



***Next Steps with Currently Approved  
CORE & REIP Projects  
&  
Current Wind Project Approval and  
Inspection Process***

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New Jersey Board of Public Utilities, Office of Clean Energy



# Next Steps with currently approved projects



- The Market Manager team reviewed the 37 wind projects that are currently active in the NJCEP.
- There are 10 unique wind turbine manufacturers specified for these projects.
- As of 4/12/11, 7 of the 10 manufacturers supplied responses to our questions and provided backup documents.



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# Next Steps with currently approved projects



- A matrix containing the responses to the six key questions was prepared and reviewed.
- Based upon this review, the Market Manager team intends to provide a recommendation to the OCE staff to remove the temporary hold from the projects that are utilizing turbines from these 7 manufacturers.
- The Market Manager will review responses from the remaining 3 manufacturers when all required items are provided.



# Current Wind Program Requirements



- Applicants must contribute to the Societal Benefits Charge (SBC), a small payment made through your utility bill.
- Annual estimated performance of turbine cannot be more than 100% of historical or expected electric consumption at the site of installation.
- System must be installed in New Jersey.
- Site average wind speeds must be  $\geq 11$  mph
- Entire rotor diameter must be 30 feet above any obstructions within 500 feet
- Turbine must be on current approved list or in 2011 project can participate in the Innovative Wind Technology Incentive (IWTI)
  - 3<sup>rd</sup> party certified power curve is needed for IWTI



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# Wind Application Approval Process



ACTION	Required Documents	Complete/Next Steps
Submit wind application packet	Listed on the Wind Application Checklist	Market Manager reviews packet and determines if data and documents supplied meet program requirements
Review documentation with wind turbine manufacturer (New in 2011)	Wind Application packet and Seventh wind calculator	Market Manager reviews estimated performance with the wind turbine manufacturer. Receives sign-off on estimated performance
Determine Rebate	Seventh Wind Calculator	Market Manager uses Seventh Wind Calculator to determine estimated performance. Estimated performance determines Rebate amount.
Application Approved	Approval Letter sent to Applicant, Installer, System Owner and Rebate Recipient	Applicant can start construction on installing the wind turbine





# 7<sup>th</sup> Wind software



## 7th Wind™ Wind Turbine Performance Model

SITE INPUTS					
Project Name:					
Annual Energy Use (kWh/yr) =	11,000		Wind Shear Exp. =	0.20	per site assessment
Site Wind Speed from Map (mph) =	11.6	from wind map	Weibull K =	2.00	assume k = 2
Map Wind Speed Height (m) =	50	from wind map	Turbulence Intensity =	15%	per site assessment
Recommended Tower Height (ft) =	126	per site assessment			
Site Altitude (ft) =	98	from topo map			
Select turbines for comparison	Endurance S-343				
Recommended or custom tower height?	recommended	recommended	recommended	recommended	recommended
RESULTS					
SPECIFICATIONS					
Manufacturer	Endurance Wind Power				
Model	S-343				
Nameplate Capacity (kW)	5.0				
Turbine capacity at 11 m/s (kW)	5.0				
Output Voltage (V)	240				
Phase	1				
Rotor Diameter (ft)	21.0				
Rotor Diameter (m)	6.4				
Tower Height (ft)	126				
Tower Height (m)	38				
Total Structure Height AGL (ft)	137				
Total Structure Height AGL (m)	42				
PERFORMANCE					
Wind Speed at Hub Height (mph)	11.0				
Annual Energy Output (kWh)	6,992				
Monthly Energy Output (kWh)	583				
% Wind Percent of Facility Energy Use	63.6%				



# Wind Program Inspection Process



ACTION	Required Documents	Complete/Next Steps
Submit wind Final As-Built packet	Listed on Wind Final As-Built Checklist	Market Manager reviews packet and determines if data and documents are complete. On-site program inspection is scheduled. Installers must be present
Program Inspection	Review of Final As-Built packet	Program inspector visits site to ensure that documents submitted reflect what is installed at the site.
Pass/ Fail Inspection Report issued	Inspection Report	Program inspector determines if program is satisfied with on-site inspection results. If yes, a passed inspection report is developed and e-mailed to installer. If no, a failed inspection report is developed and e-mailed to the installer detailing the necessary changes. Once changes are submitted to inspector another on-site program inspection will be scheduled and performed



# Wind Program Inspection Includes:



- Verify:
  - All codes have been followed that apply to electrical, building and program.
  - Program requirements have been met
  - Inverters, disconnects and labeling
  - Anemometer is properly installed
  - Data logger has been installed
  - ANSI C12 production meter is installed
- Check wind speeds, sky conditions, tower height, wind swept area and site orientation



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