

Deepwater Wind, LLC

Off Shore Wind Energy Production

Comments submitted to the New York State Energy Planning Board
June 10, 2009

Deepwater Wind, LLC (“DWW”) is pleased to submit these comments to the New York State Energy Planning Board. Deepwater Wind is a developer of off-shore commercial wind projects, generally targeting far-offshore, “deepwater” sites—where water depths are in excess of 30 meters, at distances of 15 miles or more from the coastline (“over the horizon,” in effect). The company has been selected by Rhode Island and New Jersey to spearhead the development of large-scale wind generating facilities off the shores of those states. In addition to these projects, Deepwater Wind plans wind farms on the Outer Continental Shelf that would interconnect with the New York electric system.

DWW commends the Energy Coordinating Working Group for its efforts in modeling and analysis of the state’s energy picture in a time of unprecedented flux with regard to the State’s energy supplies, delivery and prices and the implications of the state’s energy use for its economy and environment. DWW agrees with the fundamental conclusions of the SEP Interim Report, issued on March 31, 2009 -- that the best plan for meeting the state’s present and future challenges is “through the development and build out of its clean energy industries”. We also respectfully submit that the emergence of a viable offshore wind industry—a recent technological development with significant environmental and economic implications for southern NYS—has yet to be fully reflected in New York State’s energy planning.

In particular, the existence of a very substantial wind energy resource just offshore of NY ISO load zones J and K raises the possibility of generating significant amounts of electric energy to directly serve customers in New York City and Long Island (previously thought to be out of reach of large scale renewable generators), with the promise of:

- substantially changing the development focus of the next round of New York State’s commercial wind plants from upstate to offshore regions, with important economic benefits for the maritime industry in and around New York harbor;
- injecting considerable amounts of electric energy into New York City and Long Island, where load growth is the greatest, and generating costs are the highest;
- substantially reducing the air emissions from conventional electricity generators in the NYC region.

DWW offers the following information and recommendations generally in support of the preliminary findings set forth in the Interim Report, with a few caveats.

Preliminary Finding 1. DWW agrees that the growth of the clean energy sector will expand economic development opportunities across industries and region. Off-shore wind will employ hundreds of high-paid, highly skilled workers, including marine engineers, environmental scientists, electricians, stevedores, shipbuilders and equipment designers and manufacturers. Many of these jobs will be located in the vicinity of the off-shore development sites. New York State programs have been successful in supporting the development of renewable technologies, however, the vast majority of capacity associated with this support has occurred outside of New York City and Long Island, as has much of the associated economic activity. DWW believes that off-shore wind can contribute to job growth across the State, especially if it attracts equipment manufacturers to locate in New York. We commend the Governor for recognizing this fact by supporting the efforts of the Long Island Power Authority and Consolidated Edison in their ongoing study of how off-shore wind might contribute to their systems. DWW believes that the state should further recognize the regional economic potential for off-shore wind by considering the following strategies that will help support this industry in a time of extremely volatile market prices and high regulatory risk:

- **Environmental Review** The New York Department of State and the Department of Environmental Conservation could advocate for a generic framework for environmental and marine studies to be undertaken at individual sites, utilizing accepted sources of information where appropriate. The State's universities might direct their research activities to help study relevant marine resources that might be impacted by offshore development, thereby accelerating the analytical work to be undertaken as part of the environmental site reviews.
- **RPS Program Changes** In recognition of the higher value that offshore wind represents to the downstate region, the Public Service Commission should consider changing the RPS program in order to directly support offshore wind projects that interconnect into Zones J and K. This support might take the form of an "ORECs (Off-shore Renewable Energy Credits)" program, that gives greater RPS value to "RECs" generated offshore; or in the form of an incentive return offered to electric utility companies that enter into long-term power purchase agreements with renewable energy facilities interconnecting directly with Long Island or New York City.
- **Wind Industry Support** New York could do more to attract investment in new assembly facilities, by manufacturers of wind turbine generators, rotor blades, towers, and other types of offshore equipment, as the offshore wind industry starts to expand in the region.
- **New Transmission** Finally, New York should investigate whether to support transmission facilities associated with offshore wind facilities.

Preliminary Finding 2. New York State has been prescient in understanding the necessity of responding to the increasingly urgent issue of global climate change. The Interim

Report's support for the adoption of additional carbon reduction strategies continues this leadership and will position New York to take advantage of the economic activity surrounding the global response to this problem. Off-shore wind, by virtue of its vast potential, is uniquely positioned to become a significant solution to the State's green house gas control plan, not only in the production of electricity, but also in the displacement of fossil fuels used in powering the building and transportation sectors.

The U.S. Department of Energy estimates that over 900,000 MW of potential wind power is available off the coasts of the United States, with the vast bulk of these resources located 20 to 30 miles off shore in depths of greater than 30 meters¹. Nevertheless, a good deal of this potential off shore wind energy is near major population (and energy load) centers where energy costs are high and land-based wind development opportunities are limited. Approximately 270,000 MW could be harvested in depths up to 60 meters, 190,000 MW of which lies off the shores of the Mid-Atlantic States, including New York². In fact, off shore wind represents the single largest potential source of renewable energy for the transmission-constrained region of Southeastern New York.

As advances are made in the field of energy storage and conversion, the tremendous potential for off-shore wind stands poised to energize buildings and vehicles, helping to lower the state's carbon footprint. Studies sponsored by NYSERDA and the National Energy Technology Laboratory have shown that the restructured energy market can provide value for the deployment of electrical energy storage devices, enabling larger penetration of wind.^{3 4} Plug-in hybrid electric vehicles have the potential to enable increasing amounts of wind by storing excess power at times when vehicle fleets are not being used.⁵

Preliminary Finding 3. DWW agrees that the natural gas is an important transition fuel and that increased infrastructure might be needed. Natural gas is a versatile fuel and transmission facilities, while difficult to site and construct, are more feasible than overhead electric transmission lines.

Preliminary Finding 4. DWW supports the increased use of electric vehicles and looks at that industry as an important partner in the deployment of increased levels of renewable technologies, especially off-shore wind, for the reasons cited above.

Preliminary Finding 5. DWW supports the finding that the modernization and expansion of the electricity grid will be an important step in deploying clean energy resources. Smart grid technologies will enable more price transparency and allow customers to

¹ http://ocsenergy.anl.gov/documents/docs/OCS_EIS_WhitePaper_Wind.pdf

² http://ocsenergy.anl.gov/documents/docs/NREL_Scoping_6_06_2006_web.pdf

³ http://www.ces-ltd.com/Documents/NYSERDA_EES_AnalysisStudy_ExecSummary.pdf

⁴ <http://www.netl.doe.gov/energy-analyses/pubs/Final%20Report-Market%20Analysis%20of%20Emerging%20Electric%20Energy%20Sto.pdf>

⁵ <http://www.nrel.gov/docs/fy06osti/39729.pdf>

manage their energy use more effectively. This will promote the use of storage technologies, including electric vehicles that will utilize renewable resources for their power needs. Again, off-shore wind is the only known technology with the potential to significantly power the transition to a low-carbon transportation sector.

With regard to transmission expansion, DWW urges the State to consider the size of potential resources of renewable power, including off-shore wind, before underwriting significant expenditures beyond what is necessary for reliability and what would be otherwise economic.

Preliminary Finding 6. DWW believes that NYPA could serve an important role in the development of off-shore wind. Potential roles for NYPA include its Great Lakes' initiative, the long-term purchase of off-shore wind, the construction of enabling facilities, such as transmission from off-shore sites or participation in research activities associated with siting wind farms in marine environments or the use of the power from off-shore wind farms.

Preliminary Finding 7. DWW supports the finding that reductions in air emissions associated with the electricity generation, building and transportation sectors will be necessary. For the reasons cited above, off-shore wind represents the state's best known option for achieving such emission reductions.

Preliminary Finding 8. By off-setting the need for new land-based generation facilities, thereby decreasing the environmental impacts on neighborhoods associated with electricity production, off-shore wind will help contribute to the State's environmental justice goals. In fact, for many communities, the relatively benign on-shore facilities associated with off-shore wind (primarily DC/AC conversion stations and underground transmission lines) represent desirable investments.

Preliminary Finding 9. Interstate and intrastate regional cooperation is important for the State to optimize its energy plan. DWW supports such activities, especially with regard to environmental research and analysis associated with supporting off-shore wind development.

Preliminary Finding 10. DWW has no comment on this finding.

In summary, New York State has a number of key advantages over other states for the development of offshore wind: strong electric markets with transparent location-based marginal prices; suitable locations for deepwater projects; high wind resources off the coasts; available interconnection sites; and a mandate for the purchase of renewable power. We believe that the findings of the Interim Report provide a policy direction that will help foster the development of his important resource.

Conclusion

Deepwater Wind thanks the New York Energy Planning Board for the opportunity to submit these comments. We believe that New York State is uniquely positioned to develop its offshore wind resources and that doing so will further the State's leadership position in the areas of energy policy and environmental stewardship. We recommend that the State Energy Plan endorse the recommendations contained in our comments in order to make offshore wind power a reality for New York. We stand ready to partner with the State to achieve its energy and environmental goals.