The rising cost of energy, uncertainty of supply and concern for the environment are motivating the United States to reconsider its energy mix and increase the portion generated by renewable energy sources. In July 2008, the U.S. Department of Energy (DOE) issued the report “20% Wind Energy by 2030: Increasing Wind Energy’s Contribution to U.S. Electricity Supply.” This report addressed the challenges that must be overcome in order to achieve the ambitious 20% threshold. The U.S. Energy Information Administration estimated that U.S. electricity demand will increase by 39% from 2005 to 2030, reaching 5.8 billion MW by 2030. Translating these numbers to the wind contribution, 20% by 2030 would mean that U.S. wind power capacity would have to grow 290 GW from 2007 to 2030 – reaching more than 300 GW.

One aspect of addressing this ambitious challenge is helping to assure the nation has sufficient wind power generation resources to fulfill this goal. In order to address this, the DOE issued a February 2011 report titled “A National Offshore Wind Strategy: Creating an Offshore Wind Energy Industry in the United States,” which introduces the Offshore Wind Innovation and Demonstration (OSWInD) initiative which has been designed to “promote and accelerate responsible commercial offshore wind development in the U.S. in both federal and state waters” (DOE, 2011, p. iii). The OSWInD initiative includes two objectives: reduce the timeline for deployment of offshore wind energy; and reduce the cost of offshore wind energy. In order to reduce the deployment timeline, the DOE and the Department of the Interior have committed to work together to provide infrastructure support, to engage in siting and permitting, and to provide collaborative resource planning. Similar collaborative efforts are planned between the DOE and federal and state agencies responsible for state waters, including the Great Lakes. In the vein of cost reduction, the OSWInD initiative will facilitate code and standards development which will reduce technical risks and financing costs; use applied research to decrease installation, operation and maintenance costs; and assist technology development to reduce capital costs.

Siemens PTI expertise can contribute to the industry’s effort to achieve “a scenario of 54 GW of deployed offshore wind generating capacity by 2030” (DOE, 2011, p. iii). Siemens PTI is able to perform comprehensive renewable offshore wind power integration studies to investigate and address a range of significant technical issues that may hamper the growth of offshore wind development, and can provide solutions. Siemens PTI works with offshore wind developers and utilities to identify the most impactful methods of harnessing the power of offshore wind. Our Siemens PTI team provides our customers with a wealth of experience in system operation, generation planning, wind turbine model development, congestion analysis, nodal pricing and production cost analysis. Over the years, Siemens PTI has played an integral role in identifying opportunities for wind power application in the electric market and defining the specifications that wind power generation must meet in order for wind power to be a viable generating option. Siemens PTI provides proven expertise and guidance to the industry for wind integration scenarios and can help identify the lowest cost alternatives that meet performance criteria.

Regardless of the equipment vendor, Siemens PTI can help! Contact us today to discuss offshore wind integration.