

Commentary: No measurable influence on climate change

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Officially, offshore wind developers anticipate their projects will “have [no measurable influence](#) on climate change.” Knowing this, they offer a different rationale. In the “purpose and need” section of the draft environmental impact statement for Revolution Wind, Ørsted justifies the offshore wind project based on its ability to fulfill Rhode Island’s mandate for “renewable” energy. Meeting a political mandate differs rather significantly from combating climate change. Ørsted seems to understand this difference, but the public may not.

First, although offshore projects will produce electricity for 20-25 years, this renewable energy will replace only a small fraction of the fossil-fuel-generated electricity on the grid. As Richard York, an environmental studies professor at the University of Oregon, reports in the journal [Nature Climate Change](#), real-world data indicate that alternative energy replaces only one-tenth the amount of fossil-fuel-based energy. For each 10 kWh produced by renewable sources, just 1 kWh of fossil-fuel-generated power will disappear. The German experience underscores the shortcoming of assuming otherwise. Despite spending \$222 billion to install renewable capacity that exceeds twice their consumption rate, they have replaced only 8% of their carbon-based fuel generation. [Germany remains Europe's highest carbon dioxide emitter, and consumers pay double the amount for electricity as their neighbors in France.](#)

Considering the dismal 8-10% fossil-fuel replacement value of these projects, their carbon footprints eclipse any advantages. The diesel-powered ships used for construction alone will likely emit more carbon dioxide than the projects will replace within their lifetimes. Furthermore, carbon emissions from maintenance and repair, decommissioning, steel and concrete production, and mining copper and rare-earth metals all contribute to this footprint. The estimated [18 million gallons of oils](#), lubricants, and coolants stored within the turbines and offshore substations along the Atlantic Coast will add even more. The destruction of plankton, the trees of the ocean, will also worsen the [carbon dioxide](#) cost. Ørsted is correct—the totality of these hidden carbon emissions outweighs any possible benefit to climate change.

No environmentally conscious individual wants to hear such depressing facts, including us. Despite numerous articles from pro-wind enthusiasts touting the promise of offshore wind, the carbon savings of these projects fail to justify their construction. On its website, Ørsted announces that offshore wind will “help the U.S. meet its growing energy demands.” They make no claims to help climate change or to reduce our dependence on fossil fuels. They make no claims because they cannot back up such assertions with facts.

Other aspects undermine the “greenness” of offshore wind projects as well. The substations and turbines will house over 40,000 lbs of sulfur hexafluoride, a [greenhouse gas 23,500](#) times more potent than carbon dioxide. The football field-length blades that require replacement during the lifetime of the turbine cannot be recycled. Leading edge erosion of the blades results in a substantial [release of fiberglass and epoxy particles](#) that will contaminate the marine food web. These microplastics contain the harmful bisphenol A (BPA) and the “forever” [PFAS](#) chemicals. The marine food web accumulates and magnifies these toxic substances. Moreover, [heavy metals](#) from the corrosion protection on the turbines will leach into the water, further compromising the health of marine life.

Although offshore wind developments will have *no measurable* positive effect on climate change, they *will* have a *measurable* and potentially tragic impact on the number of whales, [dolphins](#), [birds](#), [bats](#), and [fish](#). They will also have a *quantifiable* effect on [wave height and current strength](#), [biodiversity](#), the [ecology of the marine environment](#), and the [financial cost to taxpayers](#). Absent climate change mitigation, corporate profits and political expediency appear to be providing the impetus for offshore wind development.

Written on behalf of Green Oceans (info@green-oceans.org) by Quattrocki Knight of Little Compton and Thompson of Tiverton.

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