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Pivot Potential: A Deep Dive into Offshore Wind in the Gulf of Mexico

By Daniel Hagan, R.J. Colwell and Aaron Bryant*

In this article, the authors delve into a potential new setting for offshore wind development: the Gulf of Mexico, a body of water dotted with oil rigs and conventional energy infrastructure.

After years of blunted growth and false starts, the United States is finally scaling up offshore wind. While most progress has been spurred by state policies incenting projects in the Atlantic Ocean off the East Coast, this article delves into a potential new setting: the Gulf of Mexico, a body of water dotted with oil rigs and conventional energy infrastructure. By capitalizing on underutilized labor, regional supply chains, and robust technical expertise in the domestic oil and gas industry, there may be significant returns in leveraging this knowledge base to build out this emerging energy resource or to retrofit offshore platforms to accommodate wind turbines.

GROWTH ENVIRONMENT

Sector Metrics and Financial Outlook

For most of the millennium, Europe has outpaced the United States in constructing and installing offshore wind projects. However, due to numerous commitments and programs launched by East Coast state governments, the United States is on the upswing. By the year 2040, states have pledged to procure a collective 40 gigawatts ("GW") of offshore wind capacity in the Atlantic Ocean. Developers have become adept at navigating through the proposal and bidding processes in these states, and, in turn, new states are emulating prior examples in launching their own requests for proposals ("RFPs") for offshore wind.

On a shorter timescale, the Biden administration announced a 30 GW offshore wind target by 2030, the first such federal goal for this technology. According to the White House, if the industry reaches the 30 GW target, offshore wind projects could generate upwards of $12 billion in capital

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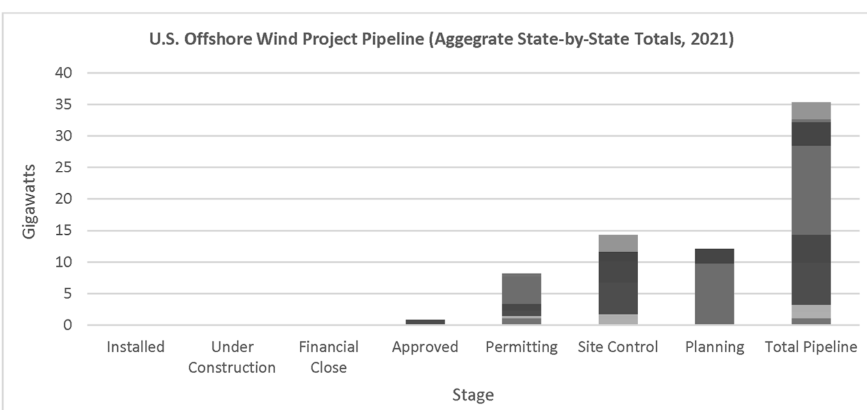
investments annually over the next decade.[1] In the Inflation Reduction Act of 2022, Congress appropriated $100 million in funds through fiscal year 2031 to the Department of Energy ("DOE") for interregional and offshore wind transmission planning, modeling, and analysis.[2]

In 2020, the overall U.S. offshore wind pipeline of projects—either proposed or in development—grew by 24 percent year-over-year (from 28.5 GW in 2020 to 35.3 GW in 2021). Currently, there are only two operational utility-scale projects, which together comprise 42 megawatts ("MW") (Block Island Wind Farm and Coastal Virginia Offshore Wind), with another 800 MW project (Vineyard Wind I) commencing construction in the near future. The recent approval process of the larger project, Vineyard Wind I, should beget insight to both regulators and developers alike, as ensuing proposals will likely hew closer to the 800 MW size of that project rather than the smaller 42 MW size of Block Island and Coastal Virginia.

Nearly 10 GW of other projects are in phases approaching installation and commercial operation in the near- to medium-term—the "permitting" and "approved" designations, per the data depicted in the following chart. Due to the success of the initial wave of projects, states have mapped out future solicitations for offshore wind projects. These solicitations are critical to providing long-term certainty to developers and investors alike, and will continue to drive the development of U.S. offshore wind projects.



[1] Offshore Wind Market Report: 2021 Edition, U.S. DEPARTMENT OF ENERGY, OFFICE OF ENERGY EFFICIENCY & RENEWABLE ENERGY (2021).

[2] INFLATION REDUCTION ACT OF 2022, H.R. 5376 IN THE 117TH SESSION OF THE U.S. CONGRESS. Sec. 50153 at PP 615–616, available at https://www.democrats.senate.gov/imo/media/doc/inflation_reduction_act_of_2022.pdf.

Technological advancements in platform and turbine engineering should also generate additional revenue-additive opportunities. For instance, fixed-bottom substructures can now be sited in deeper ocean waters which may lead to more locational feasibility for new projects. The global mean depth of installed fixed-bottom substructures was 31 meters in 2019, and the trend is expected to sustain momentum to 43 meters by 2025.[3] Deeper foundations can yield more favorable outcomes for projects broadly, as the installation could be placed further out from land—thereby alleviating possible concerns about competition with other ocean industrial activities and reducing visibility from shore for aesthetic reasons. Capacity factors of wind facilities have also increased steadily due to larger blade sizes, taller towers, and more optimal placement relative to resource availability.

On a cost basis, offshore wind is competing adeptly with other energy resources. Since 2012, the levelized cost of energy ("LCOE") for offshore wind has plummeted by 67 percent.[4] Financial instruments deployed in offshore wind investments across the world have evolved in concert with technology, including competition in international markets and reduced lending rates for project development. In the first half of 2020 alone, firms invested $35 billion in offshore wind,[5] eclipsing the entire total for 2019 and setting a torrid pace for the industry.

Resource Quantity and Quality

While the United States has rapidly accelerated its pace in adopting offshore wind, primarily in the Atlantic Ocean, no projects have yet been proposed or constructed in the Gulf of Mexico ("GoM"). However, the technical resource potential in the GoM is estimated at 508 GW.[6] The Bureau of Ocean Energy Management ("BOEM"), the U.S. agency tasked with oversight of the offshore wind sector, modeled this substantial number by accounting for feasible locations up to 200 nautical miles from shore, capturing at or above wind speeds of 15.7 miles per hour, and at a maximum floor depth of 1,000 meters.

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[3] Offshore Wind Technology Data Update, U.S. Department of Energy, National Renewable Energy Laboratory (October 2020).

[4] U.S. offshore wind market could see rapid growth, Offshore Magazine & Deloitte (February 2021), available at https://www.offshore-mag.com/renewable-energy/article/14190124/deloitte-us-offshore-wind-market-could-see-rapid-growth.

[5] Colossal Six Months for Offshore Wind Support Renewable Energy Investment in First Half of 2020, BloombergNEF (July 2020), available at https://about.bnef.com/blog/colossal-six-months-for-offshore-wind-support-renewable-energy-investment-in-first-half-of-2020/.

[6] Survey and Assessment of the Ocean Renewable Energy Resources in the U.S. Gulf of Mexico, U.S. Department of the Interior, Bureau of Ocean Energy Management (February 2020).

In their analysis, BOEM accounted for typical exogenous factors that may ultimately affect the feasibility of project development: the technical resource availability attempts to incorporate commercial viability, including technical limitations, and not merely a sweeping estimate of the entire GoM.

However, most feasible areas of development in the GoM would yield relatively low wind speeds. If projects used current turbine designs and technology, sites with low wind speeds of seven to eight meters per second may only yield a net capacity factor of 30 to 40 percent. Developers can circumvent this natural limitation by increasing the size of rotors, as that practice has been proven viable for onshore wind facilities.

Offshore wind is the most competitive new energy resource available in the GoM, according to a BOEM assessment. Each resource was scored from a range of 1 to 5 based on three separate criteria:

Technology Type	**Resource Adequacy**	**Technology Readiness**	**Cost Competitive-ness**	**Total Score**
Offshore Wind	5	4	4	13
Offshore Solar	3	3	3	9
Tidal	2	3	3	8
Thermal Conversion	3	2	2	7
Wave	1	2	2	5
Current	1	2	2	5

Current projections ascribe highest resource potential to the coastal waters of Texas and Louisiana, respectively. Newer studies with increased precision may yield additional opportunities for nearby GoM states such as Alabama, Florida, and Mississippi. In any case, offshore wind projects could spur significant economic activity for the region. Further, states could emulate the approach in the Northeast and Mid-Atlantic regions in setting robust targets for offshore wind while gleaning lessons from nearby proposal processes and competitive bid solicitations. For example, BOEM modeled an illustrative 600 MW offshore wind project in the Gulf of Mexico to assess potential economic outcomes:[7]

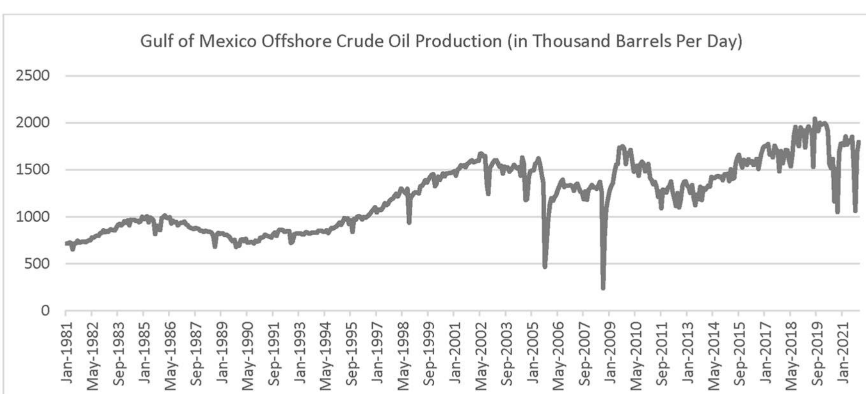
[7] Offshore Wind in the U.S. Gulf of Mexico: Regional Economic Modeling and Site-Specific Analyses, U.S. DEPARTMENT OF THE INTERIOR, BUREAU OF OCEAN ENERGY MANAGEMENT (February 2020).

	Construction Phase (Initial)	Operational Phase (Annually)
Job Creation	4,470	150
Economic Activity	$445 million GDP	$14 million GDP

Of the $445 million figure for construction, BOEM estimated that $178 million (40 percent) would be directed toward project development and on-site labor, $153 million (34 percent) toward turbine, sub-substructure and supply chain, and the remaining $114 million (26 percent) toward induced impacts such as associated local economic activity and support. Offshore wind development could generate positive, long-term returns for an array of participants and bolster grid reliability in the states bordering the GoM.

Existing Energy Infrastructure in the GoM

In the United States, oil and gas from the GoM comprises approximately 97 percent of total offshore production; of total U.S. production, offshore crude oil from the GoM accounts for 15 percent and natural gas accounts for five percent, respectively.[8] Complex infrastructure supporting the offshore oil and gas industry in the region exists both onshore and offshore, ranging from ports to rigs. Deepwater wells in the GoM—drilled at a depth of 1,000 feet or more below the surface—represent a larger share of production proportionally in the last decade due to technological advancements.



However, in January 2022, a federal judge revoked the most recent round of oil and gas GoM lease auctions conducted by the Biden administration. According to the decision rendered at the U.S. District Court for the District of Columbia, the leases contravened federal law by failing to sufficiently

[8] Gulf of Mexico Fact Sheet, U.S. Energy Information Administration (February 2022), available at https://www.eia.gov/special/gulf_of_mexico/.

account for climate change impacts. The decision dovetails with a top priority for the Biden administration and, in reality, comported with the Biden administration's initial action to cancel the underlying leasing auctions earlier in the term. In the summer of 2021, a judge in Louisiana reversed that action, effectively compelling the Biden administration to conduct the leasing auctions after all.

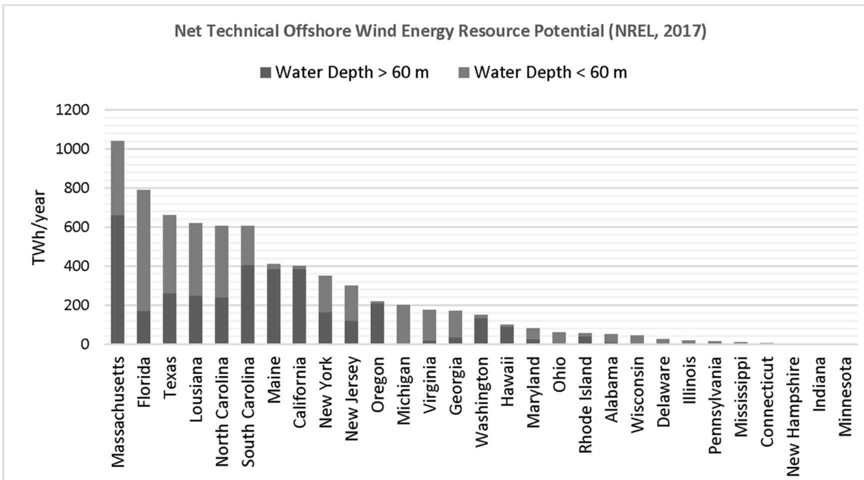
Now, the BOEM under the Biden administration will be able to devise a new methodology to evaluate climate change impacts rather than follow the analysis stemming from the Trump administration, which relaxed many criteria and placed less emphasis on projected greenhouse gas emissions. Due to the district court's decision, BOEM may alter many fundamental assumptions in the environmental impact modeling process used in GoM project reviews, which could augur a clearer path for renewable energy resources such as wind and solar, and blunt industry investment in conventional energy resources such as oil and gas.

OVERLAPS AND SYNERGIES

Offshore Platforms

Dating back several years ago, pilot research and development programs in the United States have deployed prototype floating foundations. Traditionally used in the offshore oil and gas industry, floating sub-substructures would enable developers to site wind turbines in deepwater areas while accommodating the unique technical characteristics—namely, the dynamic nature and sheer scale and height of blades, rotors, and turbines, along with the weight distribution needed to stay afloat, particularly when subjected to storms and hostile weather. According to the DOE, a number of states with high potential offshore wind resource are located in water depths below 60 meters, likely necessitating this (or similar) manner of technology.

Among the GoM states, Texas and Louisiana hold less than half of their respective resource potential at such depths, but to a significant enough proportion where developers may eventually leverage this technology. Florida, meanwhile, appears to hold a substantial majority, but it is unclear from the DOE data if the sites are located in the GoM or in the Atlantic Ocean off Florida's eastern coast. Inversely, the shallow waters off the coasts of Texas and Louisiana present several drivers of overall project cost reduction when compared to other offshore projects located in the Atlantic Ocean. These drivers include, for example, comparatively warmer water, lower sea states (i.e., lower wave heights and less frequent swells), and closer proximity to local and regional supply chains, which all collectively improve access to the technical features of an offshore wind generating facility.[9]



[10]

This burgeoning market segment of floating wind technology is also becoming more cost competitive as it evolves: its LCOE[11] has been cut in half since the first pilot projects were initiated in December 2012.[12] Further, floating sub-structures costs are positioned to further decrease as more financing becomes available and demonstration projects proceed, provided the results are positive and economically viable.

Efforts to advance this technology may be a detriment to its progress because of competition among three main designs: spar-buoy, tension-leg, and semi-submersible (the most common thus far).[13] Without researchers being committed to one design, it may take longer to achieve economies of scale and

[9] NREL Offshore Balance-of-System Model: Technical Report, National Renewable Energy Laboratory (January 2017).

[10] 2016 Offshore Wind Energy Resource Assessment for the United States, National Renewable Energy Laboratory (September 2016), available at https://www.nrel.gov/docs/fy16osti/66599.pdf.

[11] U.S. offshore wind market could see rapid growth, Offshore Magazine & Deloitte (February 2021), available at https://www.offshore-mag.com/renewable-energy/article/14190124/deloitte-us-offshore-wind-market-could-see-rapid-growth.

[12] WindFloat Pacific—Offshore Wind Pilot Project, Bureau of Ocean Energy Management (December 2012), available at https://www.boem.gov/renewable-energy/state-activities/windfloat-pacific-offshore-wind-pilot-project.

[13] Floating wind turbines could open up vast ocean tracts for renewable power, The

iterate any technical issues that would lead to installations that are more efficient. If the industry rallies around one design, the future prospects for offshore wind turbines mounted on floating sub-structures could be greatly accelerated and yield investment opportunities in deep waters in the GoM.[14]

Supply Chains

Building on the prior discussion, it is vital to utilize robust supply chains and existing onshore infrastructure to enable rapid and saleable offshore wind growth. For instance, while floating sub-structures are approaching technical feasibility, the installation is not the only—or most simple—component along the value chain. First, the sub-structure must be constructed on land, pulled out to the ocean by vessels, and then tethered to the seabed by massive mooring lines. In order to complete such a labor- and capital-intensive process, developers would need to use existing onshore infrastructure—including space to assemble and build the sub-structures and port access for the vessels that will transport such sub-structures to ocean—so that the eventual offshore deployment of the floating sub-structure is achieved on-budget and on-time.

The GoM further enjoys a unique advantage relative to Northeast and Pacific states: lower labor costs. According to BOEM, labor cost multipliers may be reduced by up to 10 percent in the GoM compared to other regions engaging in active offshore wind development.[15]

In fact, even though the GoM has not yet hosted an offshore wind installation, shipyards and fabricators located in the region have already produced components and foundations destined for offshore wind projects in other regions.[16] Several companies based out of Louisiana, for example, have shifted to the burgeoning offshore wind supply chain on the East Coast, including steel and engineering operations companies. A number of manufacturers, typically serving the offshore oil and gas industry, have built foundations amidst a strategic pivot to be less reliant on the offshore oil and gas sector and to increasingly perform work for the renewable energy sector.

GUARDIAN (August 2021), available at https://www.theguardian.com/environment/2021/aug/29/floating-wind-turbines-ocean-renewable-power.

[14] *See* WindFloat Pacific—Offshore Wind Pilot Project, supra n.12.

[15] Offshore Wind in the U.S. Gulf of Mexico: Regional Economic Modeling and Site-Specific Analyses, U.S. DEPARTMENT OF THE INTERIOR, BUREAU OF OCEAN ENERGY MANAGEMENT (February 2020).

[16] Wind is blowing towards renewable energy in oil-rich Gulf of Mexico, FINANCIAL TIMES (November 2021), available at https://www.ft.com/content/29d3a632-bdb2-43f1-b158-8331c8a16493.

Additionally, the first Jones Act-compliant domestic offshore wind turbine installation vessel is being developed in Brownsville, Texas. The Jones Act prohibits the waterborne transportation of merchandise and passengers between any two points in the United States in any vessel other than a vessel (1) built in the United States, (2) documented under U.S. law with a "coastwise endorsement," and (3) owned by U.S. citizens. The $500 million investment will support approximately 700 jobs during the construction phase and expects to source nearly 14,000 tons of domestic steel to build the ship.

In order to successfully navigate any potential supply bottlenecks or inefficiencies, it will be paramount for the U.S. offshore wind industry to build and launch vessels compliant with the Jones Act so that massive offshore wind components—ranging from the sub-structures to the blades and turbines themselves—can be quickly deployed to the operating site.

CONSTRAINTS AND CONSIDERATIONS

Permitting Pathways

Irrespective of location or body of water, the offshore wind industry in the United States is still in its nascent stages. In no aspect is this more apparent than the lack of regulatory certainty and clarity on timeframes for project approval. BOEM issued the first environmental impact statement ("EIS") for a utility-scale offshore wind project just last year in March 2021, culminating a process that was initiated in December 2017. While it is highly unlikely that subsequent project applications will necessitate such a lengthy environmental review—that first EIS was revised to account for the planned offshore wind buildout along the Eastern seaboard more broadly—BOEM has yet to establish a demonstrable track record in providing a clear roadmap forward for developers and investors. BOEM may elect to proceed in a similar fashion for the first project in each region, which would beget an extended review period for a new GoM offshore wind facility if the agency determines that unique factors need to be integrated into the analysis, rather than carrying forward the "programmatic" environmental framework that will be applied to future East Coast project applications.

For any prospective offshore project (and the associated onshore infrastructure and thoroughfares through ports and other bodies of water), developers must navigate a complex web of federal statues, regulations, and processes carried out by a number of agencies—an illustrative but by no means exhaustive list is detailed below.

Act	Authority	Agency
National Environmental Policy Act ("NEPA")	Environmental impact statements or environmental assessments	Lead agency for project review (BOEM for offshore wind projects)
Outer Continental Shelf Lands Act ("OCSLA")	Marine resource extraction lease issuance and development plans	BOEM
Coastal Zone Management Act ("CZMA")	Consistency reviews	National Oceanic and Atmospheric Administration ("NOAA")
Natural Historic Preservation Act ("NHPA")	Historic resource accounting	Lead agency for project review (BOEM); Department of Interior ("DOI")
Submerged Lands Act ("SLA")	Title to submerged land parcels	NOAA; Department of State
Marine Protection, Research, and Sanctuaries Act ("MPRSA")	Dredge materials disposal	Environmental Protection Agency ("EPA")
Marine Mammal Protection Act ("MMPA")	Marine mammal protection	Natural Marine Fisheries Service ("NMFS"), part of NOAA
Endangered Species Act ("ESA")	Listed species protection	NMFS; U.S. Fish and Wildlife
Rivers and Harbors Act ("RHA")	Structures in navigable waters	Army Corps of Engineers
Ports and Waterways Safety Act ("PWSA")	Ports and waterways protection	U.S. Coast Guard

Notably, the Submerged Lands Act ("SLA") delineates between state and federal jurisdiction for energy resources, by establishing that a state has the right to oversee such resources if located within three miles of its coast. Consistent with our experience in other similar contexts, actual implementation of SLA and the determination of federal versus state jurisdiction is inherently more complex in reality. For distances up to three miles, the SLA is law; the area between three to 12 miles is considered Territorial Sea, which overlaps with Federal Submerged Lands and then the Exclusive Economic Zone ("EEZ") begins from 12 miles to 200 miles.

Notwithstanding the labyrinthine nature of federal law and regulation, developers must also account for a host of jurisdictional issues at the state level. This federal-state nexus has been a matter of contention in many other arenas of the domestic energy sector, and is poised to emerge similarly as offshore wind deployment scales up. If there is wisdom to be gleaned from other resources, the primary question will be centered around when state-level jurisdiction or authority will supersede that of a federal agency, or simply delay the process enough to effectively halt application approvals altogether. In the Inflation Reduction Act of 2022, Congress appropriated $20 million to hiring additional permitting personnel at the National Oceanic and Atmospheric Administration ("NOAA").[17] Given the role of NOAA in reviewing and approving components of offshore wind regulatory applications, increasing the staff tasked with such responsibilities will hopefully either keep pace, or improve efficiency, of a historically fragmented permitting process.

Extreme Weather

Unlike offshore wind facilities planned for the East Coast and in the Atlantic Ocean, developers will need to address technical considerations stemming from external factors, namely weather events. The warm waters of the GoM bolster hurricane strength and pose significant risks to offshore and onshore infrastructure in the path of powerful systems.

To some extent, offshore wind developers may be able to glean best practices and technical knowledge from the offshore oil and gas industry, which has endured decades of hurricanes in GoM waters. However, the core aspects of wind turbines—height and profile—differ dramatically from oil rigs and associated platforms. The offshore wind sector should therefore actively research and develop specific standards to withstand hurricanes. While greater heights yield higher wind resource, taller turbines are more susceptible to swaying if the foundation is not also proportionately constructed. Currently, offshore wind turbines are designed in accordance to meet International Electrotechnical Commission ("IEC") standards.[18] Under the IEC 61400-1 and IEC 61400-3 standards, turbines are built to endure a maximum gust of 156 miles per hour sustained for three seconds. Additionally, the newest edition of IEC 61400-1 includes a "typhoon" class, which would capture severity of hurricane winds, by upgrading the three-second maximum gust to 179 miles per hour.

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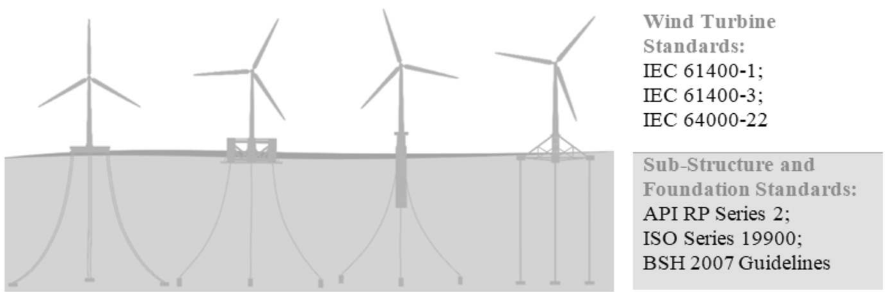
[17] Inflation Reduction Act of 2022, H.R. 5376 in the 117th Session of the U.S. Congress. Sec. 40003 at PP 563.

[18] Development of Offshore Wind Recommended Practice for U.S. Waters, National Renewable Energy Laboratory (May 2013), available at https://permanent.access.gpo.gov/gpo41492/57880.pdf.



Aligning with the oil and gas industry, offshore wind sub-structures and foundations are commonly engineered utilizing the American Petroleum Institute ("API") Recommended Practice ("RP") Series 2. For areas that may be prone to hazardous conditions, API RP 2EQ includes seismic design criteria initially established for earthquakes but have been adapted for use by offshore structures. In any case, site-specific studies and risk assessments will be necessary to design foundations and turbines, particularly if alternative load mitigation may be critical to maintaining yaw authority—movement of the axis so that turbine rotors and blades do not shift direction inadvertently—during periods of extreme weather.

As discussed earlier, however, the relatively low wind speeds found throughout the GoM may contribute to additional risks for turbine resilience. If larger rotors are installed—in order to harness more energy capture—the turbine is consequently more exposed to extreme winds due to the additional surface area. Project developers and regulators will need to take that and other regional differences into account when evaluating the robustness and strength of turbines sited in the GoM, especially given the fact that such turbines will invariably be in the direct path of strong storm systems or hurricanes.

Transmission Design

Delivering power generated from new renewable resources in the GoM may pose a challenge, or at a minimum, require novel solutions. The vast majority of transmission suitable for offshore wind in the United States, to this point, has been built in a haphazard fashion or on a project-by-project basis. Consequently—to divert from this fragmented approach and implement a large-scale planning process that can accommodate multiple facilities—project developers are now advocating for "backbone" solutions that would connect wind farms across large regions to help ensure the power they generate offshore will reach the grid. In the past, proponents (including Google) have proposed developing backbone transmission systems along the East Coast, and the idea has received renewed attention from FERC.[19]

As an overlay on the laws and statutes detailed above, there may be unknown jurisdictional triggers based on where the offshore wind facility is located and then ultimately where the transmission infrastructure traverses through and ends up. The delineation of state and regional markets may influence if and where certain offshore wind projects are sited. In the Northeast, offshore wind bids dovetail nicely with state-level policies encouraging renewable energy due to climate change goals. In the Southeast, such programs and incentives are more scarce and may be less of a driving factor in evaluating prospective project locations in the GoM.

Other components of the value chain are implicated, too—including sub-sea transmission cables that are highly capital- and labor-intensive to construct and deploy. In all, transmission infrastructure is a significant undertaking that is foundational to growth in the offshore wind sector. However, policymakers and developers alike must grapple with costs (both in terms of initial costs and allocation to users), time horizons (offshore generation facilities take longer to build relative to onshore generation facilities but also tend to have longer lifespans), and planning processes (implicating an array of rules and best practices from the offshore point of generation to onshore points of delivery).

PROSPECTS AND OUTLOOK

State and Federal Nexus

Of the GoM states, Texas and Louisiana are perhaps most optimally positioned to readily embrace offshore wind as a new segment within their energy mix. Texas, for example, boasts the strongest quality of offshore wind resources due to having the highest average wind speed, bolstered by plentiful and advanced energy infrastructure both onshore and offshore. Additionally, Texas can draw from its lessons and best practices as a national leader in renewable energy; in 2021, Texas led the United States with over 7,300 MW in new renewable capacity additions and nearly 20,000 MW in future projects in the pipeline.[20]

Louisiana, on the other hand, is pursuing renewable energy through policy mechanisms. In fact, Louisiana is the only GoM state that has prioritized climate change goals and recognized that offshore wind can be a key part of

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[19] 179 FERC ¶ 61,028, Federal Energy Regulatory Commission (April 21, 2022), available at https://www.ferc.gov/media/rm21-17-000.

[20] Clean Power Quarterly Report Q4 2021, American Clean Power Association (January 2022).

meeting such milestones. At the time of publication, Louisiana was the only GoM state with a formalized strategy to reduce greenhouse gas emissions.[21] Louisiana is pursuing a 25 to 28 percent reduction in emissions by 2025 and carbon neutrality by 2050. The Louisiana Climate Initiative Task Force revealed in its draft final report that planning to construct and bring into commercial operation 5,000 MW of offshore wind will be necessary to meet the statewide goal of carbon neutrality by 2050.[22]

In 2021, BOEM established the Gulf of Mexico Intergovernmental Renewable Energy Task Force ("Task Force"), which includes the states of Alabama, Louisiana, Mississippi, and Texas. The Task Force has, at the time of publication, convened twice to share insights and collaborate during the incipient stages of building out a new energy sector in the region, particularly to synergize the multiple levels of government oversight implicated throughout the region—including federal, state, local, and tribal authorities. The Task Force will engage during all phases of the BOEM process, as detailed below, beginning with the (initial) Planning and Analysis phase.[23]

[21] Gulf Coast Energy Outlook: 2022, LOUISIANA STATE UNIVERSITY CENTER FOR ENERGY STUDIES, LOUISIANA MID-CONTINENT OIL & GAS ASSOCIATION (2021).

[22] Louisiana Climate Action Plan: Draft Final Report, STATE OF LOUISIANA GOVERNOR'S OFFICE OF COASTAL ACTIVITIES (December 22, 2021), available at https://gov.louisiana.gov/assets/docs/CCI-Task-force/website/CTFDraftFinalPlan12222021.pdf.

[23] Wind Energy Commercial Leasing Process, BUREAU OF OCEAN ENERGY MANAGEMENT (2019), available at https://www.boem.gov/sites/default/files/oil-and-gas-energy-program/Leasing/Five-Year-Program/2019-2024/DPP/NP-Wind-Energy-Comm-Leasing-Process.pdf.

In January 2022, BOEM initiated a monumental step in unleashing the GoM's potential for offshore wind by announcing it was conducting an Environmental Assessment ("EA") for the region.[24] BOEM stated it would initially evaluate an initial scoping area—comprised of nearly 30 million acres west of the Mississippi River to the Texas-Mexico border—for suitability before eventually narrowing such area down to prospective Wind Energy Areas ("WEAs"). If the GoM EA yields a favorable outcome—i.e., offshore wind projects would not constitute an adverse impact to the ocean environment—BOEM stated it will identify certain WEAs that it will then auction for leasing to project developers. In drafting the GoM EA, BOEM contemplated two main areas of potential environmental impact:

Site Characterization

- Biological assessments
- Archelogical and geological studies
- Geophysical surveys and core samples

Site Assessment Plan

- Installation of floating meteorlogical buoys
- Installation of meteorlogical towers and structures
- Vessel trips to ocean locations

Notably, the issuance of a GoM EA does not preclude individual projects from undergoing scrutiny as to environmental laws and related regulations. Any future offshore wind installations constructed in WEAs will each be subject to an EIS to analyze the specific environmental parameters of the project, including cable routes and visual impacts not addressed in the GoM EA. The EIS process will incorporate opportunities for stakeholder participation as well.

BOEM published the draft GoM EA in late July 2022.[25] In the draft GoM EA, BOEM identified two potential WEAs:

- Approximately 24 nautical miles off the coast of Galveston, Texas: including a total of 546,645 acres
- Approximately 56 nautical miles off the coast of Lake Charles, Louisiana: including a total of 188,023 acres

If the environmental reviews enable BOEM to subsequently proceed with the Leasing and Site Assessment phases, respectively, there could conceivably be

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[24] BOEM Initiates Environmental Assessment for Offshore Wind in the Gulf of Mexico, Bureau of Ocean Energy Management (January 11, 2022), available at https://www.boem.gov/newsroom/press-releases/boem-initiates-environmental-assessment-offshore-wind-gulf-mexico.

[25] Commercial and Research Wind Lease and Grant Issuance and Site Assessment Activities on the Outer Continental Shelf of the Gulf of Mexico: Draft Environmental Assessment, Bureau of Ocean Energy Management, Gulf of Mexico Region (July 2022), available at https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/GOM-Wind-Lease-EA.pdf.

turbines spinning in the GoM by the end of the decade. At this juncture, in light of the draft GoM EA issuance, BOEM disclosed that it expects to issue "no more than 6 [to] 8 leases per sale" in the GoM.[26]

Oil Majors Shifting Focus

The GoM is the birthplace of offshore energy development: the global, multi-billion dollar offshore oil and gas industry. However, as noted above, several service companies that traditionally supported that industry have pivoted to the growing offshore wind industry that is currently developing along the East Coast. The energy supermajors—almost if not all of whom started out as oil and gas companies, but are now diversified and sophisticated energy companies—are also actively pursuing opportunities in the growing development of U.S. offshore wind.[27]

Industry observers expect that oil and gas companies will participate heavily in upcoming seabed lease and subsidy auctions. In 2022, these auctions will exceed 20 GW of offshore wind generation capacity, posing a significant opportunity for new market entrants with an appetite for investment. Large oil and gas companies, with a penchant for driving innovation and (generally, but not always) the balance sheets to support such activity, should be optimally positioned to secure large parcels during leasing and to bolster their odds of winning BOEM auctions given their relative scale, experience and advantages in the offshore arena—and particularly the GoM—compared to emerging renewable energy-focused companies.

Even some degree of uncertainty should not deter oil and gas majors, as a typical exploration venture into oil and gas will encompass a similar, if not greater, scope of risk. For instance, ocean vessels capable of installing offshore wind turbines can cost upwards of $500,000 per day;[28] oil and gas companies are accustomed to risk management and devising efficient project timelines. Many domestic energy companies will also be well-prepared to liaise with various state and federal regulatory agencies and commissions stemming from prior activities and asset ownership in the GoM.

Energy companies have increasingly pivoted to decarbonization efforts as a result of shareholder pressure and general trends in the marketplace. Incorpo-

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[26] *Id.* at PP 2–5.

[27] BP Eyes Bidding Bonanza in New Round of Offshore Wind Auctions, S&P GLOBAL MARKET INTELLIGENCE (October 28, 2020), available at https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/bp-eyes-bidding-bonanza-in-new-round-of-offshore-wind-auctions-60969115.

[28] Big Oil wants to be Big Wind, WBUR (October 15, 2021), available at https://www.wbur.org/news/2021/10/15/offshore-wind-shell-bp-equinor-concerns.

rating new and emerging renewable assets, such as offshore wind, is now increasingly perceived by these companies as a viable business case both in terms of economic returns and allaying public concerns about environmental impacts.

Leading oil and gas companies—such as BP, TotalEnergies, Shell, and Equinor—have recently committed substantial financial resources to offshore wind in European waters. Later this decade, Shell intends to allocate more investment toward two offshore wind projects (proposed to be sited off Scotland) than toward its entire oil and gas segment during the same timeframe.[29] In other instances, oil and gas companies have acquired proposed and existing projects for an immediate boost to their renewable portfolios. Future activity will likely be contingent on winning auctions for leases and securing rights for new projects.

Oil and gas companies with entrenched operations in the GoM region may be more responsive to stakeholder issues. Certain industries and groups will, inevitably, be affected due to the construction of infrastructure in addition to any unforeseen developments associated with a new industry. Many oil and gas companies employ sophisticated and experienced teams of professionals to engage with the public, policymakers, and other affected stakeholders. It therefore may only be a matter of time before offshore wind projects need to pre-emptively account for similar issues that arise during the course of planning, development, and construction.

THE BIG PICTURE

Offshore wind development in the Gulf of Mexico currently presents an as-of-yet untapped and unrealized opportunity to deploy large-scale renewable generation that will reap economic and environmental benefits for all stakeholders: project developers, energy companies, utilities, and state governments. In the ensuing years, traditional fossil fuel companies can easily leverage their experience to increasingly position themselves to capture these benefits. Renewable developers may hold an initial advantage in forecasting resource potential and facility design, but fossil fuel stalwarts can easily leverage their comparative strength and experience in risk management in new market entry as well as supply chain and labor force synergies.

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[29] North Sea Fossil Fuel Companies Plan to Invest More in Wind than Oil Drilling, Yale University: Environment 360 (January 19, 2022), available at https://e360.yale.edu/digest/oil-majors-bet-big-on-wind-in-the-north-sea.