

FISHERMEN'S NEWS

The Advocate for the Commercial Fisherman



Pacific Coast Federation of Fishermen's Associations

The following article is the opinion of the writers and does not reflect the opinions of Fishermen's News or Philips Publishing Group.

Floating Offshore Wind Power is Coming ... Are You Ready?

By Noah Oppenheim

If energy developers, the States, and the Federal Government have it their way, vast swaths of the Pacific Ocean including hundreds of square miles of productive fishing grounds may soon become home to a new resident: floating offshore wind farms.

Floating offshore wind technology, currently in its nascent stages of development, promises to provide renewable energy sourced from areas with some of the highest resource potential in the country – right to the west coast energy market, which simply can't get enough clean energy these days.

On a particularly sunny day this past month, for instance, California's total power generation exceeded 80 percent renewable sources for the first time (including less-than-renewable hydropower). California's renewable portfolio standard currently calls for 50 percent annual renewable generation capacity by 2030. A new bill introduced this year would up the ante, prescribing 100 percent renewables by 2045. According to current trends in the renewables mix, and the rate at which renewable generation costs are plummeting, the smart money is on the state meeting these goals with ease.

These objectives are admirable, and the rate at which California is racing toward them is impressive. We know full well the impacts carbon emissions have on the global climate, human health, and the productivity of our oceans. Ocean acidification, a warped carbon chemistry driven by emissions that dissolves the shells of marine organisms, has already devastated fisheries in the United States. Global oceans have already absorbed more than two thirds of anthropogenic carbon emissions since the industrial revolution. Scientists warn that their ability to function as humanity's carbon sinks may soon be ending, with the inevitable atmospheric effects soon spiraling out of control. The need to end our dependence on fossil fuels couldn't be clearer.

However, not every clean watt we generate is a step in the right direction. As Americans have learned through decades

of trial and error, every brick laid, road paved, and solar panel installed requires space that was once occupied by another creature or, as we fill the landscape, another person and their source of income. The oceans are no exception to this rule.

In fact, potential competition over future ocean uses is already intense, and likely to get worse in the future unless special and thoughtful effort is made today to reduce and, as far as possible, eliminate those looming conflicts.

And in the mad and myopic rush to diversify its renewable energy portfolio and stay ahead of the curve, west coast states may soon allow their newest clean energy developments to trample one of their oldest livelihoods: commercial fishing.

A Metal Forest on the Ocean?

Imagine you've got a reason to be heading out of Morro Bay in Central California. As you round the bar heading out to sea you might see surfers to your left hitting the shore break. You can't miss the 'three fingers' of the decommissioned methane burning Dynegy Power Plant towering stubbornly overhead to your right.

Head west for a few miles and you will be able to make out the soon-to-be-decommissioned Diablo Canyon nuclear power plant peeking out from behind Point Buchon, coolant water sourced from the adjacent ocean rushing torrentially over the spillway. If your binoculars are good enough you can see the step-up transmission substation glinting just up the hill.

Keep steaming, about 30 miles, and you will soon be passing through waters that are slated to become California's first offshore wind energy lease area. In fact, these waters may become the United States' first offshore energy lease dedicated specifically to floating offshore wind power. Instead of cruising by an albacore or black cod boat, your attention is instead fixed on gleaming rows of white towers as tall as the Golden Gate Bridge. Hundreds of feet above the sea, three enormous blades spin on each tower, driven by the steady winds of the Pacific.

As you cruise between two of these sculptural marvels,



the display on your sonar suddenly shows a sharp red slash cutting through the water column dozens of fathoms below, leading from one tower to the next. Each of these steel hulks is connected to its neighbors, an electrified daisy chain of metal lattice delivering power to the cable buried in the ocean floor.

In this vision of the future, the sea off of Morro Bay has been transformed from fishing grounds to a renewable power station, delivering hundreds of megawatts of juice to the hungry California energy market. Has the hungry seafood market taken notice?

Floating Wind Farms from Concept to Lease

Unlike previously deployed wind generation technologies such as pile driven towers physically fixed to the ocean floor, floating offshore wind power plants have never been deployed at full commercial scale in the United States. The Deepwater Wind project near Block Island, Rhode Island, our country's first utility-scale offshore wind energy project, uses pile driven anchors. All currently planned and issued offshore wind leases on the East Coast will use similar approaches to keeping towers from washing onto shore.

However, the floating wind farm designs being proposed in California are based upon proven concepts from inside and outside the wind industry. A scaled-down unit has been floating off the coast of Maine for several years, and full-scale units have been or will soon be deployed in Europe and Asia. Using designs like ballast stabilized spar buoy platforms, tension leg counterweights with multiple moorings, or buoyancy stabilized floating barge-like structures moored with catenary lines, big names in the industry like Statoil and DONG Energy believe they can deploy these units in waters as deep as 6,000 feet. All that would be required is some continental shelf and a place to bring a cable to shore.

According to the industry and to the National Renewable Energy Laboratory, there is more than 100 gigawatts of offshore wind potential in California "if you ignore the deep and sensitive areas." This would be enough to satisfy nearly half of California's projected overall energy demand in 2050, according to some estimates. It would also require 1 million 10-megawatt turbines.

In recognition of this development potential, the State of California and the US Department of the Interior (which, through its twin agencies the Bureau of Ocean Energy Management [BOEM] and the Bureau of Safety and Environmental Enforcement [BSEE, pronounced bessey], manage offshore energy development of all types in the U.S. Exclusive Economic Zone) signed a Memorandum of Understanding in December 2016. The MOU stipulates that the BOEM-California Intergovernmental Renewable Energy Task Force, created in May 2016, be charged with "[placing] a high priority, to the extent possible, on processing plans for renewable energy development in areas that have been identified as offshore Wind Energy Areas through the collaborative Task Force planning process, while making best efforts to ensure efficient permitting needed to meet higher renewable energy goals."

Platitudes requiring stakeholder consultation are sprinkled throughout the document. Notably absent, however, are words like fish, fishing, and fishermen.

Last year a small energy developer called Trident Winds submitted an unsolicited lease bid for a section of ocean hugging the western corner of the south end of the Monterey Bay Marine Sanctuary. According to requirements under the Energy Policy Act of 2005, BOEM published notice of the bid in the Federal Register. Statoil, the Norwegian state-owned energy conglomerate, submitted another bid for the proposed lease, transforming the process into a competitive bidding scenario.

Unlike its proposed floating turbines, Trident's plan seems to rest on solid foundations: its daisy-chained array of generators would connect to shore via a single buried cable leading straight to the Diablo Canyon nuclear plant, which will be conveniently decommissioned right around when Trident plans to put metal in the water. The cable will run through the plant's cooling water outflow pipes and onto shore. Using the existing transmission infrastructure, the plan will save PG & E (the company owning the Diablo Canyon plant) millions in decommissioning costs and new hardware. Who on the Energy Commission could say no to that?

The initiation of this competitive process forced BOEM to begin a six-month call area scoping process during which the agency will assimilate as much information as it can and then publish one or more proposed lease areas for public comment sometime this summer or fall of 2017. There will be a comment period, potential revisions, and then the bidding for de facto ownership of hundreds of square miles of the Pacific Ocean will begin.

So, What Could Go Wrong?

The National Renewable Energy Laboratory has identified six distinct areas where California's wind energy resource has the greatest development potential. Not surprisingly, these areas overlap with strong winds. But it doesn't take a marine biology degree nor too many years out on the water to know that the areas where winds are strongest along the shelf break are the areas where upwelling drives productive marine food webs like no other. Upwelling drives primary productivity, which attracts small pelagic fish and, in turn, birds, whales, large fish – and fishermen. Wind developers may not know it, but they have their sights set on the marine life hot spots of the Eastern Pacific Rim.

If BOEM and the State of California fail to take into account and protect the extent of commercial fishing activity along the West Coast, floating offshore wind development could eliminate fishermen's access to vast areas of productive fishing grounds for decades. There are perfectly good reasons why this is a distinct possibility.

BOEM and California are facing a data problem: they don't know where California fishermen fish, and they don't know how much their effort is worth in different areas of the ocean. Case in point is BOEM's recently published report entitled Socio-Economic Impact of Outer Continental Shelf



Wind Energy Development on Fisheries in the US Atlantic. The report, while polished and elegant, completely omits commercial landings data reported at the state level, worth more than \$1 billion annually. This lack will surely bias future decision-making against protecting fisheries unless this hidden bias is effectively debunked and rebutted.

If BOEM similarly fails to consider state landings data in California, they may omit and ignore some or nearly all of commercial fishing effort occurring on or near their proposed lease areas in other states as well. State and federal agencies are looking for data from observers, AIS, VMS, logbooks, and fish tickets. But for a majority of the west coast's current and historical fishing effort, they will come up short because the data simply don't exist.

Notwithstanding the inherent philosophical objections of letting one industry lease areas of the ocean at the expense of another industry that has no such leasing rights, without equitable solutions in mind from the outset, the BOEM-State offshore wind energy development process could spell disaster for commercial fishermen.

But how do we defend against these impacts? The first step is to monitor and participate in the early stages of the process. Fishermen will only be heard if they show up to meetings, respond to requests for public comment, and engage with the

system to inform agencies where they fish, have fished, and will be fishing as conditions change. BOEM's website is: www.boem.gov.

The second step is to remind agencies and the public why commercial fishing is just as important as the next new renewable energy technology. Documenting our landings and the jobs they provide to the American economy and public is a must.

Remember – the world is run by those who care enough to show up! This problem – and the bigger issue of increasing conflicts over the proposed future uses of nearshore continental shelf waters generally – will not go away and cannot safely be ignored. Without your engagement and advocacy now, in a few years your favorite fishing grounds in federal waters might be just a gleaming metal forest. **FN**

Noah Oppenheim is the Executive Director of the Pacific Coast Federation of Fishermen's Associations (PCFFA), which represents many west coast commercial fishing operations. Noah can be reached at PCFFA's Southwest Regional Office at: PO Box 29370, San Francisco, CA 94129-0370, (415) 561-5080, or by email to: noah@ifrfish.org. PCFFA's Home Page is: www.pcffa.org.

