17,338	3.4	-4	\$1,898	\$20,690	\$4,925	\$15,765	8.3	17,035
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	9,652	2.8	-2	\$1,057	\$17,090	\$2,265	\$14,825	14.0	9,483
ECM 5	Install High/Low Lighting Controls	Yes	7,686	0.6	-2	\$841	\$3,600	\$2,660	\$940	1.1	7,552
Variable Frequency Drive (VFD) Measures			33,825	5.3	117	\$4,756	\$23,382	\$3,925	\$19,457	4.1	47,797
ECM 6	Install VFDs on Constant Volume (CV) Fans	Yes	17,566	5.2	0	\$1,954	\$12,891	\$2,800	\$10,091	5.2	17,689
ECM 7	Install VFDs on Kitchen Hood Fan Motors	Yes	16,260	0.1	117	\$2,802	\$10,491	\$1,125	\$9,366	3.3	30,108
Unitary	HVAC Measures		3,139	2.2	6	\$399	\$29,002	\$1,421	\$27,581	69.2	3,846
ECM 8	Install High Efficiency Air Conditioning Units	No	3,139	2.2	6	\$399	\$29,002	\$1,421	\$27,581	69.2	3,846
HVAC S	stem Improvements		0	0.0	28	\$234	\$376	\$100	\$276	1. 2	3,242
ECM 9	Install Pipe Insulation	Yes	0	0.0	28	\$234	\$376	\$100	\$276	1.2	3,242
Domest	ic Water Heating Upgrade		0	0.0	26	\$22 1	\$394	\$197	\$197	0.9	3,055
ECM 10	Install Low-Flow DHW Devices	Yes	0	0.0	26	\$221	\$394	\$197	\$197	0.9	3,055
Food Se	rvice & Refrigeration Measures		6,115	0.4	0	\$680	\$7,820	\$565	\$7,255	10.7	6,158
ECM 11	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	1,573	0.2	0	\$175	\$1,820	\$240	\$1,580	9.0	1,584
ECM 12	Refrigeration Controls	No	2,991	0.1	0	\$333	\$5,541	\$275	\$5,266	15.8	3,012
ECM 13	Vending Machine Control	Yes	1,551	0.2	0	\$173	\$460	\$50	\$410	2.4	1,562
TOTALS (COST EFFECTIVE MEASURES)				24.1	153	\$15,197	\$84,262	\$15,657	\$68,605	4.5	143,762
	TOTALS (ALL MEASURES)		131,077	26.4	159	\$15,929	\$118,805	\$17,354	\$101,452	6.4	150,620

* - 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.

CO-OP DORMITORY

#	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 (Ibs)
Lighting Upgrades			21,690	2.2	-3	\$2,826	\$7,505	\$1,036	\$6,469	2.3	21,463
ECM 1	Install LED Fixtures	Yes	6,233	0.0	0	\$820	\$1,824	\$250	\$1,574	1.9	6,276
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	3,288	0.4	-1	\$427	\$719	\$105	\$614	1.4	3,231
ECM 3	Retrofit Fixtures with LED Lamps	Yes	12,169	1.7	-3	\$1,579	\$4,962	\$681	\$4,281	2.7	11,956
Lighting	Control Measures		8,118	0.9	-2	\$1,053	\$9,426	\$3,445	\$5,981	5.7	7,976
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	2,490	0.5	-1	\$323	\$4,476	\$610	\$3,866	12.0	2,447
ECM 5	Install High/Low Lighting Controls	Yes	5,628	0.4	-1	\$730	\$4,950	\$2,835	\$2,115	2.9	5,529
Variable	Frequency Drive (VFD) Measures		3,501	1.9	0	\$461	\$23,394	\$1,800	\$21,594	46.9	3,525
ECM 6	Install VFDs on Chilled Water Pumps	No	3,501	1.9	0	\$461	\$23,394	\$1,800	\$21,594	46.9	3,525
HVAC Sy	stem Improvements		78	0.0	11	\$112	\$180	\$52	\$128	1.1	1,423
ECM 7	Install Pipe Insulation	Yes	78	0.0	11	\$112	\$180	\$52	\$128	1.1	1,423
Domest	ic Water Heating Upgrade		0	0.0	10	\$92	\$158	\$79	\$ 79	0.9	1,222
ECM 8	Install Low-Flow DHW Devices	Yes	0	0.0	10	\$92	\$158	\$79	\$79	0.9	1,222
Food Se	rvice & Refrigeration Measures		3,566	0.4	0	\$469	\$690	\$100	\$590	1.3	3,591
ECM 9	Vending Machine Control	Yes	3,566	0.4	0	\$469	\$690	\$100	\$590	1.3	3,591
TOTALS (COST EFFECTIVE MEASURES)				3.5	17	\$4,552	\$17,959	\$4,712	\$13,247	2.9	35,676
TOTALS (ALL MEASURES)				5.3	17	\$5,013	\$41,353	\$6,512	\$34,841	6.9	39,201

* - 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.

West Campus Village

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated M&L Cost (\$)	Estimated Incentive (\$)*	Estimated Net M&L Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (Ibs)
Lighting	Upgrades		119,827	15.7	-18	\$13,568	\$203,519	\$44,174	\$5,726	\$38,448	2.8	118,503
ECM 1	Install LED Fixtures	Yes	23,126	0.0	0	\$2,647	\$39,709	\$11,094	\$1,600	\$9,494	3.6	23,288
ECM 2	Retrofit Fixtures with LED Lamps	Yes	96,701	15.7	-18	\$10,921	\$163,810	\$33,080	\$4,126	\$28,954	2.7	95,215
Lighting	Control Measures		42,075	5.7	-9	\$4,745	\$37,964	\$45,431	\$15,290	\$30,141	6.4	41,339
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	26,812	4.6	-6	\$3,024	\$24,192	\$33,056	\$5,630	\$27,426	9.1	26,343
ECM 4	Install High/Low Lighting Controls	Yes	15,263	1.1	-3	\$1,721	\$13,772	\$12,375	\$9,660	\$2,715	1.6	14,996
Food Se	rvice & Refrigeration Measures		6,609	0.8	0	\$756	\$3,782	\$1,840	\$200	\$1,640	2.2	6,655
ECM 5	Vending Machine Control	Yes	6,609	0.8	0	\$756	\$3,782	\$1,840	\$200	\$1,640	2.2	6,655
	TOTALS (COST EFFECTIVE MEASURES)		168,510	22.2	-27	\$19,070	\$245,265	\$91,445	\$21,216	\$70,229	3.7	166,497
	TOTALS (ALL MEASURES)		168,510	22.2	-27	\$19,070	\$245,265	\$91,445	\$21,216	\$70,229	3.7	166,497

* - 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.

VISUAL ARTS BUILDING

#	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 _z e Emissions Reduction (Ibs)
Lighting Upgrades			96,250	16.8	-22	\$12,658	\$41,216	\$7,939	\$33,277	2.6	94,350
ECM 1	Install LED Fixtures	Yes	5,251	0.7	-1	\$690	\$8,750	\$750	\$8,000	11.6	5,146
ECM 2	Retrofit Fixtures with LED Lamps	Yes	90,999	16.1	-21	\$11,967	\$32,467	\$7,189	\$25,278	2.1	89,204
Lighting	Control Measures		33,030	5.4	-8	\$4,343	\$38,870	\$17,505	\$21,365	4.9	32,371
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	20,671	3.5	-5	\$2,718	\$22,220	\$2,820	\$19,400	7.1	20,259
ECM 4	Install High/Low Lighting Controls	Yes	12,358	1.9	-3	\$1,625	\$16,650	\$14,685	\$1,965	1.2	12,112
Variable	Frequency Drive (VFD) Measures		130,358	39.1	0	\$17,354	\$139,359	\$21,150	\$118,209	6.8	131,270
ECM 5	Install VFDs on Constant Volume (CV) Fans	Yes	38,586	15.5	0	\$5,137	\$53,404	\$5,250	\$48,154	9.4	38,856
ECM 6	Install VFDs on Chilled Water Pumps	Yes	36,082	17.2	0	\$4,803	\$30,813	\$5,500	\$25,313	5.3	36,334
ECM 7	Install VFDs on Heating Water Pumps	Yes	40,782	7.5	0	\$5,429	\$37,276	\$7,400	\$29,876	5.5	41,068
ECM 8	Install VFDs on Cooling Tower Fans	Yes	14,908	-1.0	0	\$1,985	\$17,866	\$3,000	\$14,866	7.5	15,012
Unitary	HVAC Measures		754	0.3	0	\$100	\$5,922	\$210	\$5,712	56.9	759
ECM 9	Install High Efficiency Air Conditioning Units	No	754	0.3	0	\$100	\$5,922	\$210	\$5,712	56.9	759
HVAC Sy	stem Improvements		0	0.0	5	\$37	\$69	\$24	\$45	1.2	617
ECM 10	Install Pipe Insulation	Yes	0	0.0	5	\$37	\$69	\$24	\$45	1.2	617
Domest	ic Water Heating Upgrade		0	0.0	42	\$294	\$14,740	\$93	\$14,647	49.8	4,870
ECM 11	Install High Efficiency Gas-Fired Water Heater	No	0	0.0	29	\$207	\$14,554	\$0	\$14,554	70.3	3,426
ECM 12	Install Low-Flow DHW Devices	Yes	0	0.0	12	\$87	\$186	\$93	\$93	1.1	1,444
TOTALS (COST EFFECTIVE MEASURES)			259,638	61.3	-12	\$34,480	\$219,701	\$46,711	\$172,989	5.0	260,052
TOTALS (ALL MEASURES)			260,392	61.6	17	\$34,787	\$240,176	\$46,921	\$193,255	5.6	264,237

* - 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.

UNIVERSITY ACADEMY CHARTER 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)**	COze Emissions Reduction (Ibs)
Lighting	Upgrades		88,952	17.4	-18	\$11,132	\$28,195	\$6,818	\$21,377	1.9	87,486
ECM 1	Install LED Fixtures	Yes	2,917	0.0	0	\$370	\$1,855	\$450	\$1,405	3.8	2,937
ECM 2	Retrofit Fixtures with LED Lamps	Yes	86,035	17.4	-18	\$10,761	\$26,340	\$6,368	\$19,972	1.9	84,548
Lighting	Control Measures		27,796	5.0	-6	\$3,476	\$27,577	\$10,235	\$17,342	5.0	27,310
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	17,913	3.5	-4	\$2,240	\$17,902	\$2,290	\$15,612	7.0	17,600
ECM 4	Install High/Low Lighting Controls	Yes	9,883	1.5	-2	\$1,236	\$9,675	\$7,945	\$1,730	1.4	9,710
Motor l	Jpgrades		1,629	0.3	0	\$207	\$4,094	\$0	\$4,094	19.8	1,640
ECM 5	Premium Efficiency Motors	No	1,629	0.3	0	\$207	\$4,094	\$O	\$4,094	19.8	1,640
Variable	e Frequency Drive (VFD) Measures		68,235	17.7	0	\$8,661	\$41,690	\$6,600	\$35,090	4.1	68,712
ECM 6	Install VFDs on Constant Volume (CV) Fans	Yes	68,235	17.7	0	\$8,661	\$41,690	\$6,600	\$35,090	4.1	68,712
Electric	Chiller Replacement		20,507	-19.5	0	\$2,603	\$225,054	\$13,330	\$211,724	81.3	20,650
ECM 7	Install High Efficiency Chillers	No	20,507	-19.5	0	\$2,603	\$225,054	\$13,330	\$211,724	81.3	20,650
Gas Hea	ting (HVAC/Process) Replacement		0	0.0	122	\$1,087	\$58,267	\$4,896	\$53,371	49.1	14,303
ECM 8	Install High Efficiency Hot Water Boilers	No	0	0.0	122	\$1,087	\$58,267	\$4,896	\$53,371	49.1	14,303
Domest	ic Water Heating Upgrade		4,449	0.0	0	\$565	\$229	\$115	\$115	0.2	4,480
ECM 9	Install Low-Flow DHW Devices	Yes	4,449	0.0	0	\$565	\$229	\$115	\$115	0.2	4,480
Food Se	rvice & Refrigeration Measures		1,954	0.2	0	\$248	\$460	\$50	\$410	1.7	1,968
ECM 10	Vending Machine Control	Yes	1,954	0.2	0	\$248	\$460	\$50	\$410	1.7	1,968
	TOTALS (COST EFFECTIVE MEASURES)				-24	\$24,081	\$98,152	\$23,818	\$74,334	3.1	189,955
	TOTALS (ALL MEASURES)				99	\$27,978	\$385,567	\$42,044	\$343,524	12.3	226,548

* - 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.

CENTRAL PLANT

#	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 _z e Emissions Reduction (Ibs)
Lighting	Upgrades		18,093	1.5	-4	\$1,988	\$3,505	\$479	\$3,026	1.5	17,776
EĊM 1	Install LED Fixtures	Yes	1,060	0.2	0	\$116	\$471	\$50	\$421	3.6	1,041
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	17,033	1.3	-4	\$1,871	\$3,034	\$429	\$2,605	1.4	16,735
Lighting	Control Measures		4,508	0.4	-1	\$495	\$2,887	\$370	\$2,517	5.1	4,429
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	4,335	0.3	-1	\$476	\$2,662	\$300	\$2,362	5.0	4,259
ECM 4	Install High/Low Lighting Controls	Yes	173	0.0	0	\$19	\$225	\$70	\$155	8.1	170
Variable	Frequency Drive (VFD) Measures		232,652	66.1	0	\$25,882	\$84,188	\$13,800	\$70,388	2 .7	234,279
EĊM 5	Install VFDs on Constant Volume (CV) Fans	Yes	42,426	8.1	0	\$4,720	\$22,577	\$2,000	\$20,577	4.4	42,723
ECM 6	Install Boiler Draft Fan VFDs	Yes	21,136	6.0	0	\$2,351	\$10,303	\$2,200	\$8,103	3.4	21,283
EĆM 7	Install VFDs on Boiler Feedwater Pumps	Yes	150,403	49.8	0	\$16,732	\$35,003	\$6,000	\$29,003	1.7	151,455
ECM 8	Install VFDs on Condensate Pumps	Yes	18,687	2.2	0	\$2,079	\$16,305	\$3,600	\$12,705	6.1	18,818
Unitary	HVAC Measures		3,113	1.0	0	\$346	\$6,521	\$525	\$5,996	17.3	3,135
ECM 9	Install High Efficiency Air Conditioning Units	No	3,113	1.0	0	\$346	\$6,521	\$525	\$5,996	17.3	3,135
Gas Hea	ting (HVAC/Process) Replacement		0	0.0	436	\$2,894	\$249,525	\$0	\$249,525	86.2	51,005
ECM 10	Install High Efficiency Steam Boilers	No	0	0.0	436	\$2,894	\$249,525	\$0	\$249,525	86.2	51,005
Domest	ic Water Heating Upgrade		0	0.0	1	\$7	\$7	\$4	\$4	0.5	131
ECM 11	Install Low-Flow DHW Devices	Yes	0	0.0	1	\$7	\$7	\$4	\$4	0.5	131
TOTALS (COST EFFECTIVE MEASURES)				67.9	-4	\$28,373	\$90,587	\$14,653	\$75,934	2 .7	256,615
	TOTALS (ALL MEASURES)		258,366	69.0	432	\$31,613	\$346,632	\$15,178	\$331,454	10.5	310,755

* - 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.

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

- Retro-Commissioning Study
- Building Submetering
- Pool Heating System Upgrades





SOLAR ENERGY GENERATION POTENTIAL

	GSU	Grossnickle	Guarini Library	Karnoutsos Hall	Rossey Hall	Science Hall	JMAC	PSB	Vodra Hall	WCV	VAB	UACHS
Potential:	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
System Potential: (kW)	279	126	129	86	64	91	303	97	107	107	107	54
Electric Generation: (kWh per year)	332,393	150,112	153,687	102,458	76,248	108,415	360,985	115,563	127,477	127.477	127,477	64,334
Displaced Cost: (per year)	\$36,980	\$16,700	\$17,100	\$11,400	\$8,480	\$12,060	\$45,130	\$15,450	\$14,180	\$14,590	\$16,970	\$8,170

Successor Solar Incentive Program https://www.njcleanenergy.com/renewableenergy/programs/susi-program



Community Solar Energy Pilot Program

http://www.NJCleanEnergy.com/ CommunitySolar

COMBINED HEAT & POWER POTENTIAL

	VAB	Central Plant
Potential:	HIGH	HIGH
System Type:	Microturbine	Recip Engine
System Potential: (kW)	60	130
Electric Generation: (kWh per year)	448,580	1,019,500
Thermal Generation: (MBtu per year)	2,952,472	6,369,836
Displaced Cost: (per year)	\$45,216	\$83,136



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





ENERGY SAVINGS IMPROVEMENT PROGRAM

FOR MORE INFORMATION

Michelle Rossi ESIP Coordinator ESIP@bpu.nj.gov o: 609.913.6295 c: 609.915.0903



C&I TRANSITION OF ENERGY EFFICIENCY PROGRAMS

https://www.njcleanenergy.com/transition



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

PSE&G

Dave Kirsch – <u>David.Kirsch@pseg.com</u>

Steve Barba – <u>Steven.T.Barba@pseg.com</u>



COMBINED HEAT & POWER - FUEL CELLS

NJCleanEnergy.com/CHP

WHO	C&I customers that require on-site electric generation that either does or does not utilize waste heat
SIZE TO QUALIFY	N/A - Projects must pass a cost-effectiveness test and run 5,000 full load equivalent hours per year (3,500 for critical facilities)
ABOUT	 Combined Heat & Power (CHP) units generates electricity and recycle waste heat to provide heating or cooling Resiliency with return on investment Technology-neutral incentives Fuel Cells (FC) with or without heat recovery (HR)
INCENTIVE LEVELS	 CHPs and FC with HR have a project cap of \$2M - \$3M 25% bonus for critical facilities with black-start/islanding capabilities Up to 30% incentive bonus for CHP using biofuel FC without HR have a project cap of \$1M



COMBINED HEAT & POWER - FUEL CELLS

NJCleanEnergy.com/CHP

Eligible Technology	Size (Installed Rated Capacity)	Incentive (\$/Watt) ⁽⁵⁾	% of Total Cost Cap per project	\$ Cap per project
CHP powered by non-renewable or renewable fuel source, or a	≤500 kW ⁽¹⁾	\$2.00	30-40% ⁽²⁾	\$2 million
Gas Internal Combustion Engine	>500 kW - 1 MW ⁽¹⁾	\$1.00		
 Gas Combustion Turbine Microturbine 	>1 MW - 3 MW ⁽¹⁾	\$0.55	30%	\$3 million
Fuel Cell with Heat Recovery (FCHR)	>3 MW ⁽¹⁾	3 MW ⁽¹⁾ \$0.35		
Fuel Cell without Heat Recovery (FCwoHR)	Same as above ⁽¹⁾	Applicable amount above	30%	\$1 million
Waste Heat to Power (WHP) ⁽³⁾ Powered by non-renewable fuel	≤1 MW ⁽¹⁾	\$1.00	30%	\$2 million
source. Heat recovery or other mechanical recovery from existing equipment utilizing new electric generation equipment (e.g. steam turbine)	>1 MW ⁽¹⁾	\$0.50	30%	\$3 million

+critical facility/blackstart bonus of 25%



41

FOR MORE INFORMATION

Sarah Walters – LGEA Project Manager SWalters@trccompanies.com

(732) 589-7372

Amanda Muench – LGEA Account Manager

AMuench@trccompanies.com (732) 612-9381

Moussa Traore – LGEA Lead Energy Auditor

MTraore@trccompanies.com (732) 902-1797

Nicholas Nocco – LGEA Energy Auditor

NNocco@trccompanies.com (848) 235-4169



