



A Federal Renewable Electricity Standard: Good for Virginia

Virginia can meet a Federal renewable electricity standard of 25% by 2025. The Virginia Coastal Energy Research Consortium (VCERC) has estimated that power from offshore wind turbines could meet at least 20% of the state's electricity needs in the near term.ⁱ When added to the current state voluntary renewable goal of 15% by 2025, which utilities plan to meet largely by adding land-based wind power, Virginia can more than meet a 25% standard.

A Federal renewable electricity standard will help Virginia take advantage of its offshore wind resources. Virginia is blessed with an abundance of wind resources off its coast, much of it blowing at Class 5 and 6, compared to Class 3 and 4 winds typical of wind farms on land.ⁱⁱ Moreover, the outer continental shelf is shallow off Virginia, allowing turbines to be sited twelve miles or more offshore while still in less than 30 meters of water. This allows use of the most economical construction methods, already in use in Europe, even while putting the wind farms out of sight of beachgoers.ⁱⁱⁱ

A Federal renewable electricity standard would not impose burdensome costs on Virginia. The Virginia Coastal Energy Research Consortium (VCERC) estimates that the cost of electricity generated from an offshore wind farm would be less than the cost of electricity from a new coal plant of similar capacity.^{iv}

A Federal renewable electricity standard, leading to the development of wind energy off the Atlantic coast, will relieve pressure on the grid and prevent the need for new transmission lines. Generating electricity near the coast, where much of the population lives, makes transmission easier, more efficient and cheaper. Developing offshore wind resources in Virginia and elsewhere on the East Coast means we would not need expensive and controversial new transmission lines to bring wind energy from the Great Plains and Midwest.

A Federal renewable electricity standard would create jobs in Virginia. A wind farm off the Virginia coast would create thousands of new jobs for the state.^v Already one turbine component manufacturer has moved its base to Virginia Beach.^{vi} Moreover, Virginia's deepwater port facilities in Hampton Roads and its maritime and shipbuilding industry positions the state to build the foundations and towers for offshore wind turbines, as well as provide transport, installation and maintenance services for offshore wind projects all along the East Coast, as other states develop their wind resources.^{vii}

A Federal renewable electricity standard would be good for Virginia's environment. Currently, several areas of the state are out of compliance with the Federal Clean Air Act, including a large portion of Northern Virginia, the Richmond area, and the Hampton Roads area. The Environmental Protection Agency has ruled that cities may purchase large blocks of wind-generated electricity as an acceptable measure to reduce ground-level ozone pollution and come into compliance, and offshore wind projects would provide large, new opportunities for such purposes.

A Federal renewable electricity standard would help Virginia develop other renewable resources. While offshore wind offers the largest renewable resource in Virginia, other technologies are under intensive development. Promising new technologies that would advance with the help of a Federal mandate include wave energy, biogas from seaweeds, and second-generation liquid biofuels from non-food crops. Together with solar energy, which is almost a perfect seasonal complement to wind energy, these technologies will even out the variability of wind and make our energy grid stronger, even as renewables grow to well beyond 25% of our power supply.

A Federal renewable electricity standard would help Virginia's economy grow. Renewable energy technologies will drive new economic growth across the commonwealth. Together with cost-saving energy efficiency programs, renewable energy will ensure the state can meet the needs of a growing population and a growing demand for energy from business, while ensuring stable energy prices and providing the clean environment that makes Virginia a desirable place to live and do business, now and for our future.

A Federal renewable electricity standard will be good for Virginia's coal industry. Due to its high metallurgical quality, almost half of the coal produced in Virginia goes to making steel—the major component of wind turbines.

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¹ Hagerman, George, 17 September 2008. PowerPoint presentation to COVES conference: "Virginia's Coastal and Ocean Energy Resources," slides 27-28. VCERC was created by the Virginia legislature in 2007; its 15-member board comprises representatives from universities, state agencies and industry.

² National Renewable Energy Laboratory, 50-Meter Wind Resource Map.
http://www.windpoweringamerica.gov/wind_maps.asp.

³ Hagerman, George, 4 February 2009. PowerPoint presentation to the Virginia General Assembly: "Offshore Wind: Potential Energy and Economic Benefits to Virginia," slides 14 and 26.

^{iv} Ibid., slide 31.

⁵ NREL estimates job creation for offshore wind farms at 39,000 job-years per gigawatt of capacity. Musial, W., 2007. Offshore wind electricity: a viable energy option for the coastal United States. *Marine Technology Society Journal*, Vol. 41, No. 3, pp. 32-43.

⁶ <http://hamptonroads.com/2009/03/three-companies-inject-jobs-money-beach-economy>

⁷ Four states are already proceeding with the development of offshore wind farms: Delaware, Massachusetts, Rhode Island and New Jersey.

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