Off-Shore Wind Blue Ribbon Panel

State and Federal Policies to Support Renewable Energy

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1. Renewable Portfolio Standards

A Renewable Portfolio Standard (RPS) is a state energy policy that requires each electric supplier and the provider of last resort (in New Jersey this is the Basic Generator Service Provider) to obtain or have in their portfolio of electric supply that they provide to customers a minimum percentage of their electricity from renewable sources. Currently 25 states have some type of RPS program.

In accordance with the recommendations of the Governor's Renewable Energy Task Force, the New Jersey RPS is established at N.J.A.C 14:4-8 as follows:

Table A
Minimum Percentage Of Energy that Supplied Must Be Renewable Energy
– 2004 through 2008

Reporting Year	**Solar Electric Generation** (solar RECs)	**Class I Renewable Energy**	**Class II Renewable Energy**	**Total Renewable Energy**
2005	0.01%	.74%	2.5%	3.25%
2006	0.017%	0.983%	2.5%	3.5%
2007	0.0393%	2.037%	2.5%	4.5763%
2008	0.0817%	2.924%	2.5%	5.5057%
2009	0.16%	3.84%	2.5%	6.5%

A Class I Renewable Energy is defined as electric energy produced from solar technologies, photovoltaic technologies, wind energy, fuel cells powered by renewable fuels, geothermal technologies, wave or tidal action, and/or methane gas from landfills or a biomass facility, provided that the biomass is cultivated and harvested in a sustainable manner. A Class II Renewable Energy is defined as electric energy produced at a resource recovery facility or small hydro power facility less than 30 MW, provided that the facility is located where retail competition is permitted and provided further that the Commissioner of Environmental Protection has determined that such facility meets the highest environmental standards and minimizes any impacts to the environment and local communities.

With the publication of the Economic Impact Analysis of New Jersey's Proposed 20% Renewable Portfolio Standard dated Dec. 8, 2004, prepared by the Center for Energy, Economics and Environmental Policy (CEEEP) at the Rutgers Bloustein School, the NJBPU has initiated a stakeholder process to consider increasing the RPS requirements to 20% by 2020.

2. Renewable Energy Certificates

Compliance with the New Jersey RPS requirements will be through the issuance of Renewable Energy Certificates (REC). A REC represents the attributes or greenness of the renewable energy that is generated. The REC is separated from the energy and sold separately from the renewable energy electricity. The electricity energy moves through the grid as any other electricity dispatched by PJM.

The REC is generated in MWh increments. Each MWh produces a unique certificate with its own serial number. When a supplier acquires a REC and uses it for compliance with the RPS that unique REC is retired. In New Jersey the tracking of certificates will be performed by PJM through their Generate Attributes Tracking System for all utility-scale renewable energy power plants (greater than 2 MW). NJBPU through Clean Power Marketers currently manages the Solar REC system for all behind the meter (BTM) PV Solar systems. This system is expanding to include all BTM renewable energy systems up to 2 MW.

For compliance with New Jersey's RPS a REC generated anywhere in PJM is acceptable. If the REC is outside of PJM the energy and the REC must be delivered into PJM. In this matter somewhere in the PJM system conventionally generated electricity will be displaced. In addition if the REC is from a solar PV or BTM system it must be connected directly to the local distribution system in New Jersey.

The following are current prices for REC that are currently trading in the voluntary PJM market:

1. Class II RRF REC $ 4.00 per MWh;
2. Class I Landfill Gas REC $5.00 per MWh;
3. Class I new wind REC $15 per MWh; and
4. Class I Solar REC $150 to 200 per MWh.

The estimated cost for the RPS and REC system in New Jersey is:

Customer Class	Average Usage per month	Energy Year 2005	Energy Year 2009
	Kwh per month	$/customer/year	$/customer/year
Residential	661	$1.66	4.65
Commercial	6778	$10.66	$47.50
Industrial	78242	$123	$548

If REC are not available within the energy year to meet RPS compliance the supplier can pay the Alternate Compliance Payment (ACP). This funds would then be used to support PV development in New Jersey. The ACP is set by the NJBPU annually and is currently as follows:

1. Class I and Class II ACP --- $50 per MWh
2. Solar ACP ---------- $300 per MWh

3. New Jersey's Clean Energy Program Fund

The Office of Clean Energy was established by the New Jersey Board of Public Utilities to implement the Electric Discount and Energy Competition Act of 1999 (EDECA). The Act established a framework designed to facilitate the transformation of the electric industry in New Jersey toward a cleaner, more reliable and more affordable energy system. EDECA defines a classification system for renewable energy resources, established an interim Renewable Portfolio Standard, and institutionalized a Societal Benefits Charge (SBC). This fund is now called New Jersey's Clean Energy program Trust Fund.

The SBC is a non-bypassable distribution charge imposed on all electric and natural gas utility customers. The four year funding level is set as follows:

Year	Total ($ million)	Energy Efficiency	% of Total	Renewable Energy	% of Total
2005	**$140**	**$103**	**74%**	**$37**	**26%**
2006	**$165**	**$113**	**68%**	**$52**	**32%**
2007	**$205**	**$123**	**60%**	**$82**	**40%**
2008	**$235**	**$133**	**56%**	**$102**	**44%**
Total	**$745**	**$472**	**63%**	**$273**	**37%**

The Board established the New Jersey Clean Energy Council, as advisors for planning assistance for the administration of the program. The Clean Energy Council is responsible for working with Board Staff to make recommendations and assessments of the components of the New Jersey Clean Energy Program, programmatic effectiveness, the goals and objectives on a program-by-program basis, incentive levels, program delivery, consumer satisfaction, and administrative efficiency.

The Board adopted three basic objectives for the Clean Energy Program on May 7, 2004:

1. By December 31, 2008, six and a half percent of the electricity used by New Jersey residents and businesses will be provided by Class I and/or Class II renewable energy resources, of which a minimum of four percent will be from Class I renewable energy resources.

2. By December 31, 2008, install 300 MW of Class I renewable electric generation capacity in New Jersey of which a minimum of 90 MW will be derived from photovoltaics.

3. By December 31, 2012, 785,000 megawatt hours per year and 20 billion cubic feet gas per year of energy savings will be derived from energy efficiency and renewable energy measures.

The Board has adopted specific annual goals to implement the Clean Energy Program as follows:

EE and RE Annual Goals based on the 2005 through 2008 funding Levels				
Years	**Electric EE Goal**	**Natural Gas EE Goal**	**Solar RE Goal**	**Class I RE Goal**
	MWh	**Dtherms**	**MW**	**MW**
2003 (Reported)	**285,576**	**408,583**	**1.7**	**76**
2004 (Reported)	**To be reported after the close of the 2004**			
2005	**341,770**	**489,305**	**4**	**19**
2006	**409,454**	**586,206**	**14**	**38**
2007	**486,958**	**697,167**	**27**	**66**
2008	**575,568**	**824,028**	**39**	**89**

The cost to the rate payer is approximately 1.1 to 2.5 percent of the electric and natural gas annual bill. An average household using 8000 kWh of electricity and 1000 therms of natural gas will pay $18 per year on their electric bill and $14 per year on their natural gas bill.

The following is a summary of the avoided environmental costs for implementing New Jersey's Clean Energy Program for 2003:

Environmental Benefits of the 2003 Clean Energy Program Results Applying the CEEEP Environmental Externality Adder			
<u>Annual</u> Avoided Cost from EE and RE measures installed or committed to be installed through the 2003 Clean Energy Program Budget of $124,000,000			
	Actual	**Committed**	**Total**
Energy Efficiency	**$12,565,344**	**$8,120,156**	**$20,685,500**
Renewable Energy	**$318,516**	**$2,717,000**	**$3,035,516**
Total	**$12,883,860.00**	**$10,837,156.00**	**$23,721,016.00**
<u>Lifetime</u> Avoided Cost from EE and RE measures installed or committed to be installed through the 2003 Clean Energy Program Budget of $124,000,000			
	Actual	**Committed**	**Total**
Energy Efficiency	**$164,523,216**	**$126,825,996**	**$291,349,212**
Renewable Energy	**$4,839,164**	**$55,674,828**	**$60,513,992**
Total	**$169,362,380.00**	**$182,500,824.00**	**$351,863,204.00**

There are two specific programs which support the development of Class I renewable in New Jersey. They include the Customer On-site Renewable energy rebate program and the Renewable Energy Advanced Power Plant grant and loan program.

a. The Customer On-Site Renewable Energy Program (CORE)

The CORE Program provides rebates on the installed cost of renewable energy systems. The program was developed to encourage customers to install cost-effective, clean energy generation to supply some or all of their electrical demand. Direct financial incentives are available to reduce the initial cost of a customer-sited renewable generation system.

The CORE program provides incentives for technologies that produce electricity from the sun, wind and sustainably grown and harvested biomass. Incentives are paid incrementally based on the size of the system installed. Depending on the technology utilized, consumers can receive up to 70% of the installed cost of a renewable energy system as a grant from the New Jersey Clean Energy Program. Wind energy systems receive rebates up to 30% of the installed cost for systems over 10 kW and up to 60% of the installed cost for systems under 10 kW.

All the requirements and applications to receive a rebate through this program are available through the website. You can also fine a listing of contractors, information on the cost and benefits of installing systems and links to other resources on clean energy.

CORE Program Activity from 5/09/01 thru 12/31/04

- 404 total renewable energy installations received rebates with total capacity exceeding 3.8 MW (The majority are PV projects ranging from 2 – 500 kW)
- 7 wind projects total *committed* for rebates with total capacity exceeding 286 kW
- 1 wind project accounts for 250 kW (One proposal submitted for an installation in Bivalve/Port Norris – local permits were acquired, the project now awaits CAFRA through NJDEP)
- Remaining 6 wind projects proposed with each less than or equal to 10 kW (Newark, Egg Harbor, Strathmere, Great Meadows)
- More than 3 projects installed with total capacity exceeding 20.38 kW (Egg Harbor (10 kW) & Egg Harbor (380 watts))
- 1 wind project installed under the Utilities program with a capacity of 10kW to be removed.

b. The Renewable Energy Advanced Power Program
(REAP formerly known as Grid Supply)

The Renewable Energy Advanced Power Program's intent is to provide a competitive incentive and financing program that substantially accelerates the deployment of distributed renewable electricity generation in New Jersey. Projects are expected to supply electricity to the PJM Power Pool, to incorporate a minimum of 1 megawatt (MW) power generation at the facility of large power users or to aggregate a minimum of 1 MW of renewable electricity generation systems into one proposal. The funds are awarded through a solicitation process providing eligible projects with seed grants and access to capital in order to make the renewably-powered electricity cost-competitive with conventional power plants. The REAP program is designed

- to ensure that a diverse portfolio of renewable energy technologies are used to provide power and environmental benefits to the ratepayers in New Jersey;
- to accelerate the rate of deployment for large-scale renewable power plants
- to encourage the development of a thriving renewable energy market in New Jersey.

REAP Program Activity from 5/09/01 thru 12/31/04

- Atlantic County Utility Authority / Community Energy Inc. were approved for a 7.6 MW wind farm – this project is under construction.
- Clipper Wind was approved for 21 MW wind farm – this project has been cancelled, and
- Atlantic Renewable Energy Corporation was approved for an Offshore Wind Feasibility Study. The Study was submitted for review by AREC on May 30, 2004 is final based on NJBPU and NJDEP comments and posted on the NJBPU website.

4. Net Metering and Standard Interconnections

Revisions to the net metering and interconnection standards established in the EDECA were proposed on December 1, 2003. The proposed amendments increased the maximum customer generator capacity for behind the meter renewable energy systems from 100 kW to 2 MW.

The amendments also propose a set of simplified and standardized utility interconnection procedures with an easy to understand utility interconnection agreement. These interconnection standards include the larger utility-scale renewable energy power plants that would be directly connected to PJM or the grid. The NJBPU is working with PJM, the other Mid-Atlantic States in PJM, renewable energy companies, transmission owners, distribution utilities and the federal agencies to expand and standard interconnection agreements and standards across the region

The larger system sizes facilitated with these amendments are deemed necessary to achieve the goals of the revised Renewable Portfolio Standards and the goals set forth by Governor McGreevey's Renewable Energy Task Force. The proposed net metering and interconnection standards extend the option beyond solar and wind facilities to other Class I renewable energy technologies.

5. Production Tax Credit