# New Jersey's Clean Energy Program

LGEA Exit Meeting for: Borough of Madison

March 3, 2020





## INTRODUCTIONS

- Borough of Madison
  - James Burnet Madison Borough CFO and Deputy Administrator
  - Robert Duffy Exec. Assistant, Madison Department of Public Works
  - Lou DeRosa Chief, Madison Fire Dept.
  - Darren Dachisen Chief, Madison Police Dept.
  - Lynn Favreau Director, Madison Public Library
  - Russell Brown Madison Construction Official
  - Robert Vogel Madison Borough Engineer
  - Michael Zulla Director of Facilities, Madison Public Schools
  - Peter Fried Sustainable Madison Advisory Committee



## INTRODUCTIONS

- NJ Clean Energy Program
  - Aimee Lalonde TRC Program Manager
  - Moussa Traore TRC Auditor
  - Amanda Muench TRC Account Manager
  - Mike Mandzik TRC Outreach Manager
  - Arif Welcher BPU Government/Business Manager
  - Michelle Rossi BPU ESIP Coordinator



## Agenda

- The audit process overview
- Energy use & existing conditions
- Review of Energy Conservation Measures (ECMs) identified
- Questions regarding the draft audit report
- Overview of NJCEP equipment incentives
- Next steps for Borough of Madison



# LGEA PROCESS

**Application Approval** 

Scheduling Call

Audit

**Benchmarking & Analysis** 

**Draft Report** 

**Exit Meeting Presentation** 

**Final Report** 



# SITE VISIT & UTILITY ANALYSIS

### **Overview of Systems, Baseline** & Existing Conditions:

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

### **Utility Consumption:**

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

### **Sites Visited/Analyzed**

- Hartley Dodge Memorial
- Madison Public Safety Complex
- Department of Public Works Garage
- Madison Water & Light Building
- Madison Public Library



## UTILITY BREAKOUT

#### Percent of Total Annual Energy Costs

#### Madison Public Library 31% Madison Water & Light Plant 6% Madison Public Safety Complex 26%

#### Pre & Post Implementation Cost



Pre-Implementation Cost Post-Implementation Cost



## Benchmarking





ENERGY STAR<sup>®</sup> scores are percentile ranking from 1 (least efficient) to 100 (most efficient). It compares your building's energy performance to similar buildings nationwide. 8

## Benchmarking





# ALL OPPORTUNITIES

### **Savings Potential**



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



# ALL OPPORTUNITIES

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO <sub>2</sub> e Emissions Reduction (Ibs)
Lighting	Upgrades	335,814	56.7	-65.4	\$47,521	\$115,250	\$0	\$115,250	2.4	330,508
ECM 1	Install LED Fixtures	30,936	1.2	-0.6	\$4,504	\$42,023	\$0	\$42,023	9.3	31,077
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	4,652	2.2	-1.0	\$765	\$3,445	\$0	\$3,445	4.5	4,569
ECM 3	Retrofit Fixtures with LED Lamps	300,226	53.2	-63.7	\$42,251	\$69,782	\$0	\$69,782	1.7	294,861
Lighting	Control Measures	35,424	7.2	-7.5	\$5,108	\$37,034	\$0	\$37,034	7.3	34,791
ECM 4	Install Occupancy Sensor Lighting Controls	30,667	6.5	-6.5	\$4,449	\$31,634	\$0	\$31,634	7.1	30,119
ECM 5	Install High/Low Lighting Controls	4,757	0.7	-1.0	\$658	\$5,400	\$0	\$5,400	8.2	4,672
Variable	e Frequency Drive (VFD) Measures	80,913	16.0	17.9	\$11,845	\$64,788	\$0	\$64,788	5.5	83,575
ECM 6	Install VFD on Variable Air Volume (VAV) Fans	74,366	15.4	0.0	\$10,792	\$51,528	\$0	\$51,528	4.8	74,886
ECM 7	Install VFDs on Heating Water Pumps	5,148	0.6	0.0	\$700	\$7,625	\$0	\$7,625	10.9	5,184
ECM 8	Install VFDs on Kitchen Hood Fan Motors	1,399	0.0	17.9	\$353	\$5,634	\$0	\$5,634	16.0	3,505
Electric	Unitary HVAC Measures	37,674	12.5	0.0	\$5,275	\$149,857	\$0	\$149,857	28.4	37,937
ECM 9	Install High Efficiency Air Conditioning Units	30,306	11.7	0.0	\$4,199	\$128,500	\$0	\$128,500	30.6	30,518
ECM 10	Install High Efficiency Heat Pumps	7,368	0.8	0.0	\$1,076	\$21,358	\$0	\$21,358	19.8	7,419



# ALL OPPORTUNITIES

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO <sub>2</sub> e Emissions Reduction (Ibs)
Gas Heat	ing (HVAC/Process) Replacement	0	0.0	114.2	\$1,165	\$72,705	\$9,214	\$63,491	54.5	13,377
ECM 11	Install High Efficiency Steam Boilers	0	0.0	78.2	\$799	\$69 <i>,</i> 487	\$6,214	\$63,274	79.1	9,161
ECM 12	Install Infrared Heaters	0	0.0	36.0	\$365	\$3,217	\$3,000	\$217	0.6	4,215
HVAC Sy	stem Improvements	0	0.0	9.1	\$86	\$161	\$72	\$89	1.0	1,070
ECM 13	Install Pipe Insulation	0	0.0	9.1	\$86	\$161	\$72	\$89	1.0	1,070
Domesti	c Water Heating Upgrade	2,502	0.0	11.9	\$484	\$172	\$108	\$65	0.1	3,909
ECM 14	Install Low-Flow DHW Devices	2,502	0.0	11.9	\$484	\$172	\$108	\$65	0.1	3,909
Food Sei	vice & Refrigeration Measures	3,224	0.4	0.0	<b>\$512</b>	\$460	\$0	\$460	0.9	3,246
ECM 15	Vending Machine Control	3,224	0.4	0.0	\$512	\$460	\$0	\$460	0.9	3,246
Custom	Measures	17,968	0.0	164.8	\$4,041	\$28,723	\$0	\$28,723	7.1	37,390
ECM 16	Retro-Commissioning Study	17,968	0.0	164.8	\$4,041	\$28,723	\$0	\$28,723	7.1	37,390
	TOTALS	513,519	92.7	245.1	\$76,036	\$469,150	\$9,393	\$459,757	6.0	545,803



## 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 Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO2e Emissions Reduction (Ibs)
Lighting	Upgrades	335,814	56.7	-65.4	\$47,521	\$115,250	\$0	\$115,250	2.4	330,508
ECM 1	Install LED Fixtures	30,936	1.2	-0.6	\$4,504	\$42,023	\$0	\$42,023	9.3	31,077
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	4,652	2.2	-1.0	\$765	\$3,445	\$0	\$3,445	4.5	4,569
ECM 3	Retrofit Fixtures with LED Lamps	300,226	53.2	-63.7	\$42,251	\$69,782	\$0	\$69,782	1.7	294,861
Lighting	Control Measures	35,018	7.1	-7.4	\$5,050	\$35,684	\$0	\$35,684	7.1	34,392
ECM 4	Install Occupancy Sensor Lighting Controls	30,667	6.5	-6.5	\$4,449	\$31,634	\$0	\$31,634	7.1	30,119
ECM 5	Install High/Low Lighting Controls	4,351	0.5	-0.9	\$601	\$4,050	\$0	\$4,050	6.7	4,273
Variable	Frequency Drive (VFD) Measures	79,514	16.0	0.0	\$11,492	\$59,153	\$0	\$59,153	5.1	80,070
ECM 6	Install VFD on Variable Air Volume (VAV) Fans	74,366	15.4	0.0	\$10,792	\$51,528	\$0	\$51,528	4.8	74,886
ECM 7	Install VFDs on Heating Water Pumps	5,148	0.6	0.0	\$700	\$7,625	\$0	\$7,625	10.9	5,184
Gas Heat	ting (HVAC/Process) Replacement	0	0.0	36.0	\$365	\$3,217	\$3,000	\$217	0.6	4,215
ECM 12	Install Infrared Heaters	0	0.0	36.0	\$365	\$3,217	\$3,000	\$217	0.6	4,215
HVAC Sy	stem Improvements	0	0.0	9.1	\$86	\$161	\$72	\$89	1.0	1,070
ECM 13	Install Pipe Insulation	0	0.0	9.1	\$86	\$161	\$72	\$89	1.0	1,070
Domesti	ic Water Heating Upgrade	2,502	0.0	11.9	\$484	\$172	\$108	\$65	0.1	3,909
ECM 14	Install Low-Flow DHW Devices	2,502	0.0	11.9	\$484	\$172	\$108	\$65	0.1	3,909
Food Se	rvice & Refrigeration Measures	3,224	0.4	0.0	\$512	\$460	\$0	\$460	0.9	3,246
ECM 15	Vending Machine Control	3,224	0.4	0.0	\$512	\$460	\$0	\$460	0.9	3,246
Custom	Measures	12,761	0.0	125.8	\$2,978	\$10,044	\$0	\$10,044	3.4	27,575
ECM 16	Retro-Commissioning Study	12,761	0.0	125.8	\$2,978	\$10,044	\$0	\$10,044	13/4	27,575
	TOTALS	468,834	80.1	109.9	\$68,487	\$224,142	\$3,180	\$220,962	3.2	484,985

# HARTLEY DODGE MEMORIAL

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (KW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO2e Emissions Reduction (Ibs)
Lighting	Upgrades		43,632	13.2	-7	\$6,177	\$32,975	\$0	\$32,975	5.3	43,098
ECM1	Install LED Fixtures	Yes	12,462	1.2	-1	\$1,777	\$16,714	\$O	\$16,714	9.4	12,474
ECM2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	1,757	1.1	0	\$248	\$1,520	\$O	\$1,520	6.1	1,727
ECM3	Retrofit Fixtures with LED Lamps	Yes	29,412	10.9	-6	\$4,152	\$14,741	\$O	\$14,741	3.6	28,898
Lighting	Control Measures		4,696	1.6	-1	<b>\$663</b>	\$8,796	\$0	\$8,796	13.3	4,614
ECM4	Install Occupancy Sensor Lighting Controls	Yes	4,289	1.5	-1	\$606	\$7,446	\$O	\$7,446	12.3	4,214
ECM5	Install High/Low Lighting Controls	No	406	0.1	0	\$57	\$1,350	\$O	\$1,350	23.5	399
Variable	Frequency Drive (VFD) Measures		24,422	6.5	0	\$3,494	\$29,427	\$0	\$29,427	8.4	24,593
ECM6	Install VFD on Variable Air Volume (VAV) Fans	Yes	24,422	6.5	0	\$3,494	\$29,427	\$O	\$29,427	8.4	24,593
Electric	Unitary HVAC Measures		2,109	0.7	0	\$302	\$6,733	\$0	<b>\$6,733</b>	22.3	2,124
ECM7	Install High Efficiency Air Conditioning Units	No	2,109	0.7	0	\$302	\$6,733	\$0	\$6,733	22.3	2,124
HVAC Sy	rstem Improvements		0	0.0	7	\$65	\$126	<b>\$48</b>	<b>\$78</b>	1.2	829
ECM8	Install Pipe Insulation	Yes	0	0.0	7	\$65	\$126	\$48	\$78	1.2	829
Domest	ic Water Heating Upgrade		0	0.0	9	\$87	\$72	\$72	<b>\$</b> 0	0.0	1,111
ECM9	Install Low-Flow DHW Devices	Yes	0	0.0	9	\$87	\$72	\$72	\$O	0.0	1,111
Custom	Measures		12,761	0.0	126	\$2,978	\$10,044	\$0	\$10,044	3.4	27,575
ECM10	Retro-Commissioning Study	Yes	12,761	0.0	126	\$2,978	\$10,044	\$O	\$10,044	3.4	27,575
	TOTALS (COST EFFECTIVE MEASURES)		85,104	21.2	134	\$13,407	\$80,090	\$120	\$79,970	6.0	101,420
	TOTALS (ALL MEASU RES)		87,619	22.0	134	\$13,766	\$88,173	\$120	\$88,053	6.4	103,943



## MADISON PUBLIC SAFETY COMPLEX

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO <sub>2</sub> e Emissions Reduction (Ibs)
Lighting	Upgrades		133,079	13.7	-26	\$17,865	\$29,271	\$0	\$29,271	1.6	130,919
ECM 1	Install LED Fixtures	Yes	8,753	0.0	0	\$1,191	\$11,200	\$0	\$11,200	9.4	8,814
ECM 2	Retrofit Fixtures with LED Lamps	Yes	124,326	13.7	-26	\$16,674	\$18,071	\$0	\$18,071	1.1	122,104
Lighting	Control Measures		14,045	1.3	-3	\$1,884	\$7,285	\$0	\$7,285	3.9	13,793
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	11,360	1.1	-2	\$1,524	\$5,710	\$0	\$5,710	3.7	11,156
ECM 4	Install High/Low Lighting Controls	Yes	2,685	0.3	-1	\$360	\$1,575	\$0	\$1,575	4.4	2,637
Variable	Frequency Drive (VFD) Measures		6,547	0.6	18	\$1,053	\$13,259	\$0	\$13,259	12.6	8,689
ECM 5	Install VFDs on Heating Water Pumps	Yes	5,148	0.6	0	\$700	\$7,625	\$0	\$7,625	10.9	5,184
ECM 6	Install VFDs on Kitchen Hood Fan Motors	No	1,399	0.0	18	\$353	\$5,634	\$0	\$5,634	16.0	3,505
Electric	Unitary HVAC Measures		25,440	10.1	0	\$3,461	\$113,620	\$0	\$113,620	32.8	25,618
ECM 7	Install High Efficiency Air Conditioning Units	No	25,440	10.1	0	\$3,461	\$113,620	\$0	\$113,620	32.8	25,618
Food Se	rvice & Refrigeration Measures		1,612	0.2	0	\$219	\$230	\$0	\$230	1.0	1,623
ECM 8	Vending Machine Control	Yes	1,612	0.2	0	\$219	\$230	\$0	\$230	1.0	1,623
Custom	Measures		5,207	0.0	39	\$1,063	\$18,679	\$0	\$18,679	17.6	9,815
ECM 9	Retro-Commissioning Study	No	5,207	0.0	39	\$1,063	\$18,679	\$0	\$18,679	17.6	9,815
	TOTALS (COST EFFECTIVE MEASURES)		153,884	15.8	- 29	\$20,668	\$44,411	\$0	\$44,411	2.1	151,519
	TOTALS (ALL MEASURES)		185,929	26.0	28	\$25,545	\$182,344	\$0	\$182,344	7.1	190,457



## MADISON PUBLIC WORKS GARAGE

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO <sub>2</sub> e Emissions Reduction (lbs)
Lighting	Upgrades		11,998	4.0	-2	\$2,158	\$11,149	\$0	\$11,149	5.2	11,841
ECM 1	Install LED Fixtures	Yes	2,330	0.0	0	\$423	\$3,885	\$O	\$3,885	9.2	2,346
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	2,837	1.1	-1	\$509	\$1,875	\$0	\$1,875	3.7	2,786
ECM 3	Retrofit Fixtures with LED Lamps	Yes	6,831	2.9	-1	\$1,226	\$5,389	\$0	\$5,389	4.4	6,708
Lighting	Control Measures		3,589	1.4	-1	\$644	\$2,700	\$0	\$2,700	4.2	3,525
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	3,589	1.4	-1	\$644	\$2,700	\$O	\$2,700	4.2	3,525
Gas Hea	ting (HVAC/Process) Replacement		0	0.0	43	\$447	\$30,829	\$3,662	\$27,167	60.8	5,090
ECM 5	Install High Efficiency Steam Boilers	No	0	0.0	43	\$447	\$30,829	\$3,662	\$27,167	60.8	5,090
HVAC S	stem Improvements		0	0.0	2	\$21	\$35	\$24	\$11	0.5	241
ECM 6	Install Pipe Insulation	Yes	0	0.0	2	\$21	\$35	\$24	\$11	0.5	241
Domest	ic Water Heating Upgrade		0	0.0	2	\$24	\$36	\$36	\$0	0.0	278
ECM 7	Install Low-Flow DHW Devices	Yes	0	0.0	2	\$24	\$36	\$36	\$0	0.0	278
Food Se	rvice & Refrigeration Measures		1,612	0.2	0	\$293	\$230	\$0	\$230	0.8	1,623
ECM 8	Vending Machine Control	Yes	1,612	0.2	0	\$293	\$230	\$0	\$230	0.8	1,623
	TOTALS (COST EFFECTIVE MEASURES)		17,199	5.6	2	\$3,140	\$14,150	\$60	\$14,090	4.5	17,507
	TOTALS (ALL MEASURES)		17,199	5.6	45	\$3,587	\$44,979	\$3,722	\$41,257	11.5	22,598



# MADISON WATER & LIGHT

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO <sub>2</sub> e Emissions Reduction (Ibs)
Lighting L	Ipgrades		9,750	2.8	-1	\$1,527	\$7,708	\$0	\$7,708	5.0	9,643
ECM 1	Install LED Fixtures	Yes	2,723	0.0	0	\$431	\$3,450	\$0	\$3,450	8.0	2,742
ECM 2	Retrofit Fixtures with LED Lamps	Yes	7,027	2.8	-1	\$1,097	\$4,258	\$0	\$4,258	3.9	6,901
Lighting C	ontrol Measures		2,598	1.0	-1	\$406	\$4,237	\$0	\$4,237	10.4	2,552
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	2,518	1.0	-1	\$393	\$4,012	\$0	\$4,012	10.2	2,472
ECM 4	Install High/Low Lighting Controls	Yes	81	0.0	0	\$13	\$225	\$0	\$225	17.8	79
Electric U	nitary HVAC Measures		2,757	0.9	0	\$436	\$8,146	\$0	\$8,146	18.7	2,776
ECM 5	Install High Efficiency Air Conditioning Units	No	2,757	0.9	0	\$436	\$8,146	\$0	\$8,146	18.7	2,776
Gas Heati	ng (HVAC/Process) Replacement		0	0.0	71	\$718	\$41,875	\$5,551	\$36,324	50.6	8,286
ECM 6	Install High Efficiency Steam Boilers	No	0	0.0	35	\$353	\$38,658	\$2,551	\$36,107	102.3	4,071
ECM 7	Install Infrared Heaters	Yes	0	0.0	36	\$365	\$3,217	\$3,000	\$217	0.6	4,215
Domestic	Water Heating Upgrade		556	0.0	0	\$88	\$14	\$0	\$14	0.2	560
ECM 8	Install Low-Flow DHW Devices	Yes	556	0.0	0	\$88	\$14	\$0	\$14	0.2	560
	TOTALS (COST EFFECTIVE MEASURES)		12,904	3.9	34	\$2,386	\$15,176	\$3,000	\$12,176	5.1	16,969
	TOTALS (ALL MEASURES)		15,661	4.8	69	\$3,175	\$61,980	\$5,551	\$56,429	17.8	23,817



# MADISON PUBLIC LIBRARY

#	Energy Conservation Measure	Cost Effective?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO <sub>z</sub> e Emissions Reduction (lbs)
Lighting	Upgrades		137,356	22.9	-28	\$19,793	\$34, 148	<b>\$</b> 0	\$34,148	1.7	135,008
ECM 1	Install LED Fixtures	Yes	4,668	0.0	0	\$682	\$6,773	\$0	\$6,773	9.9	4,701
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	58	0.0	0	\$8	\$51	\$0	\$51	6.1	56
ECM 3	Retrofit Fixtures with LED Lamps	Yes	132,630	22.8	-28	\$19,103	\$27,324	\$0	\$27,324	1.4	130,250
Lighting	Control Measures		10,496	1.8	-2	\$1,512	\$14,016	<b>\$</b> 0	\$14,016	9.3	10,307
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	8,910	1.6	-2	\$1,283	\$11,766	\$0	\$11,766	9.2	8,750
ECM 5	Install High/Low Lighting Controls	Yes	1,585	0.3	0	\$228	\$2,250	\$0	\$2,250	9.9	1,557
Variable	Frequency Drive (VFD) Measures		49,945	8.9	0	\$7,297	\$22, 102	\$0	\$22,102	3.0	50,294
ECM 6	Install VFD on Variable Air Volume (VAV) Fans	Yes	49,945	8.9	0	\$7,297	\$22, 102	\$0	\$22,102	3.0	50,294
Electric	Unitary HVAC Measures		7,368	0.8	0	\$1,076	\$21,358	\$0	\$21,358	19.8	7,419
ECM 7	Install High Efficiency Heat Pumps	No	7,368	0.8	0	\$1,076	\$21,358	\$0	\$21,358	19.8	7,419
Domest	ic Water Heating Upgrade		1,946	0.0	0	\$284	\$50	\$0	\$50	0.2	1,960
ECM 8	Install Low-Flow DHW Devices	Yes	1,946	0.0	0	\$284	\$50	\$0	\$50	0.2	1,960
	TOTALS (COST EFFECTIVE MEASURES)		199,742	33.6	-30	\$28,887	\$70,316	\$0	\$70,316	2.4	197,569
	TOTALS (ALL MEASURES)		207,110	34.4	-30	\$29,963	\$91,673	<b>\$</b> 0	\$91,673	3.1	204,988



## 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

INCENTIVE PROGRAMS

**OTHER PROGRAMS** 



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

#### Equipment Rebates:

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

Whole Buildings:

Pay for Performance

Energy Generation:

Combined Heat and Power – Fuel Cells

#### Renewable Energy Generation:

- SREC Registration Program (SRP)
- Community Solar

### SOLAR ENERGY GENERATION POTENTIAL

	Public Safety Complex
Potential:	HIGH
System Potential: (kW)	80
Electric Generation: (kWh per year)	95,310
Displaced Cost: (per year)	\$12,970

SREC Registration Program (SRP):

http://www.NJCleanEnergy.com/SREC

Community Solar Energy Pilot Program:

http://www.NJCleanEnergy.com/Com munitySolar



### RECOMMENDED NJCEP INCENTIVES PER BUILDING

Borough of Madison	Direct Install	SmartStart	CTEEP
Hartley Dodge Memorial	Х	Х	Х
Madison Public Safety Complex	Х	Х	Х
Madison Public Works Garage	Х	Х	Х
Madison Water & Light Building	Х	Х	Х
Madison Public Library	Х	Х	Х



## DIRECT INSTALL

#### NJCleanEnergy.com/DI

What is DI: Turn-key retrofit program to replace outdated and inefficient equipment, including lighting, HVAC, refrigeration, etc.



Qualifications: Average electric peak demand <200 kW in the previous 12 months

#### About:

- Pre-approved participating contractors provide support and process paperwork
  - Incentives paid directly to the contractor
  - Fast project turnaround time (4-6 months)

#### **Incentives:**

- \$125,000 incentive funding per project/building (\$250K UEZ/OZ/ Local Govt.I/K-12 Public Schools), or
  - \$250,000 entity cap (\$4MM UEZ/OZ/Local Govt./K-12 Public Schools)



## DIRECT INSTALL

NJCleanEnergy.com/DI

Facilities in Urban Enterprise Zones (UEZ), Opportunity Zones (OZ), Local Governments, and K-12 public schools:

INCENTIVE FUNDING	CUSTOMER
Up to <b>80%</b> of installed cost is paid directly to the contractor	20% of installed cost
All other eligible facilities:	
INCENTIVE FUNDING	CUSTOMER
Up to <b>70%</b> of installed cost is paid directly to the contractor	30% of installed cost





### **Participating Contractor**

Donnelly Energy Justin Avallone 845-401-6253 javallone@donnellyenergy.com



## SMARTSTART

NJCleanEnergy.com/SSB

What is SSB: Individual high efficiency equipment rebates for new construction, renovation, remodeling, equipment replacement



Qualifications: • All C&I customer types contributing into the Societal Benefits Charge (SBC)

#### About:

- Prescriptive and custom designed measures
- Pre-approval required only for lighting projects with incentives >\$100,000 and <u>all</u> custom projects
- For measures not requiring pre-approval, applications must be submitted to the program within one year of purchase.

#### **Incentives:**

- Prescriptive: \$500,000 cap for each electric or gas account
- Custom, lesser of the following:
  - \$0.16/kWh and/or \$1.60/Therm saved annually
  - 50% of incremental installed cost
  - Buy-down to 1 year payback based on incremental cost and savings



### SMARTSTART NJCleanEnergy.com/SSB

**Prescriptive Incentives** 

- Lighting & Lighting
  Controls
- Packaged HVAC
- Boilers & Water Heaters
- Chillers
- VFD's
- Food Service
- Refrigeration

**Prescriptive Only:** 

DOUBLE INCENTIVES FOR OZ/UEZ/ LOCAL GOVT./K-12 PUBLIC SCHOOLS

### **Custom Incentives**

- New or innovative technologies proven to be cost-effective and not listed as prescriptive
- Projects must have a minimum first year energy savings of 75,000 kWh or 1,500 therms
- Project pre and post inspection required



#### CUSTOMER TAILORED ENERGY EFFICIENCY PILOT NJCleanEnergy.com/CTEEP

What is CTEEP: A streamlined/single application process for participants submitting multiple different technology types.

Qualifications: • All C&I customer types contributing into the Societal Benefits Charge (SBC)

#### About:

- On site assistance available
- Additional technical incentive available to offset soft costs associated with developing and planning custom projects

#### **Incentives:**

- \$250,000 fiscal year entity cap
  - Technical assistance incentives for custom project evaluation (up to \$10K)

SAME INCENTIVE VALUES AS SMARTSTART



## FINANCING MECHANISM: ESIP

### **ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)**

- Provides alternative financing for energy savings projects at public institutions
- Administered directly by the BPU
- Value of energy savings leveraged to pay for cost of EE projects over a 15 year contract
- Requires NO new bonding and is outside of capital budget
- Does not count as debt or require voter approval



## FINANCING MECHANISM: ESIP





Program

## ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

## **FOR MORE INFORMATION**

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## FOR MORE INFORMATION

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## QUESTIONS



