

**STUDY TITLE:** Atlantic Region Wind Energy Development: Recreation and Tourism Economic Baseline Development

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**BACKGROUND:** In coastal areas of the United States, recreation and tourism account for large portions of the local economy: for many coastal areas, they are the base on which the economy rests. The possible impacts of OCS wind development on recreation and tourism, from such impacting factors as space-use conflicts and alteration of viewscapes, as well as potential new sources of tourism and recreation are key issues for stakeholders.

**OBJECTIVES:** (1) Conduct and synthesize literature of international and national studies on the impacts associated with offshore wind development on tourism and recreation economies; (2) Create scorecard metric of relevant criteria to assess a community's sensitivity to offshore wind development; (3) Use scorecard to select 70 geographies along the Atlantic Coast for further analysis; (4) Profile the physical, demographic, socioeconomic, and tourism industry aspects of the 70 selected geographies; (5) Create a geodatabase of the data collected.

**DESCRIPTION:** Quantitative and qualitative baseline information on the recreation and tourism economies was collected for 113 counties along the Atlantic Coast. A scorecard was created to rank the counties to selected 70 that were likely to be most sensitive to offshore wind development. Physical, demographic, socioeconomic, and tourism industry data were collected for the 70 highest ranking coastal counties and smaller "hotspot" geographies and compiled into

community profiles. The profiles provide information that may be used to identify potential sensitivities in the tourism and recreation sectors to impacts from offshore wind development.

**SIGNIFICANT CONCLUSIONS:** Socioeconomic impacts from offshore wind development can result from changes to the natural resources (e.g., altered fishing or surfing conditions) or from the public perception of offshore wind facilities (e.g., interest in facility tours, preference for undeveloped landscapes); they can be positive or negative. The literature also suggests that certain factors, such as age, income, and types of coastal recreation can influence the magnitude of these impacts. Studies about the potential and existing offshore wind projects were reviewed and it should be noted that anticipated impacts do not necessarily correspond with actual impacts. This may result from a lack of experience with offshore wind. In fact, information about socioeconomic impacts of offshore wind is limited, in part because the offshore wind energy projects in the U.S. are still in the development phase. Further research is necessary to better understand whether anticipated impacts do in fact become actual impacts. However, as wind energy projects become more common, it is likely that understanding of the beneficial and detrimental impacts of offshore wind will improve.

**STUDY RESULTS:** The results of the study—the literature review, scorecard rankings, profiles, and data maps—provide information on the physical and socioeconomic conditions in 70 geographies along the eastern U.S. seaboard, with an emphasis on conditions related to coastal tourism and recreation.

Geography: The profiles indicate that the 70 analyzed counties vary in terms of shore length. Of the counties for which data were available, about half have shorelines of less than 45 miles. Approximately one-fifth have shorelines that are longer than 500 miles. Another coastal attribute included in the profile is shore accessibility. Some coastlines are easily accessible, while others are relatively inaccessible (e.g., the terrain is marshy or steep, transportation infrastructure is limited). Coastal attributes could affect the likelihood that a geography would be impacted by offshore wind development. For example, a longer and more accessible shoreline could increase a county's sensitivity to visual impacts from an offshore wind facility.

In addition to coastal attributes, the profiles contain qualitative information about land use in each of the analyzed geographies. They describe the urban, rural, residential, or commercial character of the geographies and highlight major land-consuming industries (e.g., agriculture, military installations, manufacturing). Current types of land use could influence perceptions of offshore wind development. For example, a geography with predominantly commercial land may be less sensitive to impacts than a geography that is predominately national park land.

Stakeholders: There are two main categories of “stakeholders” that could influence a county's sensitivity to impacts from offshore wind development: local population and key employers. Research indicates that demographic factors affect attitudes towards wind facilities (Ladenburg and Dubgaard, 2009). For example, the perception of offshore wind development correlates with age (Ladenburg and Dubgaard, 2009; Lilley et al., 2010). A 2010 study indicated that younger respondents (under 30) in Delaware are about nine times more likely to visit a beach with an offshore wind facility than older respondents (Lilley et al., 2010). On average, the median age across all evaluated geographies is 41 years. Median age ranges from a low of 25.7 years (Onslow County, North Carolina) to a high of 59.1 years (Rehoboth Beach, Delaware). The three

geographies with the highest median ages are all hotspots locations: Rehoboth Beach, Delaware; Ocean City, Maryland; and Block Island, Rhode Island.

The socioeconomic conditions of a population could influence its perception of offshore wind development. For example, the population in an area with high median house values could be more concerned about potential impacts on property values, while areas with high unemployment rates could be more concerned with potential job creation impacts. Where information is available, the profiles also provide information on current and past tribal communities in the area. In some of the coastal counties analyzed, there are no federally-recognized tribes.

In addition to year-round residents, the local population includes seasonal populations. The profiles present information related to seasonal population change, including seasonal changes in tourism-related employment and the percentage of houses reported “for seasonal, recreational, or occasional use.” High values for these metrics would suggest that a county experiences seasonal influxes of tourists. Information about seasonal population change is important because tourists influence the character of a community and could affect its potential sensitivity to impacts of offshore wind development. For example, a large tourist base could increase a county’s sensitivity to impacts from offshore wind if tourists alter their travel patterns based on offshore wind facility locations. Seasonal (i.e., winter and summer) change in employment in leisure and hospitality industries can serve as a proxy for seasonal population change. In general, employment in leisure and hospitality industries increases from winter to summer, although the rate of change varies among geographies. However, about one-fifth of geographies see an increase of more than 100 percent. On average, employment in leisure and hospitality industries increases by 68 percent from winter to summer.

Another indicator of seasonal population change is the percentage of housing units that are described as “for seasonal, recreational, or occasional use” by the U.S. Census Bureau. On average, about 16 percent of the housing units in each county are described this way. In only five of the analyzed geographies are 50 percent or more of the housing units used seasonally or recreationally.

In addition to the local population, key employers are major stakeholders that could be affected by offshore wind development, particularly those in the tourism industry. For most of the geographies, tourism-related companies do not appear in the list of principal employers. However, tourism as an industry is reported as an important economic driver in many of the profiles.

Unique County Attractions: In the context of this analysis, “unique county attractions” include parks, historical sites, and tourism-related physical infrastructure (e.g., water parks, boardwalks). Approximately two-thirds of the geographies have one or more national parks or wildlife refuges. The average is one national park or wildlife refuge per county. Many of the coastal wildlife refuges serve as important natural tourist attractions, where visitors can observe wildlife and engage in outdoor sports.

For many coastal communities, the regional history provides a foundation for community lifestyle, traditions, and events, which attract both residents and tourists to the area. Historical landmarks also draw people to the area. Many of the profiles contain information on sites listed on the National Register of Historic Places, as well as historical sites preserved as national parks or monuments. Sites are located inland (e.g., historic architecture), on the coast (e.g., lighthouses), and offshore (e.g., shipwrecks). Research suggests that communities with historical areas could be more sensitive to impacts of offshore wind development. This could be especially true when historical sites are located within the viewshed or the areas of manufacturing and operations of offshore wind facilities. With respect to tourism, a county that preserves its historical sites and attracts tourists interested in “reliving” the region’s past could experience a change in tourism activity with the development of offshore wind facilities. The literature review indicates that some tourists would be attracted by opportunities to view or tour offshore wind facilities (Kuehn, 2005; Mackinson et al., 2006; MORI Scotland, 2002; NIT, 2000; Westerberg et al., 2010), while other tourists might be deterred by alterations in the natural landscape and might choose a different destination to avoid the offshore wind facility and associated onshore operations (Landry et al., 2010; Lilley et al., 2010).

According to the profiles, geographies vary in terms of their tourism-related physical infrastructure. Some geographies offer minimal infrastructure. In these cases, any tourism to the area might be focused on nature-based activities or community immersion. Other geographies are highly developed with tourism infrastructure and amenities (e.g., transportation networks, hotels, water parks, boardwalks, stadiums, marinas, yacht clubs, shopping and dining venues). The extent and the nature of infrastructure development could be an indicator of a county’s sensitivity to impacts from further development. For example, a highly developed coastline might be less affected by offshore wind development than an undeveloped area.

**Recreation and Tourism Economy:** Finally, the profiles report several metrics for the size and significance of the tourism economy, including the amount of direct spending by tourists and the portion of ocean jobs that are related to tourism. The share of ocean jobs related to tourism ranges from a low of 39.8 percent (Suffolk County, Massachusetts) to a high of 99.6 percent (Horry County, South Carolina). However, for three-quarters of the analyzed geographies, tourism-related jobs represent a significant portion of the jobs in the ocean economy (75 percent or more). On average, 84 percent of ocean jobs are connected to tourism. Although the ocean economy represents only a piece of the overall economy, this indicator is a useful measure of the county’s sensitivity to offshore wind development because, by defining the significance of the tourism industry as it relates to the ocean economy only, it isolates the industries that would have the greatest exposure to offshore wind.

**STUDY PRODUCT(S):** Report, literature syntheses, scorecard, county profiles, geodatabase

Map showing area of study

