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## ***Reimagining US Offshore Wind Development: Starting with Power Purchase Agreements and Grid Connections for Economic Sustainability***

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### **Executive Summary**

The US offshore wind industry holds significant potential for bolstering domestic energy production, enhancing grid reliability, and driving economic growth through job creation and supply chain development. Yet, the current leasing-first model has led to inefficiencies, with billions in auction revenues overshadowed by project delays and cancellations due to uncertain market demand and infrastructure challenges. This paper advocates for securing power purchase agreements (PPAs) and grid connections upfront to confirm project viability before leasing offshore areas. The Trump administration's 2025 pause on federal offshore wind activities, including recent stop-work orders and permit revocations, has escalated tensions, with developers like Ørsted filing lawsuits to resume projects. This provides a timely opportunity to reset the approach, focusing on economic sustainability to minimize risks for developers and reduce taxpayer burdens from inefficient subsidies. By prioritizing business fundamentals, this model could expedite deployment, lower costs, and contribute to meeting US energy demands more effectively. Recommendations include regulatory reforms, interconnection queue improvements, and shared infrastructure initiatives to streamline processes and attract private investment.

For government regulators and officials, this reset offers a path to more efficient permitting and reduced litigation risks, while developers benefit from de-risked investments and improved profitability. The analysis demonstrates potential savings of 40-50% in pre-PPA costs per MW, enhancing ROI and attracting capital.

The perspectives presented in this paper are those of MGC, provided as a thoughtful alternative for consideration, and it does not constitute an official policy document nor is it endorsed by any external organization.

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## 1 Abstract

The United States offshore wind sector has encountered substantial obstacles, including frequent project terminations, escalating expenses, and regulatory shifts. The traditional process—commencing with offshore lease auctions, then progressing to onshore logistics and PPA negotiations—has amplified financial risks and operational inefficiencies. This paper proposes inverting the order: beginning with firm PPAs and grid interconnections, followed by targeted leasing of economically feasible offshore sites. Positioning the Trump administration's 2025 halt on offshore wind initiatives as a chance for recalibration, the discussion examines how this pivot can establish a more fiscally robust framework. Leveraging insights from industry setbacks and reform suggestions, the paper details actionable strategies for upcoming projects, stressing efficient permitting, collaborative efforts, and policy tweaks to prioritize economic outcomes over ideological goals.

## 2 Introduction

Offshore wind represents a strategic asset for US energy independence, offering scalable power generation that can stabilize grids, support industrial growth, and create high-value jobs in manufacturing and operations (CleanTechnica, 2025). Yet, the industry grapples with persistent issues like prolonged timelines, regulatory bottlenecks, cost inflation, and investment withdrawals. Under the Bureau of Ocean Energy Management (BOEM), the standard workflow starts with federal lease auctions for offshore tracts, followed by site evaluations, permitting hurdles, and belated PPA discussions with buyers (BOEM, n.d.a). This front-loaded risk structure burdens developers with massive initial outlays without revenue assurances or grid readiness, often leading to unviable projects (ScienceDirect, 2020a).

Reversing this—locking in PPAs and grid ties first—would anchor development in market realities, reducing speculative spending and aligning investments with demand. The Trump administration's 2025 measures, such as suspending OCS leasing and retracting federal aids, have stalled momentum but open a window for reform (Department of the Interior, 2025b; Reuters, 2025b). This pause enables a business-oriented overhaul, emphasizing cost control and profitability to foster a resilient sector that serves national energy needs without excessive government intervention (Government Accountability Office, 2025).

This paper critiques the existing process, assesses the pause's implications, outlines the alternative model, its economic advantages, and integration methods for future endeavors. Targeted at government regulators, officials, and wind farm developers, it emphasizes policy levers for efficient permitting and financial de-risking to drive industry viability.

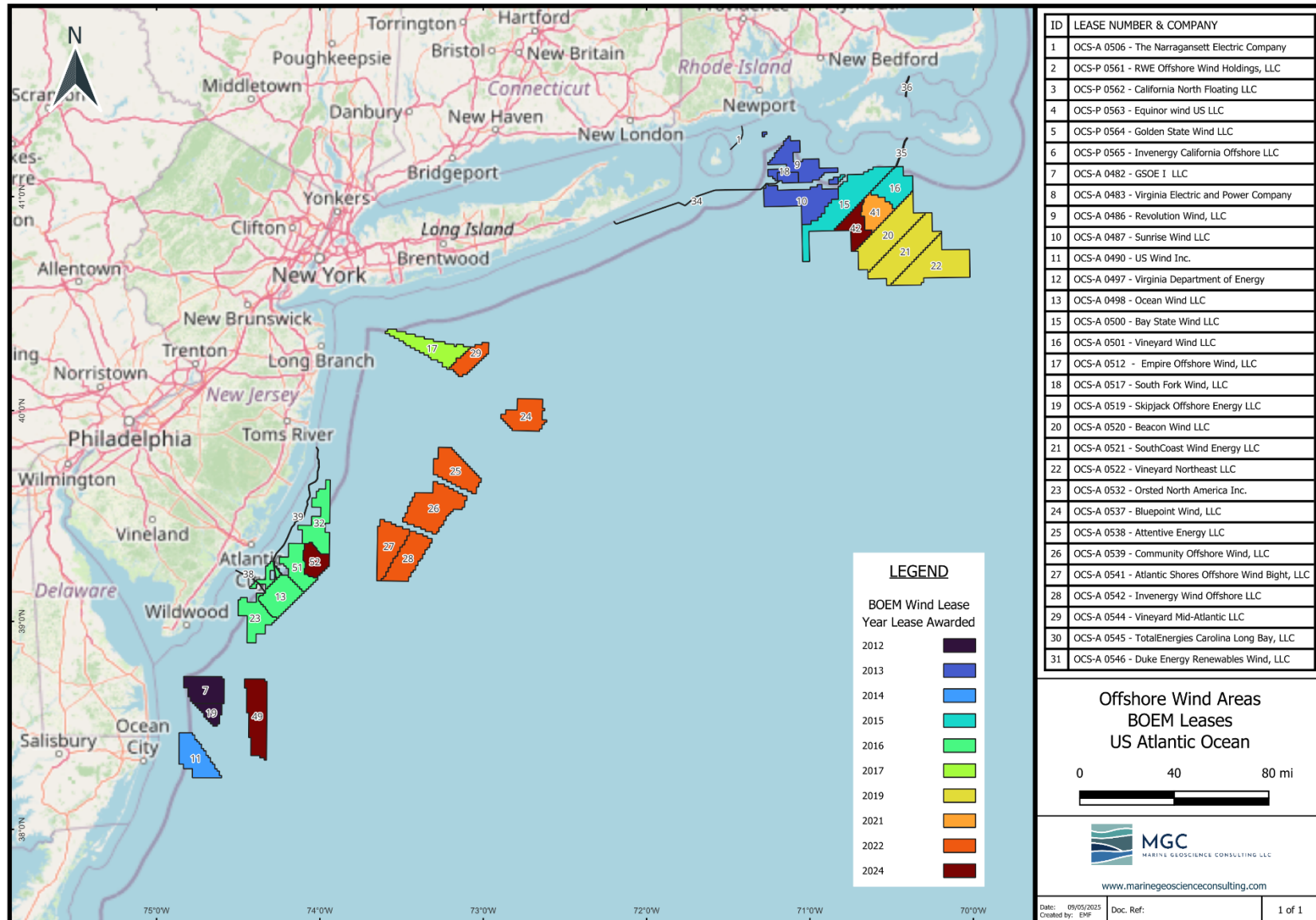


Figure 1. BOEM Lease Map

### 3 The Trump Administration's Stoppage: Current Regulatory Context and Opportunity for Reset

Early 2025 saw executive actions revoking OCS leasing, axing \$679 million in funds, and stopping builds like Revolution Wind (CT Mirror, 2025; Reuters, 2025a). Permits for ventures such as US Wind were pulled, with oversight centralized under Interior Secretary Burgum (Maryland Matters, 2025; Utility Dive, 2025). This shift toward fossil fuels has idled operations, prompting pauses by firms like RWE (OffshoreWind.Biz, 2025).

Recent developments have intensified the conflict: On September 3, 2025, the White House instructed agencies to thwart offshore wind, targeting projects like SouthCoast Wind and New England Wind (New York Times, 2025a; E&E News, 2025). Ørsted sued the administration on September 4, 2025, over the Revolution Wind halt, alleging unlawful interference (Reuters, 2025c; CNBC, 2025a). States like Rhode Island and Connecticut announced suits against the halt (Bloomberg, 2025; The Hill, 2025).

Though disruptive—potentially raising energy prices short-term—this intermission facilitates a pragmatic review of the lease-heavy model (American Progress, 2025; CNN Business, 2025). It allows focus on core inefficiencies, paving the way for a framework that emphasizes fiscal prudence and market alignment. Echoing industry resets, this could yield a sector primed for profitability and energy security (DOI, 2025a; White House, 2025). For regulators, it offers a moment to streamline processes; for developers, a chance to advocate for de-risked models amid ongoing legal battles.

#### 3.1 Current Development Process, Challenges and Costs

The US offshore wind permitting and construction process, rooted in the Outer Continental Shelf Lands Act (OCSLA), is sequential and lease-centric. BOEM initiates with area identification via environmental scans and consultations, then holds auctions where developers secure exploration rights (BOEM, n.d.b). Subsequent steps involve site data collection, COP submissions, multi-agency approvals, and eventual PPA and grid negotiations (Iberdrola, n.d.; Kanu, 2023).

This approach embeds vulnerabilities: developers commit hundreds of millions to leases and assessments sans guaranteed off-take or connectivity, heightening exposure to market volatility (ScienceDirect, 2023). Cases like Ørsted's scrapped Ocean Wind projects (2,400 MW) underscore this, with economic pressures from interest rates and supply chains rendering PPAs unsustainable (Integrity Energy, 2024; The Conversation, 2025). Similar fates befell Park City Wind amid post-pandemic shifts (Energy Information Administration, 2024). Political flux compounds risks, as seen in 2025's lease withdrawals (Georgetown Climate Center, n.d.). Despite targets, operational capacity lags, with cancellations eroding over \$1 billion in developer capital—highlighting

systemic inefficiencies that inflate costs and deter investment (FTI Consulting, 2024; Reuters, 2023).



Figure 2. Simplified Flowchart of current BOEM Offshore Wind Development Process

#### 4 BOEM Historic Lease Auction Results and Pre-PPA Costs

Table 1 captures major auctions, revealing substantial bids yet underscoring post-lease uncertainties that undermine returns (DOI, 2022). This table is a critical piece of data for understanding the US offshore wind industry, as it highlights the substantial upfront capital committed by developers—often hundreds of millions per lease—without guaranteed PPAs or grid access. Reimagining financial incentives, such as tax credits tied to pre-secured revenue or risk-sharing mechanisms, could enhance investment attractiveness and profitability by mitigating these early-stage risks.

Table 1. BOEM Offshore Wind Lease Summary

| Auction Name & Date                     | # Leases | Acres   | Bid Amount (\$ million) | Winning Companies                                |
|-----------------------------------------|----------|---------|-------------------------|--------------------------------------------------|
| Virginia (Sep 2013)                     | 1        | 112,799 | \$1.6                   | Virginia Electric and Power Co (Dominion Energy) |
| Rhode Island / Massachusetts (Jul 2013) | 1        | 97,498  | \$3.8                   | Deepwater Wind                                   |
| Maryland (Aug 2014)                     | 2        | 112,444 | \$17.4                  | US Wind                                          |
| New Jersey (Nov 2015)                   | 2        | 343,833 | \$2.0                   | RES America; US Wind                             |
| New York (Dec 2016)                     | 1        | 79,350  | \$42.5                  | Equinor                                          |

| Auction Name & Date                 | # Leases  | Acres            | Bid Amount (\$ million) | Winning Companies                                                                          |
|-------------------------------------|-----------|------------------|-------------------------|--------------------------------------------------------------------------------------------|
| <b>North Carolina (Mar 2017)</b>    | 1         | 122,405          | \$9.1                   | Avangrid                                                                                   |
| <b>Massachusetts (Dec 2018)</b>     | 3         | 388,569          | \$405.3                 | Equinor, Mayflower Wind, Vineyard Wind                                                     |
| <b>New York Bight (Feb 2022)</b>    | 6         | 488,201          | \$4,370                 | Ocean Winds; RWE; Attentive Energy; Atlantic Shores Offshore Wind; Invenergy; Chicago Wind |
| <b>Carolina Long Bay (May 2022)</b> | 2         | 110,091          | \$315                   | TotalEnergies; Duke Energy                                                                 |
| <b>California (Dec 2022)</b>        | 5         | 373,268          | \$757                   | RWE; California North Floating (CIP); Equinor; Golden State Wind; Invenergy                |
| <b>Gulf of Mexico (Aug 2023)</b>    | 1         | 102,480          | \$5.6                   | RWE                                                                                        |
| <b>Central Atlantic (Aug 2024)</b>  | 2         | 176,505          | \$92.65                 | Equinor; Virginia Electric and Power Co                                                    |
| <b>Gulf of Maine (Oct 2024)</b>     | 4         | 1,000,000        | \$21.91                 | Invenergy; Avangrid                                                                        |
| <b>Total</b>                        | <b>31</b> | <b>3,507,443</b> | <b>\$6,043.86</b>       | <b>Average is \$195M/ lease</b>                                                            |

Table 1 was compiled from BOEM and DOI announcements. These sums exceed \$6 billion, but many sites face grid bottlenecks or PPA shortfalls, eroding economic viability (Nuveen, n.d.).

Pre-PPA activities represent a significant financial hurdle, often totaling 3-5% of overall project CAPEX for large-scale US offshore wind projects (e.g., 500-1,000 MW). Based on US-specific data from NREL reports, DOE market analyses, and project examples like Vineyard Wind and Empire Wind, the following table provides updated average cost ranges. These reflect higher US costs due to regulatory bottlenecks and complexity, supply chain constraints, and extensive surveying requirements. G&G surveys, in particular, can exceed \$50M, including geotechnical boreholes and soil testing needed for COP submittal.

#### 4.1 Average Costs for Pre-PPA Work in US Offshore Wind Projects

Based on available data from industry reports and project examples (primarily from NREL, DOE, and European proxies adjusted for US context, as specific US breakdowns are limited in public

sources), below is a table summarizing average cost estimates for pre-PPA activities. These are approximate ranges for a typical large-scale project (e.g., 500-1,000 MW), converted to USD where necessary (using approximate 2024 exchange rates and inflation adjustments from original sources). Costs can vary significantly based on project size, location, regulatory requirements, and inflation. Note that pre-PPA work often totals \$100-300 million per project, representing 3-5% of total CAPEX.

Sources include the Guide to Offshore Wind Farm (2024 edition, UK-based but applicable to US with adjustments), VOWTAP demonstration project (2017, scaled for larger projects), and NREL Cost of Wind Energy Review (2022-2024 editions). While exact US breakdowns are scarce due to proprietary data, reasonable ranges are provided.

**Table 2. Average Costs for Pre-PPA Activities in US Offshore Wind Projects (for 500-1,000 MW Project)**

| Category                    | Average Cost Range (\$ million) | Description                                                                                                                                                                                                                                |
|-----------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Stakeholder Outreach</b> | 30 - 70                         | Includes consultations with communities, tribes, fisheries, and regulators. Costs are elevated due to NEPA requirements and litigation risks; e.g., Vineyard Wind outreach exceeded \$50M (NREL, 2024; PNNL, 2021).                        |
| <b>Legal</b>                | 20 - 50                         | Covers permitting, lease negotiations, environmental impact statements, and compliance. Complex US regulatory landscape drives costs; e.g., legal fees for Empire Wind COP approached \$40M (Equinor, 2020).                               |
| <b>G&amp;G Surveys</b>      | 50 - 150                        | Geophysical and geotechnical surveys, including boreholes for COP. US projects like South Fork Wind incurred \$100M+ for detailed site data; higher than EU due to deeper waters and stringent BOEM guidelines (BOEM, 2023; Cathie, 2019). |
| <b>Engineering</b>          | 40 - 100                        | Front-end engineering design (FEED) and technical studies. Includes turbine layout and cable routing; e.g., Revolution Wind engineering pre-COP was ~\$60M (NREL Cost Review, 2024).                                                       |
| <b>Full COP Development</b> | 50 - 100                        | Integration of surveys, designs, and environmental studies into COP submission. Comprehensive US requirements push costs higher; e.g., average for Atlantic projects ~\$70M (DOE Market Report, 2023).                                     |

This table was generated from a variety of sources, including: NREL Cost of Wind Energy Review (2024), DOE Offshore Wind Market Report (2023), BOEM COP Guidelines (2023), PNNL Permitting Survey (2021), and project-specific filings (e.g., Vineyard Wind, Empire Wind).

***Based on this data, the estimated total pre-PPA costs for a 800MW project are likely \$300-450M, or ~\$375-560/kW.***

If we review the BOEM leases that have announced PPAs, we can see the average time is 4 years from lease purchase to PPA, with some up to 7 years, with approved COPs following by an average of 0.7 years (Table 3).

**Table 3. Wind Leases with Active PPAs**

| Project Name                           | Bid Amount (\$ Million) | Lease Date | PPA Date                     | COP Submittal Date | Current Status             | Lease Sale to PPA (Years) |
|----------------------------------------|-------------------------|------------|------------------------------|--------------------|----------------------------|---------------------------|
| Revolution Wind                        | 3.8                     | 7/1/2013   | 12/15/2020                   | 4/7/2020           | Stopped (8/22/2025)        | 7.5                       |
| Sunrise Wind                           | 0.112 (non-competitive) | 7/1/2013   | 6/27/2019                    | 9/9/2020           | COP Approved (2024)        | 6.0                       |
| Coastal Virginia Offshore Wind Project | 1.6                     | 9/1/2013   | 12/8/2020                    | 9/18/2020          | Construction (Paused 2025) | 7.3                       |
| Vineyard Wind 1                        | 0.167 (non-competitive) | 1/1/2015   | 2/2/2018                     | 12/14/2017         | Operational (2024)         | 3.1                       |
| Empire Wind                            | 42.5                    | 12/1/2016  | 1/25/2018                    | 3/1/2021           | Planning                   | 1.2                       |
| Beacon Wind                            | 135.1                   | 12/1/2018  | 10/13/2020                   | 1/10/2022          | Planning                   | 1.9                       |
| South Coast Wind                       | 135.1                   | 12/1/2018  | 7/31/2019* (terminated 2023) | 5/27/2021          | COP Approved (2023)        | 0.7                       |

#### 4.2 Revolution Wind Example: Pre-PPA Spend

Revolution Wind (704 MW on lease OCS-A 0486) illustrates the risks. Lease purchased July 2013 for \$3.8M. G&G surveys, engineering, outreach, legal completed for COP submission April 7, 2020. PPA announced December 15, 2020. COP approved late 2023; stop-work order August 22, 2025 despite 80% completion, leading to Ørsted's lawsuit on September 4, 2025.

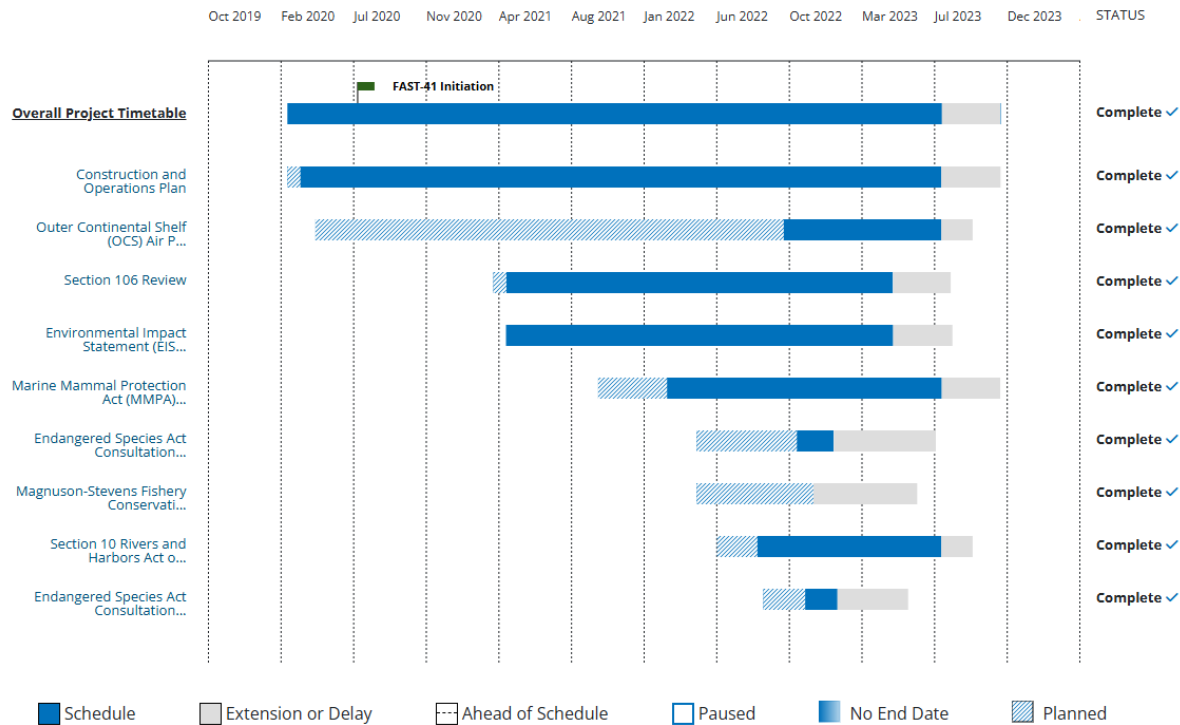


Figure 3. Revolution Wind Project Timeline (<https://www.permits.performance.gov/permitting-project/fast-41-covered-projects/revolution-wind-farm-project>)

Due to the proprietary nature of projects, exact figures are unknown. However, a reasonable estimate can be made using Table 2 midpoint (\$320M for 800 MW, scaled to 704 MW ~\$281M non-lease), plus the lease payment of \$3.8M. This could lead to a full pre-PPA spend (up to COP) of approximately \$300M.

This highlights sunk costs before revenue certainly; the proposed PPA first approach attempts to reduce such exposure.

## 5 Proposed Alternative Approach

The inverted model prioritizes PPAs for revenue stability and grid links for seamless integration before leasing. PPAs lock in sales terms, drawing financiers; grid planning via operator partnerships enables efficient hookups, possibly via shared lines (Ørsted, n.d.b; Renewable Energy World, 2024). Leasing then targets sites matching these fundamentals.

This mirrors European practices where demand precedes siting, curbing waste and boosting returns (Mainstream Renewable Power, 2022; NY Power Authority, n.d.).

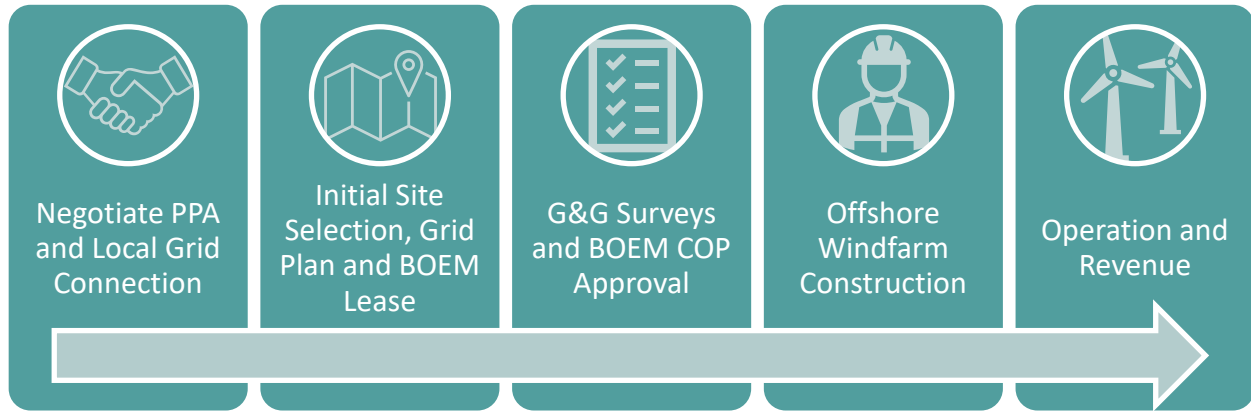


Figure 4. Simplified Flowchart for the alternative PPA first process

### 5.1 Economic Benefits and Cost Analysis

This shift delivers fiscal gains: upfront demand cuts financing premiums and averts cancellations, trimming developer losses (Stoel Rives, n.d.). Coordinated grids slash transmission outlays through economies of scale (Baker, 2024; Frontiers in Energy Research, 2024). Site optimization reduces operational risks, enhancing profitability (Offshore Wind Maryland, n.d.). Overall, it streamlines delivery, bolstering US energy supply without heavy subsidies. European analogs show 20-30% cost drops and sub-5% dropouts versus US figures, projecting \$10-20 billion in US savings by 2030 (NREL, 2024; U.S. Department of Energy, 2023).

To demonstrate the potential value, consider the pre-PPA cost per MW based on Tables 1 and 2 for an 800 MW project (common scale for Atlantic leases). Lease costs average ~\$219.75M (excluding low-bid Gulf areas), or \$274,688/MW. Other pre-PPA activities midpoint at \$320M, or \$400,000/MW. Total: \$674,688/MW.

The PPA-first model reduces this by 40-50% (~\$270k-\$337k/MW) to \$337k-\$404k/MW:

- Lease savings: 100% (\$274k/MW), as leasing follows viability confirmation.
- G&G/Engineering reductions: 20-30% (\$30k-\$45k/MW), via focused efforts.
- Legal/Stakeholder savings: 15-25% (\$15k-\$25k/MW), with streamlined processes.
- COP savings: 20% (\$20k/MW), building on assured demand.

This improves ROI, attracting investment by de-risking early stages. Specifically, by securing revenue (PPAs) and infrastructure (grid) upfront, developers avoid sinking capital into unviable sites, lowering the weighted average cost of capital (WACC) from 7-10% to 5-7% through better debt terms and equity returns. Reduced abandonment (from ~25% to <5%) ensures more projects reach final investment decision (FID), boosting net present value (NPV) by 15-25% via faster

timelines and lower CAPEX overruns. This de-risking draws institutional investors seeking stable yields, potentially increasing funding pools by 20-30% as seen in mature markets (ScienceDirect, 2023; Nuveen, n.d.).

## 6 Implementation Strategies for Future Projects

To operationalize the proposed PPA- and grid-first model, a cohesive set of reforms is essential to de-risk offshore wind development, streamline regulatory processes, and enhance investor confidence by ensuring a clearer path to future revenue. Amending BOEM regulations to implement reverse auctions, where states solicit PPAs and grid interconnection plans before lease bids, would prioritize economically viable projects, reducing speculative spending and aligning development with confirmed demand (Harvard EELP, 2025). This early revenue certainty, as demonstrated by European models with sub-5% abandonment rates, lowers the weighted average cost of capital (WACC) from 7-10% to 5-7%, attracting private capital by guaranteeing returns before significant investments like the \$285M pre-PPA spend seen in Revolution Wind (Mainstream Renewable Power, 2022; ScienceDirect, 2023).

Further, legislation such as the COLLABORATE Act can accelerate permitting by fostering inter-agency coordination, reducing delays and litigation risks like those seen in Ørsted's 2025 lawsuit over Revolution Wind's stoppage (Whitehouse Senate, 2024; Reuters, 2025c). Leveraging Inflation Reduction Act (IRA) credits to incentivize PPA-linked projects would further spur investment, providing financial backstops for developers while aligning with state-led mandates, such as New York's 9 GW target by 2035 (U.S. Department of Energy, 2022; U.S. Department of Energy, n.d.b; NYSBA, 2025). Deploying digital tools for post-PPA site modeling can optimize WEA selection, minimizing environmental and technical risks, thus enhancing project bankability (U.S. Department of Energy, n.d.a). These reforms collectively create a stable, predictable framework that encourages investment by ensuring revenue and grid connectivity upfront, reducing taxpayer burdens and supporting a scalable offshore wind sector.

Some additional ideas could include:

- ( 1 ) **Reform Interconnection Queues to "First-Ready, First-Served":** How: Prioritize projects with pre-secured PPAs and grid commitments in queues, as proposed in regional reforms (Grid Strategies, 2024). Why: Accelerates connections, cuts wait times from years to months, lowering holding costs and enabling quicker revenue for developers, ultimately reducing overall project expenses by optimizing capital deployment.
- ( 2 ) **Establish a National Offshore Transmission Network:** How: Federal-led planning for shared subsea grids, building on East Coast super-grid concepts (Columbia University,

2023a; Regional Plan Association, 2023). Why: Distributes infrastructure expenses across projects, reduces per-MW costs by 20-30%, and minimizes grid bottlenecks for efficient energy delivery, enhancing scalability and attracting more private funding.

- ( 3 ) **Introduce Flexible PPA Templates with Indexed Pricing:** How: Standardize contracts allowing adjustments for economic variables, facilitating rapid negotiations (Ørsted, n.d.a). Why: Mitigates inflation risks, prevents renegotiations, and boosts investor confidence, cutting legal fees and project timelines by up to 25%, making the sector more appealing to capital markets.

Pilot projects in state waters during the pause can validate these ideas, informing federal rollout (National Council of State Legislatures, 2025; Rutgers Policy Lab, 2024).

## 7 Conclusion

The prevailing lease-first paradigm in US offshore wind has perpetuated a cycle of high-risk investments, leading to billions in wasted capital and delayed contributions to national energy supplies (ScienceDirect, 2020b). By flipping to a PPA- and grid-first model, the industry can pivot to a business-driven framework that ensures projects are market-ready from inception, drastically cutting development risks and timelines (NREL, n.d.; NOAA Fisheries, n.d.).

This approach saves developers time and money by avoiding speculative leases—potentially halving upfront costs through targeted siting and assured revenues, as evidenced by lower abandonment rates in similar European systems (ENR, 2022). For taxpayers, it minimizes reliance on federal subsidies, as efficient grid integration and queue reforms reduce the need for bailout-like interventions, freeing public funds for broader infrastructure (Norton Rose Fulbright, 2022; U.S. Energy Information Administration, 2024). Ultimately, it accelerates renewable integration into the grid, addressing US energy demands with reliable, cost-competitive power that enhances security and supports industrial competitiveness without overemphasizing environmental narratives (Mainemorningstar, 2025; Washington Post, 2025).

The 2025 pause is a catalyst for this shift, enabling reforms like reverse auctions and shared networks to build a profitable sector (Canary Media, 2025a; Canary Media, 2025b; Canary Media, 2025c). Implementing these strategies could realize 30 GW by 2030, generating economic value through jobs and supply chains while delivering affordable energy—proving offshore wind's role as a pragmatic business solution for America's energy future (NREL, 2025).

For regulators and officials, adopting this model could reduce administrative burdens and litigation, as seen in recent lawsuits; for developers, it offers a pathway to profitability amid uncertainty.

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## 8 Glossary of Terms

**BOEM (Bureau of Ocean Energy Management):** The federal agency responsible for managing development of energy and mineral resources on the Outer Continental Shelf, including offshore wind leasing and permitting.

**CAPEX (Capital Expenditure):** The funds used by a company to acquire, upgrade, and maintain physical assets such as property, plants, buildings, technology, or equipment.

**COP (Construction and Operations Plan):** A detailed document submitted by developers to BOEM outlining how an offshore wind project will be built, operated, and decommissioned.

**FEED (Front-End Engineering Design):** The early phase of project planning involving technical and economic studies to define scope, costs, and risks.

**FID (Final Investment Decision):** The point at which a company commits to funding a project after assessing viability.

**G&G Surveys (Geophysical and Geotechnical Surveys):** Investigations to assess seabed conditions, including geophysical mapping and geotechnical sampling (e.g., boreholes) for site suitability.

**NPV (Net Present Value):** A method to evaluate project profitability by calculating the present value of expected cash flows minus initial investment.

**OCS (Outer Continental Shelf):** The submerged lands, subsoil, and seabed extending from the seaward boundary of state waters to the edge of the U.S. Exclusive Economic Zone, where federal jurisdiction applies for energy development.

**OCSLA (Outer Continental Shelf Lands Act):** The U.S. federal law that governs the leasing and development of offshore energy resources on the Outer Continental Shelf.

**PPA (Power Purchase Agreement):** A contract between an energy developer and a buyer (e.g., utility or corporation) for the sale and purchase of electricity generated by a project, providing revenue certainty.

**ROI (Return on Investment):** A performance measure used to evaluate the efficiency or profitability of an investment.

**SAP (Site Assessment Plan):** A plan submitted to BOEM for conducting surveys and assessments on a leased offshore area to evaluate its suitability for wind energy development.

**WACC (Weighted Average Cost of Capital):** The average rate a company expects to pay to finance its assets, used in investment decisions.

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**WEA (Wind Energy Area):** Designated offshore regions identified by BOEM as having high potential for wind energy development based on environmental, technical, and stakeholder considerations.

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