CAPITOL FACTS & FIGURES

ENERGY

U.S. Offshore Wind Power Potential

The United States has vast offshore wind power potential. According to Wind Powering America, an initiative of the U.S. Department of Energy, Atlantic offshore wind has the potential to deliver 18 times more power than Atlantic offshore oil.[1]

- The Department of Energy has devised a Strategic Work Plan and intends to deploy 54 gigawatts of offshore wind by 2030 with a kilowatt-hour range of 7 to 9 cents.[2]
- According to the Department of Energy, "offshore winds blow stronger and more uniformly than on land, resulting in greater potential generation."[3]
- Another advantage of offshore winds is that they blow more frequently and strongly during peak demand,[4] and would mitigate the need for costlier backup generation.
- And because electricity along the coasts is so costly, offshore wind is expected to become competitive with fossil fuels relatively quickly.[5]
- Offshore wind can also help coastal states without significant renewable resources meet their renewable portfolio standards or goals.[6]
- Reaching the goal of 54 gigawatts would create an estimated 43,000 permanent operations and management jobs.[7]

Despite the potential to produce clean, cost-effective electricity, huge challenges remain to commercial deployment:

- The cost of offshore wind energy will need to drop by 50 percent for it to be a viable option.[8] This will require increased market penetration and public acceptance as well as improved technology.
- In addition, the resource is not well-defined. That is, it is important to better understand where the wind blows best; ports will need to be expanded in order to handle huge turbines and the vessels that transport them; and job-specific marine vessels will need to be built.[9]
- Finally, the project approval and siting process will need to be streamlined. Project approvals currently take seven to 10 years.[10] This will require greater state and federal cooperation.

However, some progress is already being made toward developing an offshore wind power industry:

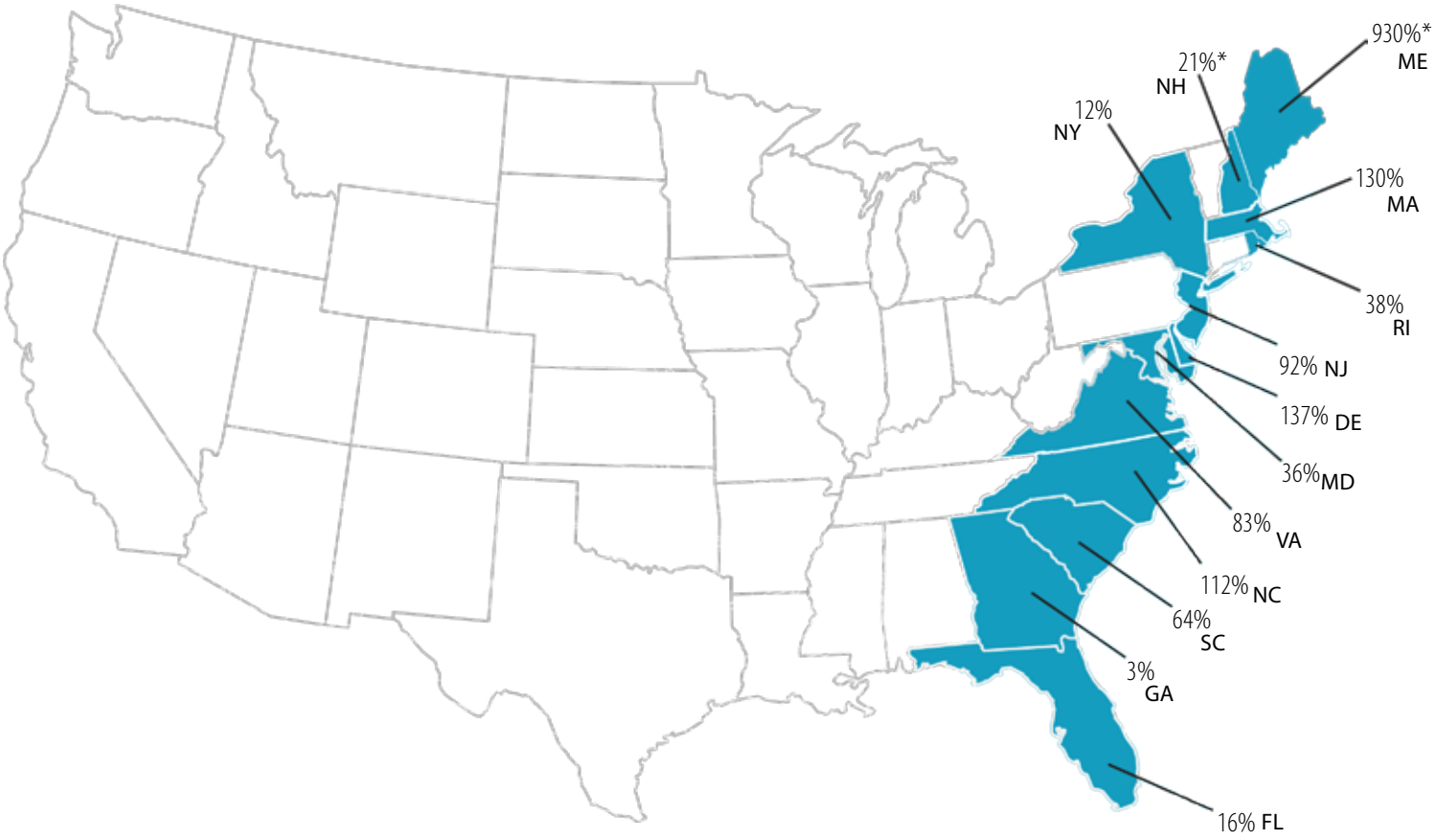
- Five gigawatts of offshore wind power have been proposed for Maine by 2020.[11]
- Google recently agreed to spend $200 million on a transmission system for offshore wind along the Mid-Atlantic coast[12] that would collect electricity at four points, reduce congestion of the region's grid and simplify the siting process.
- Department of Interior Secretary Ken Salazar recently signed the nation's first offshore wind power lease at Cape Wind, off the coast of Massachusetts' Cape Cod, paving the way for the initial steps in the development of a U.S. offshore wind power industry.[13]

Doug Myers, CSG Sr. Energy and Environment Policy Analyst
dmyers@csg.org

References

[1]Kempton, Willett. "Offshore Wind Power." Slide 19. May 27, 2010. Accessed from: *http://www.windpoweringamerica.gov/pdfs/workshops/2010_summit/kempton_offshore.pdf*.
[2]U.S. Department of Energy (DOE), Office of Energy Efficiency and Renewable Energy, Wind & Water Power Program. "Creating an Offshore Wind Industry in the United States: A Strategic Work Plan for the United States Department of Energy." September 22, 2010. P. 7. Accessed from: *http://www.windpoweringamerica.gov/pdfs/offshore/offshore_wind_strategic_plan.pdf*.
[3]DOE, 9.
[4]DOE, 11.
[5]DOE, 11.
[6]DOE, 11.
[7]DOE, 12.
[8]DOE, 13.
[9]DOE, 13.
[10]DOE, 14.
[11]DOE, 16, and Dagher. "Comprehensive Energy Plan for Maine: 5 GW of Offshore Wind by 2020." Accessed from: *http://www.mdf.org/documents/HabibDagher08.pdf*.
[12]Wald, Matthew. "Offshore Wind Power Line Wins Praise, and Backing." New York Times. October 12, 2010. Accessed from: *http://www.nytimes.com/2010/10/12/science/earth/12wind.html?_r=1&hp=&pagewanted=all*.
[13]U.S. Department of Interior. "Salazar Signs First U.S. Offshore Commercial Wind Energy Lease with Cape Wind Associates, LLC." October 6, 2010. Accessed from: *http://www.doi.gov/news/pressreleases/Salazar-Signs-First-US-Offshore-Commercial-Wind-Energy-Lease-with-Cape-Wind-Associates-LLC.cfm*.

Percent of State Electric Generation Potentially Supplied by Offshore Wind



Rank by Percent of Electricity Wind Can Provide	State	Percent of State Electric Generation Potentially Supplied by Offshore Wind	Economically Recoverable Offshore Wind Resource (MW)	Percent of State Electricity Supplied by Fossil Fuel (2008)	Primary Source of Electric Energy (2008)
1	Delaware	137%	2,850	91.3%	Coal (70%)
2	Massachusetts	130%	13,800	80.6%	Natural Gas (50.6%)
3	North Carolina	112%	37,900	64.1%	Coal (60.5%)
4	New Jersey	92%	16,000	47.3%	Nuclear (50.6%)
5	Virginia	83%	16,000	58.1%	Coal (43.7%)
6	South Carolina	64%	19,200	47.0%	Nuclear (51.3%)
7	Rhode Island	38%	739	97.8%	Natural Gas (97.4%)
8	Maryland	36%	4,680	62.3%	Coal (57.5%)
9	Flordia	16%	10,3000	82.1%	Natural Gas (47.1%)
10	New York	12%	4,730	47.7%	Natural Gas (31.3%)
11	Georgia	3%	1,190	73.2%	Coal (62.8%)
	Total	48%	127,389	64.9%	Coal (39%)
	Maine	913%	38,900	48.4%	Natural Gas (43.2%)
	New Hampshire	21%	1,230	46.6%	Natural Gas (30.9%)

Oceana. "Offshore Wind Report: State by State Analysis." Accessed from: http://na.oceana.org/en/our-work/climate-energy/clean-energy/offshore-wind-report/state-by-state-analysis.

* Maine and New Hampshire are not ranked because they have additional barriers to overcome, namely the technically difficult depth at which turbines would have to be placed.