

**DRAFT -- MEETING SUMMARY  
JANUARY 14, 2008  
OCEAN ENERGY TASK FORCE**

**I. Introductory Matters**

- Introductions: Chairs Beth Nagusky and Don Perkins welcomed the Task Force and attending public. Task Force members introduced themselves.
- A short review of the last meeting's topics ensued regarding the potential for offshore resources such as oil and gas, tidal, and wind. The Chairs commented on a question that arose from the last meeting's proceedings. It centered on what developers are looking for from the state of Maine and how the state can facilitate and prepare itself for these developments. Mr. Perkins and Ms. Nagusky designed an agenda for today to try to answer these questions.
- Representative Fits and Senator Hobbins introduced themselves.

**II. Environmental Regulations and Permitting at the Federal/State/Local Levels**

- State Government Perspective – *Kathleen Leyden (Director, Maine Coastal Program, Maine State Planning Office)*

Ms. Leyden began by explaining the complexity of Maine's ocean and coastal regulatory framework. It is multifaceted with a variety of issues at stake. The purpose of her presentation is to "tee" up ideas for regulatory reform. Ms. Leyden made reference to two matrices designed for this presentation regarding tidal and wind energy in both state and federal waters along with a text supplement for the matrices. The matrices and supplement can be found at: <http://www.maine.gov/spo/specialprojects/OETF/materials.htm>

- **Regulatory Matrices:** The abbreviated nature of these matrices is designed to facilitate a quick overview of requirements and approvals for state, federal and municipal governments. Examining each item within the matrices would be an extensive endeavor, however there are two critical points:
  - ❖ In state and federal waters you need a lease for offshore energy activities.
  - ❖ The existence of the Federal consistency review within the Coastal Zone Management Act.
- **Potential Issues:** Ms. Leyden mentioned a recent meeting in which state agencies met to discuss potential issues and clarification needs that had to be met for regulatory clarification. The meeting looked at the absence of

information fueling the need for site specific studies. Ms. Leyden also mentioned how DEP is currently looking at methods to calculate proposed project area (mainly for Site Law and fee purposes) and whether existing storm-water laws would apply.

- **Maine Wind Energy Act (2007):** Ms. Leyden also commented on the Maine Wind Energy Act which had been amended as a result of recommendations issued by the Governor’s Task Force on Wind Energy. Ms. Leyden felt that the amendments can act as examples of regulatory modification. The Maine Wind Energy Act can be found at: <http://www.mainelegislature.org/legis/Statutes/35-A/title35-Ach34sec0.html>

Ms. Leyden’s presentation can be found at: <http://www.maine.gov/spo/specialprojects/OETF/Documents/State%20Government%20Perspective.ppt>

- Legal Perspective – *Elizabeth Butler (Pierce Atwood, LLP)*

Ms. Butler briefly highlighted several of her past occupations, but most notably and relevantly, her position as a contractor for the world bank where her office has been tasked with assisting countries to meet economic development goals that will be hospitable to energy.

- **Executive Order Mandate:** Ms. Butler commented on the Governor’s mandate to the Ocean Energy Task Force to meet Maine’s offshore wind goal of 300 MW by 2020. She cited two means to facilitate this development which were promoting “vigorous, expeditious development”, and aiding economic development support for offshore wind. The first point speaks to the evaluation of ocean test areas including research and development initiatives and siting facilitation, while the second point looks at public-private partnerships. She went on to say that Maine has “learned some hard lessons in the past” and now there is a realization that in order for a project such as this to work, Maine has to start with Federal partners. The ocean is not a resource that lends itself well to political boundaries.
- **Regulatory Framework:** Ms. Butler then touched on points that Ms. Leyden had covered regarding regulatory framework. She emphasized identifying gaps and overlaps in existing framework, the potential need for new laws and rules in future frameworks, and again, the need for federal/state and public/private partnerships. She also suggested that the

Task Force leverage Maine's "Innovation Culture" and that renewable energy sources are a great fit for this.

- **Lead Agency:** Ms. Butler commented on the how vital the establishment of a lead agency is in planning for offshore renewable energy. There are two stages to the development and establishment of a lead agency including:
  - ❖ Planning: Which could be a "Wind on Water" panel comprised of PUC and the Department of Conservation, and that in planning for this panel, the Ocean Energy Task Force would need technical support from the PUC and potential tax revenue.
  - ❖ Implementation: Examples would be the Virginia energy research Consortium, and the MTC Renewable Energy Trust in Massachusetts.

Ms. Butler's presentation can be found at:

<http://www.maine.gov/spo/specialprojects/OETF/Documents/Legal%20Perspective.ppt>

- Environmental Engineer Perspective – *Michael Murphy (Devine Tarbell and Associates Inc.)*

Mr. Murphy began his presentation by focusing on the make up of his company, Devine Tarbell, including engineers, scientists, and regulatory specialists working on a broad range of topics specializing in renewable ocean energy including wind and hydropower. The company's list of projects are located throughout both the U.S. and Canada.

- **U.S. Ocean Energy Activity Snapshot:** Mr. Murphy briefly touched on current ocean energy activity in the United States using two categories: Tidal and Wave Energy, and Offshore Wind Energy. Pertaining to Tidal and Wave, there are currently 49 preliminary permits issued by FERC with 31 more applications in the foreseeable future. Once license has been issued for Makah Bay and potential project sites are in Maine, New Hampshire, Massachusetts, New York, California, Oregon, Washington, Alaska, and Florida. Offshore Wind Energy currently has various permitting activities underway with various regulatory authorities. There are pending activities in Massachusetts, Rhode Island, Delaware, the Great Lakes, and Texas. The Take home message is that there is a lot is going on that we can learn from including what has worked and what hasn't.

- **Suggestions:** Mr. Murphy's suggestions for Maine's ocean energy initiative were:
  - ❖ Establish criteria for acceptable locations
  - ❖ MOU's: internal and external to reduce redundancy (both in federal and state governments as it sends a message that people are working together)
  - ❖ Financial Support: funding for studies and tax incentives
  - ❖ Educational Support

Mr. Murphy's presentation can be found at:

<http://www.maine.gov/spo/specialprojects/OETF/Documents/Environmental%20Engineer's%20Perspective.ppt>

- **Panel Discussion:** *Kathleen Leyden, Elizabeth Butler, Michael Murphy*
  - **Task Force Member Questions and Comments**
    - **Question:** Regarding Ms. Leyden's Materials questioned municipal boundaries, what they were, in addition to whether or not a town would have "veto" power over a project.  
**Answer:** Ms. Leyden said no, that there were no clear boundaries and in terms of municipal jurisdiction; towns are able to plan and exercise administrative rights only in accordance with the Harbor Management Act, Shellfish Management, and with regards to projects attached to the land. Ms. Butler cited *Gorden M. James, et al. v. Inhabitants of the Town of West Bath*, 437 A.2d ME 863, (1981) pertaining to marine worming and the plaintiff (Mr. James) was awarded rights when state and town policies conflicted, affirming the power of his state license over the town ordinance.
    - **Question:** Governor King asked about the potential for a convening authority and said that the current makeup of PUC and DNR is not conducive for regulation. He proposed an Ocean Planning Authority.  
**Answer:** Ms. Butler said that is the direction that states farther along in the planning process than Maine are taking. States have a framework where, in most cases, PUC is the lead agency, but many other state agencies are involved and have a say in decisions. Each agency maintains regulatory function, but collaborates as well.
    - **Question:** Ms. Nagusky asked if the aforementioned convening authorities in other states were new or ad hoc with existing authorities.  
**Answer:** Ms. Butler said the earliest formation stages took existing agencies and aligned them for work in energy councils. Later stages

found that funding becomes available and states can finance various functions. New Jersey used both bonds and general funds to advance production credits as returns would pay the state back in the future. In early stages, there is collaborative work and it may be found that Maine needs to organize itself differently (potential for a Maritime Authority). **Related Comment:** The process of using a regulatory agency as a lead development agency is may not be the best route. Using a resources agency may be preferable.

- **Comment:** Regarding the federal consistency clause of the Coastal Zone Management Act. The notion of using this clause could be a way to extend the state's influence over federal actions. Beyond federal consistency, there are examples in Rhode Island and Massachusetts of early dialogue with all involved parties. This early involvement and dialogue is preferable to exercising the federal consistency regulatory tool at the end of the process. Ms. Butler said that this tees up a good discussion for the committee related to where boundaries are in the Gulf of Maine. The Task Force needs to use these forums to project Maine's interest to give early and clear signals about what Maine would like to see happen.

**Related Comment:** The exercise of the federal consistency clause cannot wait until the end. If a project comes across the table that has not been proposed before and time and money has been spent but suddenly is denied because of federal consistency, it will be a waste of time, energy, and funds.

### **III. Developing Tidal Power in Maine: Lessons Learned From Industry Experience and How Maine Can Help Facilitate Environmentally Responsible Project Development**

- Tidal Energy – *Chris Sauer (Ocean Renewable Power Company)*

The Ocean Renewable Power Company (ORPC) has been functioning in Maine for quite some time. Their patented technology is called OCGen (Ocean Current Generation). The company has projects in three of the world's best rated tidal sites. Maine has what it takes for successful tidal energy development including resources that are close to shore, underutilized port facilities, a history of boat-building, significant Research and Development capabilities through Universities and other institutions, a mandate to reduce dependency on imported energy, and a strong need for economically sustainable development based on Maine companies.

- **Tidal Energy Opportunities:** Maine has an abundant supply of emissions-free electricity sources regarding tidal energy, which has a

potential of supplying up to 10% of Maine's electricity consumption. Creating a world class ocean energy structure. By embracing tidal energy, Maine has the opportunity to create a world class ocean energy cluster through sustainable economic development, creation of a "new" working waterfront, and the creation of new jobs, investment, and tax revenue.

- **Significant Challenges:** The potential for tidal energy development may not be large enough to be a priority. It is the leading edge of many projects that can follow. State funding is difficult to obtain. Money is limited. ORPC has raised 4 million dollars and less than 1 million of that is public investment. Seabed space is still an issue and is still being addressed in dialogue with fishermen.
- **The Ocean energy Continuum:** Tidal energy will "blaze the trail" for other future ocean energy development. The lessons learned from tidal development will be invaluable to future ocean energy initiatives. What ORPC is doing today (e.g. baseline studies, interface with permit agencies, collaboration) will pave the way for future energy projects.

Mr. Sauer's presentation can be found at:

<http://www.maine.gov/spo/specialprojects/OETF/Documents/Tidal%20Energy%20in%20Maine.ppt>

#### ○ **Task Force Member Questions and Comments**

- **Question:** What is the perceived obstacle to sell locally?  
**Answer:** There is no existing obstacle but proper offers and setup are required through contracts and agreements.
- **Question:** How does the state go about getting a tidal potential of 5MW to 250MW. Additionally, what is the usual output, and lastly what is the cost per KW hour.  
**Answer:** The initial analysis was a breakeven analysis. A 6 Knot current with 20 OCGen modules would attain the aforementioned goal. The installed cost per KW is \$3000. Assuming you take total capital over 20 years, the break even cost is \$.08 cents. Mr. Sauer thinks the capacity in Cobscook Bay is 150 MW at full capacity. After the Eastport pilot project, full size generation is built and the capacity factor varies but in Cobscook Bay, it is 35%. The plus side is that ORPC know when prime operating conditions are (as opposed to wind) because of the predictability of the tides.

- **Question:** Where is ORPC in the permitting process?  
**Answer:** ORPC intends to submit its application for a pilot project by the Spring of 2009 and by first the quarter of 2010, hopes to have the license in hand. While the 5MW generating capacity is being brought online, they will be applying for full development.
- **Question:** Is the pilot project stage a competitive stage for FERC?  
**Answer:** The FERC permit gives ORPC an exclusive franchise in one particular area. As long as ORPC follows the prescribed process they will maintain the franchise. This process is much different than MMS which gives you no site control. When your work is done with MMS, they put the site up for bid and a competitor can come in and outbid you.
- **Question:** How far offshore can the current technology function? Is it restricted to state waters or can it be constructed in federal waters as well.  
**Answer:** The current technology can only be inshore, not offshore. It will be focused in state waters. ORPC has begun to develop deepwater current tech (ability to operate in the gulf current, etc). Deepwater technology is probably 2 or 3 years behind nearshore technology. The First two phases are river and tidal applications. Deepwater will follow.
- **Question:** Is the 250 MW estimate based on today's technology or on the "technology of tomorrow"?  
**Answer:** Current predictions are based on tidal currents and on water speed. As the technology improves, the 6 knot threshold decreases. 250 MW is based on 5 to 6 knots. It is possibly a conservative number as technology develops. No survey has been done for potential sites either. There are a lot of small sites that no one really knows about and as technology improves, more sites will reveal themselves.

#### **IV. Developing Offshore Wind Power: Lessons Learned from Industry Experience in Other States, How Maine can Help Facilitate Environmentally Responsible Project Development**

- Rhode Island Perspective – *Chris Wissemann (Deepwater Wind)*

Deepwater Wind was created as a result of a merger between Winergy Power and Firstwind. Winergy had been developing projects since 2003. Their first efforts were monopile projects. Deepwater observed the issues with the Cape Wind initiative and devised a business plan for deepwater technology as opposed to trying to site nearshore. When FirstWind was brought into the company's fold, they brought Tension Leg Platform technology, which was conducive to offshore wind development.

- Rhode Island's geographic and economic situation drove the decision to develop offshore technology as well. The state possesses an urban coastline, little on-shore wind potential, and the high costs of other forms of renewable energy served as an obstacle.
- **Potential Policy Drivers:** Mr. Wissemann mentioned five potential policy drivers including the legal satisfaction of Renewable Portfolio Standards (RPS), true climate change advocacy, energy security, price stability, and the potential for project development to act as an economic stimulus. Rhode Island's focus was on (in order of importance) economic stimulus potential, price stability, and legal satisfaction of RPS goals.
- **Rhode Island's Action:** Rhode Island embraced a three point action plan:
  - ❖ The Rhode Island Winds Study, which identified potential wind farm locations
  - ❖ The Ocean Zoning Initiative conducted by the Rhode Island Coastal Resources Management Council, which developed Special Area Management Plans (SAMPS)
  - ❖ A Competitive Solicitation which identified preferred developers
- **Current Status:** Deepwater Wind and the State executed a Joint Development Agreement on January 2<sup>nd</sup> that includes reimbursement of the state for the cost of creating the SAMP, assistance with the power purchase agreement, coastal zone consistency, and port facility leasing agreements. A small project in state waters off of Block Island will be implemented first to satisfy the island's energy needs, with a target implementation date of 2011. The full scale project implementation, which will take place in federal waters, is expected to be complete by 2013, pending long-delayed rules by the Minerals Management Service (MMS).

Mr. Wissemann's presentation is available at:

<http://www.maine.gov/spo/specialprojects/OETF/Documents/Rhode%20Island%20Perspective.ppt>

- International/Local Perspective – *Ray Dackermann (Blue H USA LLC)*

Blue H is a deepwater wind energy technology company whose primary mode of energy delivery relies on a floating wind turbine platform.

- Mr. Dackermann first covered a variety of topics ranging from Blue H's key executives and advisors, to the company's mission statement, which is: *By owning and continually creating innovative offshore technology, Blue H intends to become the world's leading developer of deepwater offshore wind farms dependent on its technology.*
- Mr. Dackermann then described some of the advantages his company has related to offshore wind development, including the lack of a need for seabed preparation, no expensive marine services equipment, the lack of a need to assemble the turbine at sea, low decommissioning costs, shorter construction and installation periods, the assembly line procedure used for construction, and the fact that installation is less dependent on weather conditions.
- In closing, Mr. Dackermann cited a press release regarding the United Kingdom's selection of Blue H for an offshore wind development project. The press release can be found at: <http://www.bluehgroup.com/company-newsandpress-090114.php>

Mr. Dackermann's presentation can be found at:  
<http://www.maine.gov/spo/specialprojects/OETF/Documents/International-Local%20Interests.ppt>

- **Panel Discussion:** *Chris Wisemann, Ray Dackermann*

- **Task Force Member Questions and Comments**

- **Question:** How can Maine facilitate wind energy development?  
**Answer:** Establish a suitable area for development.
- **Question:** How long do meteorological (MET) towers have to be in operation for reliable data collection, how much do they cost, and how many do you need for an accurate wind climate portrayal?  
**Answer:** Meteorological towers are essential to validate wind resources. There is a degree of uncertainty. MET towers are 80 -100 meters tall, and a years worth of data, optimally two is required for accurate wind intensity readings. They cost four to five million dollars per tower and costs increase with depth. For a 100 MW project, Rhode Island uses one MET tower and cheaper buoys to supplement in order to calibrate.

**Related Question:** What are the permitting requirements for MET towers?

**Answer:** A MET tower requires an Army Corps permit, CZMA consistency, and also requires NOAA and other agencies to weigh in.

- **Question:** The degree to which the wind is forecasted is critical. What do the presenters believe is the best source of information to the problems of dispatch and system integration for offshore wind?  
**Answer:** There is a massive body of literature in Europe on this subject, especially on projects in Denmark. Wind is an intermittent source in that the consumer is not tearing down power plants with the introduction of wind turbines, they are just using them less. If there is a mix of deepwater/intermediate wind, solar, and tidal, you can supplement each one when there one goes offline for environmental purposes (e.g. dark outside means there will be no solar power available). With offshore wind development, you have the opportunity in the future for hydrogen production used in conjunction with the wind towers.
- **Question:** Can the developers elaborate on the exclusivity of the Rhode Island SAMP?  
**Answer:** Mechanically, it is consistent with the state's goals which are to build 400 MW. Since this project is deemed consistent by the Governor, it would be the first (not the only).  
**Related Question:** If there is already a proposed site, why do you need a SAMP? **Answer:** The site is indicative of where Deepwater Wind thinks a wind development would best be placed, but a project can go anywhere in the SAMP after establishment.
- **Question:** Should the state push for pre-permitted sites or a catalogue of areas that are off limits? What is the correct balance?  
**Answer:** Where the development connects electrically is as important as where you put the wind farm. A good indicator for favorable geology is where the rocky coast stops and the sandy coast starts. The adjacent electrical grid and the geology are the most important aspects for the developer initially.
- **Question:** What is the balance between state designating parameters and the developer making parameters?  
**Answer:** The state should focus on smaller areas and research in depth to find out if they're right or wrong early on.
- **Question:** How do you establish long term contracting for southern New England?  
**Answer:** It can't be done unless the consumer is knowledgeable regarding environmental interests and issues.
- **Public Questions and Comments**

- **Question:** How many jobs might be created on a short term manufacturing and long term maintenance and repair basis for the state of Maine?  
**Answer:** The largest amount of jobs would be in turbine manufacturing. In Rhode Island, there are estimates of about 800 new jobs for foundation manufacturing for 400MW. There are estimates for around 50 new jobs for turbine maintenance.
- **Question:** Energy output does not match the energy input. What is the duration of the project needed to get more output than input?  
**Answer:** It is a year and a half.
- **Question:** How important is Federal Carbon Policy in implementing cap and trade and how big a factor is it to make a wind project viable?  
**Answer:** Right now it is not a factor but if implemented, it would enhance the state's revenue stream and eventually reduce what people have to pay.

## V. Subcommittee Assignments and Deliverables

Six proposed sub-committee chairs have been given list of interested parties and what at level they would prefer to participate. The Task Force should examine each subcommittee, looking at the scope and at interested parties and what each should be expected to accomplish

- The six subcommittees, their chairs, and their scope are:
  - ❖ **#1 Environmental and Human Impacts:**
    - Chair: Sean Mahoney
    - Membership is acceptable.
    - The scope of work is good but also needs a mechanism to allow for the addition of future issues.
    - Acknowledgement that there will be areas of overlap between subcommittees and these must be another mechanism to allow for integration.
  - ❖ **#2 Regulatory and Permitting Process:**
    - Chair: Kathleen Leyden
    - Membership is acceptable.
    - Current scope is acceptable.
  - ❖ **#3 Transmission, Grid Access, Utility Incentives:**
    - Chair: David Flanagan
    - George Hagerman and John Kerry have been added as members.

- Current scope is acceptable.
- ❖ **#4 Economic Development Opportunities and New Technologies:**
  - Chair: Tim Agnew
  - Leslie Harroun has been added as a member.
  - The scope should include the addition of education programs for citizens to be trained in ocean energy vocational curriculums.
- ❖ **#5 Tidal Power:**
  - Chair: Parker Hadlock
  - Membership is acceptable.
  - Current scope is acceptable.
- ❖ **#6 Oil and Gas:**
  - Chair: Bob Marvinney
  - Membership is acceptable.
  - Current scope is acceptable.

**Comment:** Governor King mentioned that the Task Force should have an “Interim Steps” subcommittee to report to the current legislature in order to accelerate pre-permitting for research and development. He emphasized that any activity should happen during this legislative session so there is not an eighteen month lag. He proposed that the “Interim Steps” subcommittee identify steps that can be implemented during the current session. He also would like to look at the development of a separate governing body for energy purposes that was mentioned previously. Discussion ensued and a suggestion by Kathleen Leyden was that the “Interim Steps” subcommittee be comprised of the chairs of the other subcommittees and the legislators with Governor King as Chair. The scope would involve items that they can identify to push forward with in this legislative session. March 15<sup>th</sup> should be the deadline for recommendations to legislature.

The goal of these subcommittees is to involve the public as much as possible and leave it to the chairs to establish public involvement criteria. Task Force members are voting members, while the public is not, but the public may still attend. The premise is that interested parties will have notice and the chair will structure the meeting to allow for public comment, but discussion is limited to Task Force members. The chair has the authority to drive the conversation and may allow for public entrance into discussion at their discretion.

**Next Meeting:** Ms. Nagusky commented on how difficult it is coming up with a day in February where everyone can get together. Ms. Nagusky does not want people missing two meetings in a row. February 24<sup>th</sup> and 25<sup>th</sup> are possible dates.

Subcommittees should meet in February and the Task Force should try to do a full meeting on either the 4<sup>th</sup> or 11<sup>th</sup> of March. Subcommittees need to schedule their meetings and the Interim Steps Subcommittee would meet after all other subcommittees have met. Governor King would like to have a meeting of the Interim Steps Subcommittee on the 28<sup>th</sup> of January.

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