Hydrokinetics: Regulatory Reform in Maine
Oceans: A Source of Green Energy for the Northeast U.S.

United States - Wind Resource Map

Wind Power Classification

<table>
<thead>
<tr>
<th>Wind Power</th>
<th>Wind Resource Potential</th>
<th>Wind Power Density at 50 m (W/m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Fair</td>
<td>300 - 400</td>
</tr>
<tr>
<td>4</td>
<td>Good</td>
<td>400 - 500</td>
</tr>
<tr>
<td>5</td>
<td>Excellent</td>
<td>500 - 600</td>
</tr>
<tr>
<td>6</td>
<td>Outstanding</td>
<td>600 - 800</td>
</tr>
<tr>
<td>7</td>
<td>Superb</td>
<td>800 - 1600</td>
</tr>
</tbody>
</table>

55 million/18% US population
Maine Family Budget

- **1998**: Energy ~5%
- **2008**: Energy ~20%
- **2018**: Energy ~40%

“Family Energy” \(^1,2\) = 50% Transportation  
40% Heating  
10% Electric Power

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1. Source: Gov. King, George Hart  
2. Based July '08 energy costs  
3. Assumes that health care costs do not grow past 30% of the average family budget in 2008-2018
The Past : The Future
Tidal and Wave Permitting (State Jurisdiction)

- Maine Waterway Development and Conservation Act
- Clean Water Act sec. 401
- Coastal Zone Management Act
- Maine Historic Preservation Act
- Maine Endangered Species Act
- Submerged Lands Lease
An Act to Facilitate Testing and Demonstration of Renewable Ocean Energy Technology

P.L. 2009, chapter 270


Temporary Testing and Demonstration of wind/wave/tidal
Wind and Wave – 2 turbines/converters
Tidal - < 5 MW
3 years

3 Wind/Wave Test Sites Selected 12/15/09

Extensive Application Requirements

60 day DEP General Permit

Monitoring & Adaptive Management Approach
Maine-FERC MOU

- Coordinated review of short-term pilot tidal energy projects using hydrokinetic technologies in state and federal waters
- 1 stop shop: applicant submits FERC license application; proof of liability insurance; demonstration of financial and technical capacity; copy of FONSI issued by FERC; agreement to take remedial action
- State submerged lands lease within 30 days of approval
- NEPA documents to be used by DEP for state environmental review
- Consultation with stakeholders/developer on studies
- Equal consideration of benefits and impacts of project
- Limit permit boundaries to avoid site banking
An Act to Implement the Recommendations of the Governor’s Ocean Energy Task Force
P.L. 2009, chapter 615

• Goals: Encourage tidal and wave; 5 GW offshore wind by 2030
• Encourage needed T&D infrastructure
• MPUC to issue RFP for 25 MW deepwater wind & <5 MW tidal w/price cap 9/1/2010
• Clarify jurisdictional issues and streamline review
• Public Trust Doctrine/Submerged Lands Leases
Maine’s Ocean Energy Cluster

Component Manufacturing
Wind and turbine blades
Turbines
Composite materials
Housings, electronics, etc.

Manufacturing and Construction
Assembly of components
Staging of systems
Fabrication of support structures

Developers
Project development
Financing
Siting and permitting

Utilities

Installation, Repair, Operations and Maintenance
Marine trades

Institutions/Regional Assets
Skilled workers
Research and development
Environmental and energy
Marine and aquaculture
Composites
E2Tech
Maine Composite Alliance
Maine Mfg Association
Financial institutions
Ports

Production Services
Engineering
Consultants
Data collection (e.g. GOMOOS)
Materials testing
Questions?

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