

RESILIENT



POWER

A Project of **Clean Energy Group**

New Jersey's Resilient Energy Storage Awards

Friday, May 22, 2015

Todd Olinsky-Paul
Project Director
Clean Energy Group



Housekeeping



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Submit your questions at any time by typing in the Question Box and hitting Send.

This webinar is being recorded.

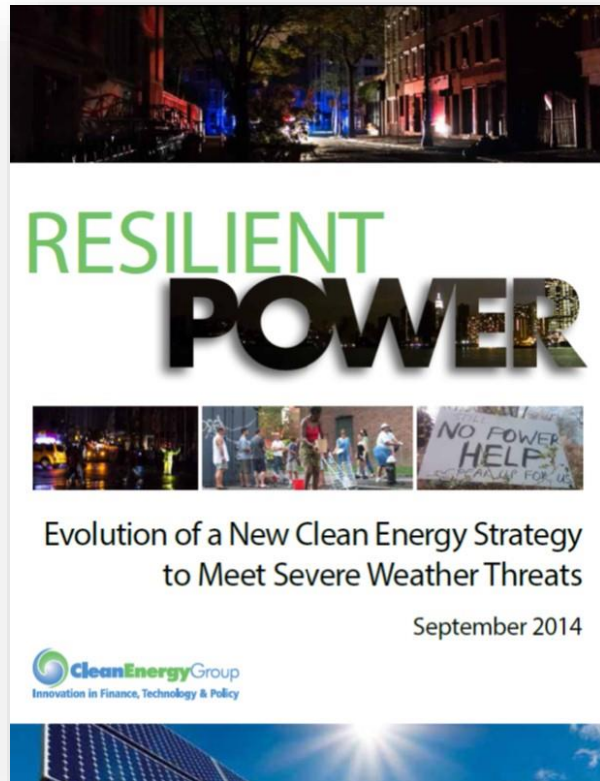
You will find a recording of this webinar, as well as previous Resilient Power Project webinars, online at:

www.cleangroup.org/ceg-projects/resilient-power-project/webinars/

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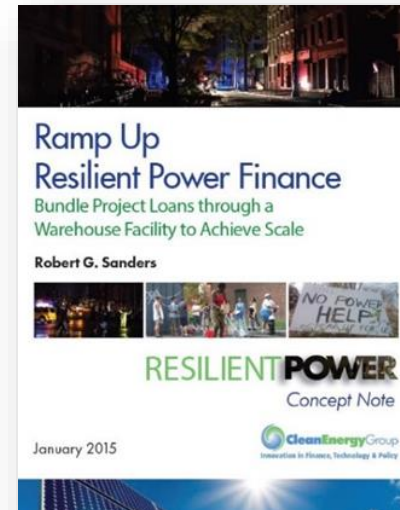
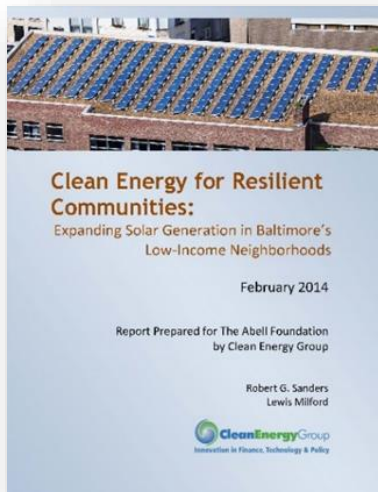
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Who We Are



Resilient Power Project

- Increase public/private investment in clean, resilient power systems
- Engage city officials to develop resilient power policies/programs
- Protect low-income and vulnerable communities
- Focus on affordable housing and critical public facilities
- Advocate for state and federal supportive policies and programs
- Technical assistance for pre-development costs to help agencies/project developers get deals done
- See www.resilient-power.org for reports, newsletters, webinar recordings



Today's Guest Speaker

- **Scott Hunter**, Renewable Energy Program Administrator, New Jersey Board of Public Utilities Office of Clean Energy





CESA's Resilient Power Project

New Jersey's Renewable Electric Storage Incentive Program

Scott Hunter
Renewable Energy Program Administrator
New Jersey Board of Public Utilities

May 22, 2015



Legislative & Regulatory *Evolution* of NJ Renewable Energy Markets

- **Electric Discount and Energy Competition Act of 1999 (EDECA)**
 - Definition of Class I Renewable Energy
 - Societal Benefits Charge / **CRA** process
 - Renewable Portfolio Standards
 - Net Metering and Interconnection
- Governor's Renewable Energy Task Force (**2003**)
- The "Solar Transition" (Docket No.EO06100744, **2006** thru 2013)
- Global Warming Response Act (L. **2007**, c. 340, 1/13/08)
- New Jersey's Energy Master Plan (**2008**, 2011)
- Solar Advancement Act of **2009** (Amended s.3 P.L.1999 c.23)
- Offshore Wind Economic Development Act (**2010**)
- **The Solar Act of 2012** (P.L. 2012, c. 24, 07/23/12)



To Convert the Opportunity into Reality

Step 1: Market Potential Study

NAVIGANT

ENERGY

Market Assessment Services to Characterize the Opportunities for Renewable Energy – *Final Report*

For: Rutgers, The State University of New Jersey and the New Jersey Board of Public Utilities

RUTGERS
THE STATE UNIVERSITY
OF NEW JERSEY



August 6, 2012

“The technical potential for RE – ES is 750 MW for shifting and 52.5 MW for FR (2012 through 2016)”

Step 2: Program Development

- CRA 2014 – 17; proposed \$5 to 10 million over 4 years (June 2013)
- RE Storage Working Group established (July 2013)
- Board approved 1st RE Storage Solicitation (Oct. 2014)



FY2015 Solicitation Objectives

Commit \$3 m to storage projects which support NJ's RE goals

- Restrict eligibility to storage integrated with a behind-the-meter NJ Class I renewable energy resource,
- Give preference to projects which are “ready to build” and can be completed expeditiously,
- Establish maximum incentive amounts which will allow the limited amount of funds to be committed to a broader number of projects, and
- Prioritize facilities that are defined as “public and critical” demonstrating the potential for energy storage to keep critical systems operating during power outages (max public benefit)



Solicitation Criteria

ATA COLLECTION FOR EVALUATION FORM - ENERGY STORAGE - Appendix D

S.No.	Category	Unit	Data Location
A Financial and Economic Viability			
1	Total Installed System Cost	\$	TWS-D3
2	Total Installed System Cost	\$/kW	TWS-D4
3	Variable O&M Cost	\$/kWh	TWS-D3
4	Fixed O&M Cost (Estimated Annual Value)	\$	TWS-D4
5	Fixed O&M Cost (Estimated Annual Value per kW)	\$/kW-yr	TWS-D4
6	Battery Replacement Cost	\$/kWh	
11	Incentive Amount Requested	\$	TWS-D1
12	Incentive Amount Requested by kW of storage system capacity	\$/kW	TWS-D2
13	Other incentives requested for the same project	\$	TWS-D5
14	Projection of cost savings, demand response and other ancillary service revenues expected per annum for the life of project	\$	
B Project Readiness			
1	Estimated Project Construction Start Date	Date	MF-B6
2	Estimated Construction Completion Date	Date	MF-B7
4	All required permits applied for	Yes/No	MF-B1
5	Prior similar project experience		W-F
C Technical Feasibility			
1	Battery Technology Type		TWS-C1
2	Nameplate Capacity	KW	TWS-C4
3	Nameplate Duration	Hrs	TWS-C6
4	Projected Annual Discharge	kWh/yr	TWS-C7
5	Project Life	Yrs	TWS-C8
6	Lifetime Battery Replacements	#	
7	Roundtrip Efficiency	%	TWS-C9
D Resilience			
1	Is the host site a "public and critical facility"?	Yes/No	TWS-A4
2	Islanding capability	Yes/No	TWS-A6
3	Planned host facility load met by the project at times of emergency	KW	TWS-B
4	Percent of total host facility load met by the project at times of emergency	%	TWS-B
5	Length of time for which the host facility load share can be met	Hrs	TWS-B
6	Number of end-users who directly benefit from the project	#	TWS-B

NOTE: Data Location: TWS=Technical Worksheet MF=Milestone Form

Category	Weight as % of Total	Maximum Point Total
Financial and Economic Viability	30%	30
Project Readiness	30%	30
Technical Feasibility	20%	20
Resilience	20%	20
Total	100%	100 Points



Solicitation Results

October 22, 2014 - Board Approved Solicitation & Evaluation Process

December 08, 2014 - Applications Due; 22 Received => Evaluated

March 18, 2015 – Board Approved 13 Applications for Incentive Award

-
- 22 Applications Received
 - \$4,694,642 requested
 - \$70,000 to \$500,000
 - \$308,360 to \$1.860 Mil
 - 200 kW to 1,500 kW
 - 13,430 kW total capacity
 - 19 Li-ion & 3 Lead Carbon
 - 18 public & critical, 4 not

- 13 Applications Approved
- \$2,908,804 awarded
- \$70,000 to \$500,000 (Incent)
- \$330,766 to \$1.855 Mil (Cost)
- 250 kW to 1,500 kW
- 8,750 kW total capacity
- 13 Li-ion projects
- 13 public and critical



Application Data by Key Evaluation Criteria

Financial and Economic Viability

Total Amount of Incentives Requested	\$4,694,642
Highest Incentive Requested	\$500,000
Lowest Incentive Requested	\$70,000
Average Incentive Requested	\$213,393
Total Estimated Cost of All Projects	\$19,143,982
Highest Estimated Project Cost	\$1,860,000
Lowest Estimated Project Cost	\$308,360
Average Estimated Project Cost	\$870,181
Average Incentive as % of Project Cost	24.5%

Technical Feasibility

Battery type: Lithium ion	19
Battery type: Lead carbon	3
Total Capacity of All Projects	13,430 kW
Highest Capacity Proposed	1,500 kW
Lowest Capacity Proposed	200 kW
Average Capacity Proposed	610.5 kW

Project Readiness

Earliest Estimated Start Date	Nov. 4, 2014*
Latest Estimated Start Date	July 1, 2015
Earliest Estimated Completion Date	April 1, 2015*
Latest Estimated Completion Date	Sept. 3, 2015
Shortest Estimated Completion Time	30 days
Longest Estimated Completion Time	5 months
Average Estimated Completion Time	2.6 months

Resilience

Customer Type	
Municipal or County Utility Authorities	5
Public or Private Schools (ES, MS & HS)	11
Government – Non-utility Authority	1
Privately-owned Facilities	5
Type of Facility	
Public & Critical Facilities (self-defined)	18
Non-Public & Critical Facilities	4

Data gathered from all 22 applications submitted in Solicitation



FY2015 Incentive Awards

Name of Applicant	kW	kWh	Cost	Cost / kW	Cost / kWh	Incentive	Incentive / Watt	Primary Use	Secondary Use
Monmouth Cty	500	250	\$705,000	\$1,310	\$2,820	\$175,000	\$0.35	EB	FR
Lawrenceville	1,000	580	\$1,562,360	\$1,562	\$2,694	\$468,708	\$0.47	FR	EB
ACUA	1,000	580	\$1,390,320	\$1,390	\$2,397	\$417,096	\$0.42	FR	EB
Toms River MUA	250	125	\$400,000	\$1,520	\$3,200	\$120,000	\$0.48	EB	FR
Cumberland CUA	1,500	750	\$1,855,000	\$1,237	\$2,473	\$500,000	\$0.33	EB	FR
Franklin BOE	500	250	\$675,000	\$1,330	\$2,700	\$145,000	\$0.29	EB	FR
Buena MUA	750	375	\$1,000,000	\$1,333	\$2,667	\$300,000	\$0.40	EB	FR
Rice ES	500	222	\$741,510	\$1,483	\$3,340	\$130,000	\$0.26	EB	FR
Paramus HS	250	125	\$410,000	\$1,520	\$3,280	\$123,000	\$0.49	EB	FR
Marlton MS	500	222	\$741,262	\$1,483	\$3,339	\$130,000	\$0.26	EB	FR
Jersey City	1,250	625	\$1,585,000	\$1,252	\$2,536	\$200,000	\$0.16	EB	FR
Demasi MS	250	125	\$330,766	\$1,323	\$2,646	\$70,000	\$0.28	EB	FR
E. Amwell BOE	500	222	\$740,531	\$1,481	\$3,336	\$130,000	\$0.26	EB	FR
	8,750	-	\$12,136,749	-	-	\$2,908,804	-	-	-



FY2016 Program Development

CRA FY16 Funding Level, Budget & Program Development Stakeholder Process(es)

- SBC funding objectives, amounts & uses
- Proposed levels, program and budget recommendations to the Board by June 2015
- Incentive structure design; competitive?, prescriptive?, capacity based? Details: t.b.d.

>> Comments on CRA Straw due May 29, 2015 <<



FY2016 RE Storage Straw Proposal for Public Comment Issued May 7, 2015

Proposed Program Design Changes:

Based on results the Competitive Solicitation

- Establish an open enrollment, prescribed incentive program
- Differentiate incentive offers by Market & Intended Use

	Public and Critical	Non-Public and Critical
Ancillary Market Participation	\$.20 per watt	\$.15 per watt
No Ancillary Market Participation	\$.25 per watt	\$.20 per watt

- Develop Milestone and Performance Reporting
- Reimburse EDC Level 3 interconnection Costs for Completed Installations at 50% (\$3000-5000 range)

>> Comments on FY2016 Program Straw due May 29, 2015 <<



For More Information:

1. Visit www.NJCleanEnergy.com
2. From the home page => “clean energy committees”;
3. Enroll in the RE, NM/INX and ES email distribution lists,
4. Find upcoming meeting logistics, and
5. Review the meeting archives from recent RE, NM/INX and ES stakeholder meetings...

b.hunter@bpu.state.nj.us

RESILIENT POWER

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More information about the Resilient Power Project, its reports, webinar recordings, and other resources can be found at www.resilient-power.org.

Contact Info

Todd Olinsky-Paul
Project Director
Clean Energy Group
Email: todd@cleanegroup.org
Phone: (802) 223-2554



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