

T H E R E S P P R O C E S S

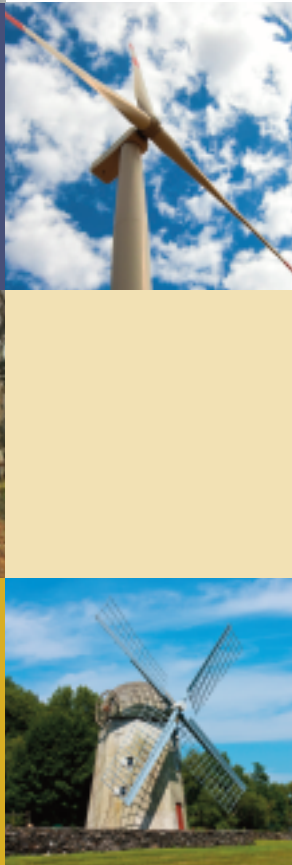
SCIENCE AND STAKEHOLDERS SHAPE R.I.'S GUIDE FOR RENEWABLE ENERGY

The RESP featured a stakeholder process designed to engage key constituencies and interested citizens. It also used an outreach and education program that provided up-to-date scientific data and maps, energy studies and reports, and evolving research. This was made available through listserv e-mailings and a Web site that allowed members of the public to access information on renewable energy initiatives locally, nationally and internationally to provide the best possible foundation for future decision making.

Monthly stakeholder meetings, all open to the public, invited attendees to share their concerns and issues, ask questions, provide thoughtful input, and learn about renewable energy research in a Rhode Island-specific scenario. Meeting attendees also had opportunities to preview tools the RESP project developed to assist in the ongoing analysis of land-based wind, water and solar energy issues.

The RESP process offered field trips to sites throughout the state where wind, solar and hydropower had been created, for the purpose of sharing lessons from those who were involved firsthand in those projects. Specialized working groups were also formed to dig down into more targeted concerns: a Municipal Working Group brought together local city and town officials to discuss renewable energy issues that seemed to be emerging in almost every Rhode Island community; and a Hydropower Working Group that convened various agencies, landholders, and interest groups to pool available data and consider the possibility of hydropower generation.

The RESP stakeholder process provided an efficient and clear system of soliciting and incorporating individual concerns and questions into creating a final product that ultimately will serve the state's residents, its businesses and its communities.



LET YOUR VOICE BE HEARD!

The full RESP draft document will be released in July 2012, followed by a public comment period. To create the best possible products for Rhode Island, the RESP welcomes and encourages everyone to share his or her concerns, opinions and targeted input with the project team. These guidelines will not serve as mandatory regulations for RI cities and towns, but rather provide a tool kit and road map for evaluating future renewable energy projects as part of future planning efforts.

Please contact the RESP team...

JOIN the RESP ListSERV at RESP@listserv.uri.edu to learn about project events and receive information updates

VISIT the RESP Web site at: <http://seagrant.gso.uri.edu/resp/> for ongoing details on the project

FOR MORE INFORMATION, CONTACT THE RESP TEAM AT:

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R.I. RENEWABLE ENERGY SITING PARTNERSHIP GUIDING RHODE ISLAND'S ENERGY FUTURE



**The State of Rhode Island
and many of its commu-
nities are considering
investing in renewable
energy infrastructure.**

*In September of 2011, the
state created the Renewable
Energy Siting Partnership to
develop guidelines that can be
used by Rhode Island's cities
and towns to site and manage
these new and potentially
beneficial activities.*

The state invited researchers and policy professionals at the University of Rhode Island with years of experience in energy, research and planning to provide technical advice about the effects renewable energy may have on the people, wildlife and natural resources of Rhode Island. In addition to providing draft guidelines for siting wind and assessing Rhode Island's landfill solar and hydropower potential, the RESP project is making state and municipal energy information accessible to the public through the creation of a comprehensive online energy database.

The RESP is not an advocacy effort. It brings science and lessons learned from other places to the table, and builds on the multiple renewable energy efforts underway so municipalities and the state can make informed, fact-based decisions.

This brochure contains the preliminary recommended guidelines for renewable energy implementation in Rhode Island. The RESP team welcomes and encourages comments and input from all Rhode Islanders to ensure that the state can take maximum advantage of renewable energy in the future, while maintaining the vibrant quality of life that exists throughout the Ocean State.



THE RESP IN ACTION

DRAFT Preliminary Wind Energy Siting Guidelines for Discussion Purposes March 31, 2012

ISSUE

****Draft Preliminary Guidelines for Discussion Purposes****

Structural Failure & Blade/Ice Throw

Setback measured from property line & calculated using risk-based methodology. Calculation tool to be available online at RIEnergy.org

Calculations based on the following:
Rogers et al, 2011. A method for defining wind turbine setback standards, Wind Energy, 2011, DOI:10.1002/we468
Rademakers et al, 2005. Analysis of risk involved incidents of wind turbines, In Guide for Risk Based Zoning for Wind Turbines, Energy Research Center of the Netherlands

Setback distances will vary based on the size of blade piece broken off, angular velocity and risk level (see examples below).

Example #1:

- Risk Level: 1 in 10,000 (approximate risk of dying in a car accident)
- For a 1.5MW turbine, 80m [262 ft] tall spinning at 2.3 radians/sec, a 2m [6.5 ft] piece could reach distances of 404m [1325 ft]
- For a 660kW turbine, 50m [164 ft] tall spinning at 2.98 radians/sec, a 2m [6.5 ft] piece could reach distances of 347m [1138 ft]

Example #2:

- Risk Level: 1 in a million (comparable to risk of dying in an airplane crash)
- For a 1.5MW turbine, 80m [262 ft] tall spinning at 2.3 radians/sec, a 2m [6.5 ft] piece could reach distances of 655m [2148 ft]
- For a 660kW turbine, 50m [164 ft] tall spinning at 2.98 radians/sec, a 2m [6.5 ft] piece could reach distances of 561m [1841 ft]

Noise

Defined as total noise (background noise + noise from turbine) at location minus the background noise level.

1 decibel (dB) above background noise (based on night time background noise) to not more than 5 dB above background noise (based on daytime background noise)

NOTE: 1 dB change in Sound Pressure Level (SPL) is known to be below level of human perception; 3 dB change in SPL is minimum level of human perception

Shadow Flicker

Calculated based on most favorable conditions: no cloudy days, turbine blades always turning, and no physical barriers

3 hours/year* to 30 hours/year
*No impacts on any residence or business in area

Bird & Bat Considerations

Avian Species Setback buffers (provided in RESP report) by species of concern

U.S. Fish and Wildlife Service Guidelines:

Tier 1 Screening - Avoidance of areas where species of concern are located or vulnerable habitats

Tier 2 - Site Characterization: surveys of project area for species of concern

Tier 3 - Pre-Construction monitoring and assessments: Developer evaluates the site to determine how the facility should be designed, constructed and operated to minimize the effects to wildlife, mitigation techniques designed if necessary

Tier 4 - Post-construction Monitoring: for 1 year, 50 m around turbine

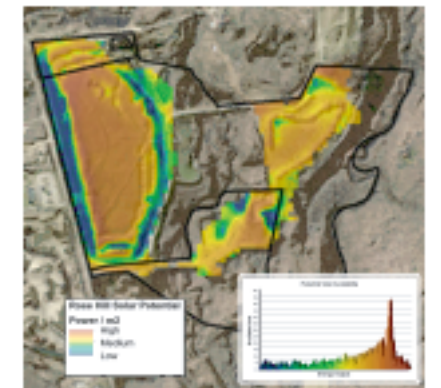
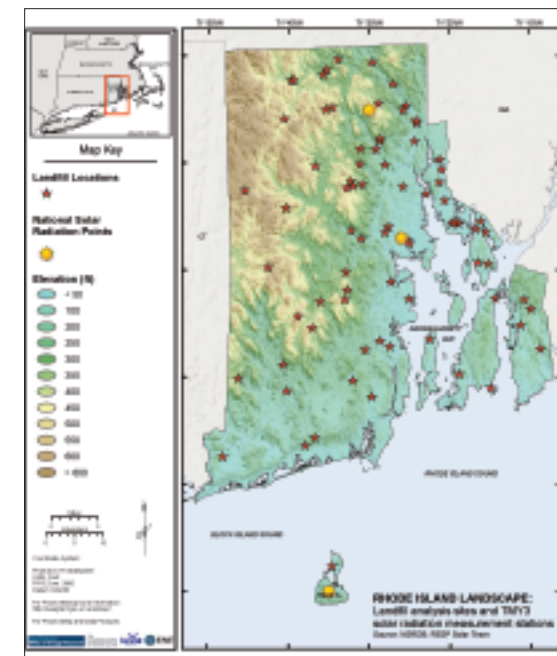
RIEnergy.org



The RIEnergy.org website will be launched in the summer 2012 and offer a central one-stop database for data, resources, and maps.

Landfill Solar Energy Opportunities

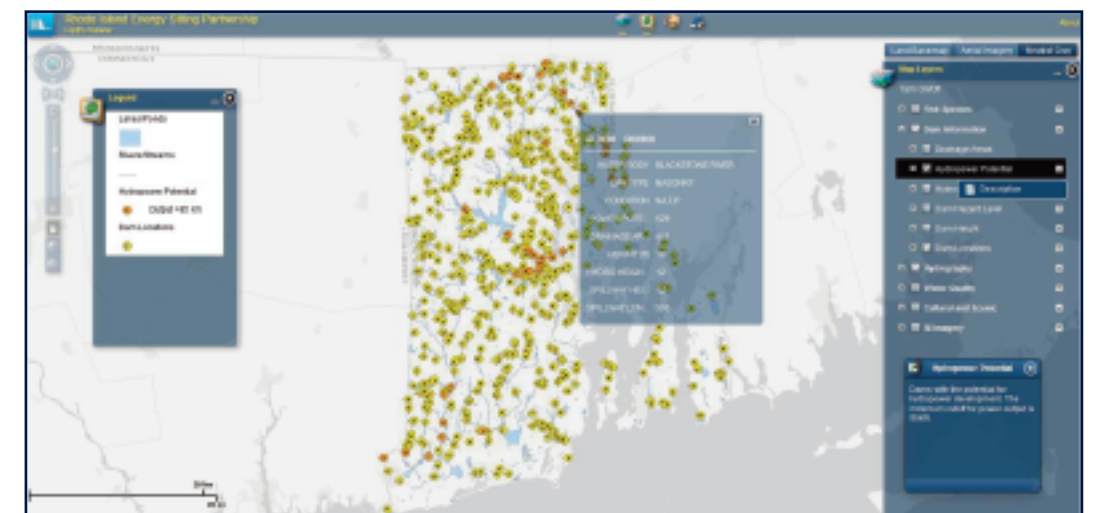
The RESP is assessing the potential for solar/photovoltaic arrays of one megawatt or greater on closed landfill sites in Rhode Island.



Maps showing the locations of existing landfills in Rhode Island and a solar potential assessment of the Rose Hill Landfill in South Kingstown, RI

Hydropower Development Opportunities

The RESP is assessing the potential and constraints for low-head hydropower development in Rhode Island using existing dams



Hydropower Map Viewer showing existing dams in Rhode Island