



BOEM BUREAU OF OCEAN
ENERGY MANAGEMENT

Renewable Energy

BOEM GOM Regional Office

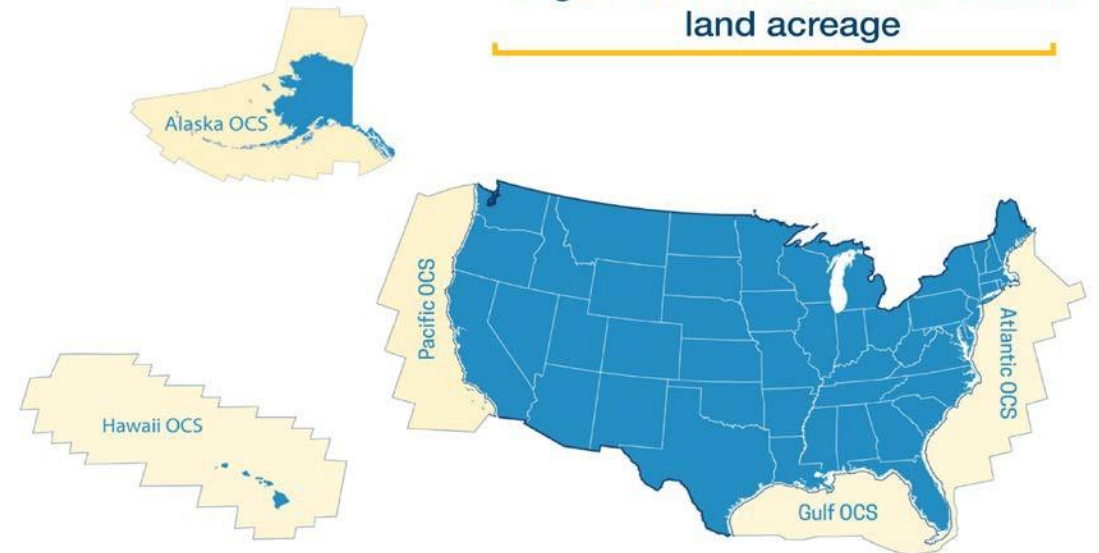
Presentation Outline

- Mission
- Authority
- Hydrogen in context
- Unsolicited lease request & non-competitive lease processes
- Gulf of Mexico offshore wind update
- Q&A

BOEM Mission and Jurisdiction

- The Bureau of Ocean Energy Management (BOEM) manages the responsible development of America's offshore energy, mineral and geological resources in an environmentally and economically responsible way.
- BOEM's primary mission areas are conventional energy, renewable energy, and marine minerals.
- On November 15, 2021, the Infrastructure Investment and Jobs Act gave BOEM leasing authority for Carbon Sequestration.
- Information and assessment underpin all of efforts.

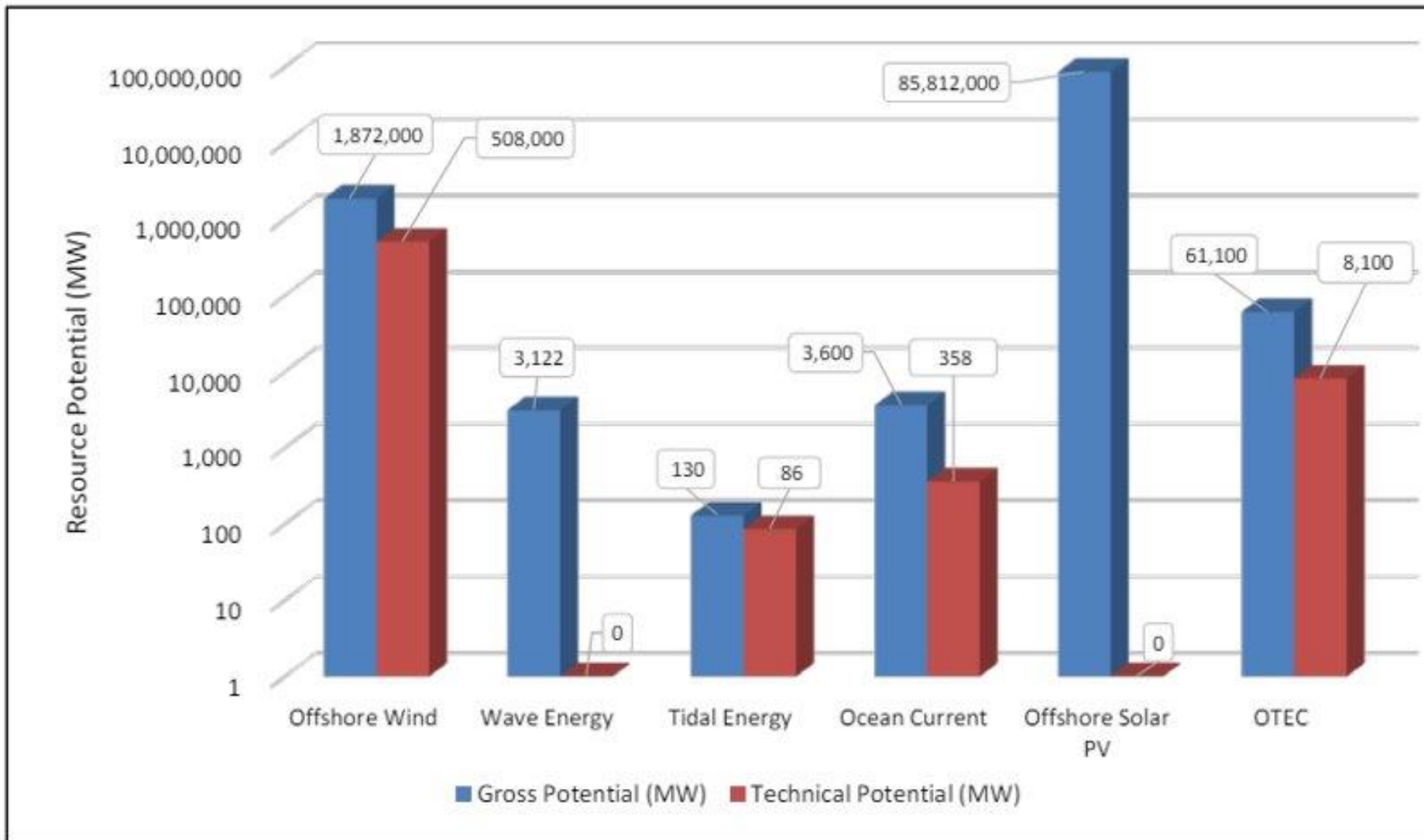
BOEM manages almost
3.2 billion
acres
of the Outer
Continental Shelf,
larger than the size of the nation's
land acreage



Renewable Energy Authority

- **2005 Energy Policy Act amended OCSLA**
 - Subsection 8(p) states, “The Secretary... may grant a lease, easement, or right-of-way on the Outer Continental Shelf for activities ... if those activities...produce or support production, transportation, storage, or transmission of energy **from sources other than oil and gas;**”
- **2009 BOEM Renewable Energy Regulations Finalized**
 - Title 30 Chapter V Subchapter B
 - Part 585 Renewable Energy
 - Part 586 Alternate Use of Existing Facilities
- **November 2021 Bipartisan Infrastructure Law**
 - “the use of hydrogen resources of the United States promotes energy security and resilience and provides economic value and environmental benefit for diverse applications across multiple sectors of the economy.”
- **2024 Modernization Rule**

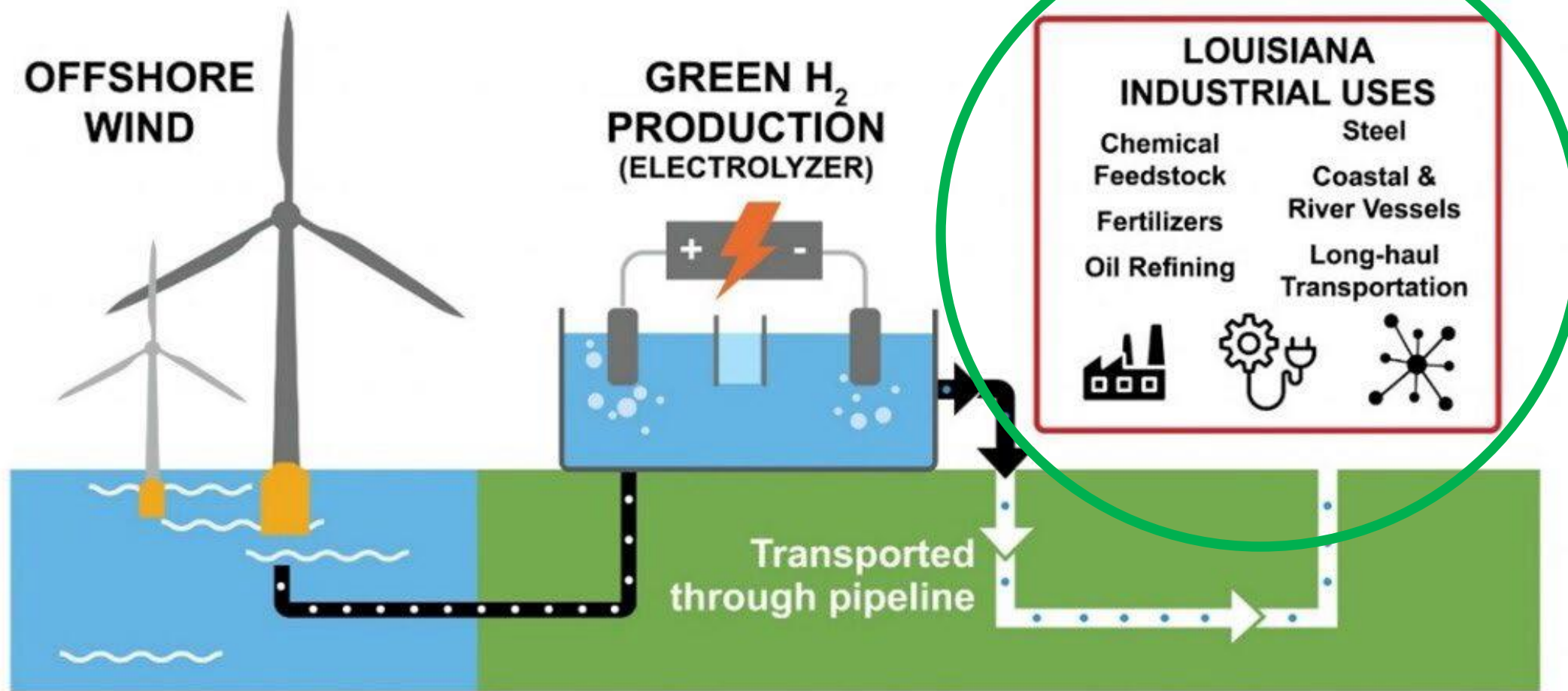
Gross and technical offshore renewable energy potential for the Gulf of Mexico (GOM) by technology



Gulf of Mexico (GOM) Technology Scoring Assessment Results

Technology Type	Resource Adequacy	Technology Readiness	Cost Competitiveness Potential	Total Score
Offshore wind	5	4	4	13
Wave energy	1	2	2	5
Tidal energy	2	3	3	8
Ocean current	1	2	2	5
Offshore solar energy	3	3	3	9
OTEC	3	2	2	7
Cold water source cooling	1	4	N/A	-
Hydrogen conversion	N/A	3	1	-

Offshore Hydrogen – Why Gulf of Mexico?



Hydrogen – GOM Wind 2 Proposed Sale Notice (PSN)

Minor edits were made to the lease instrument in the PSN to allow lessees to propose hydrogen production as an energy product of offshore wind generation under 585.200(b).

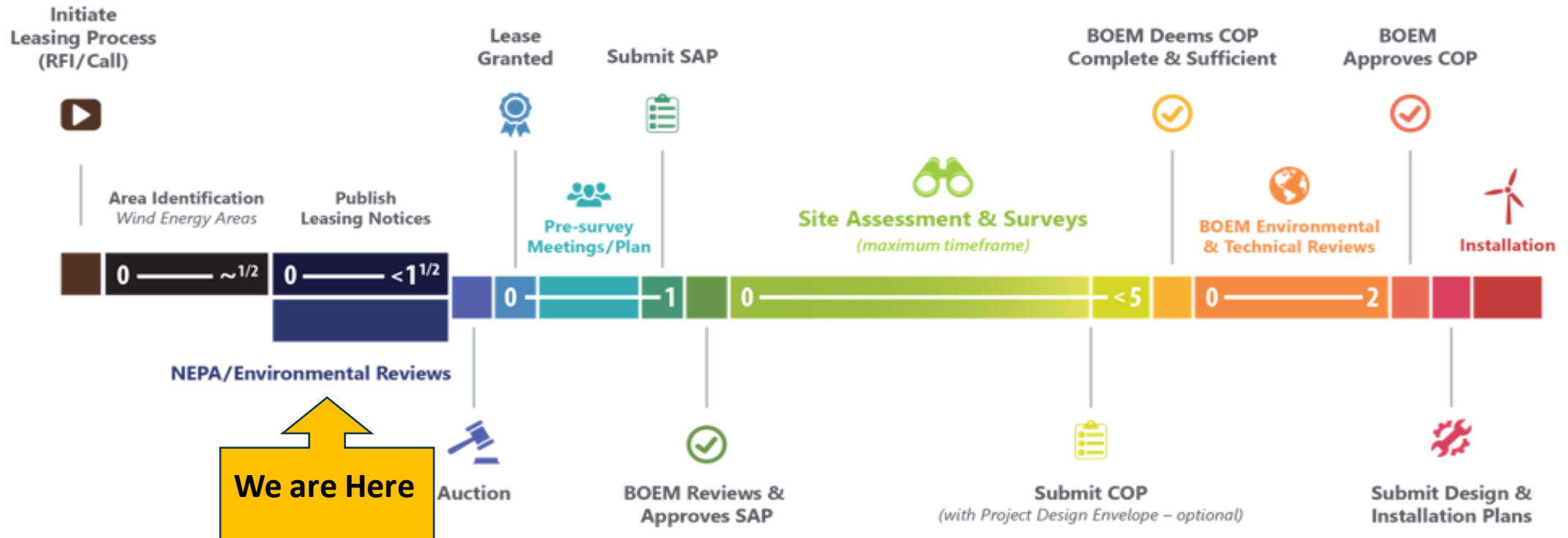
Leasing and Development Process

[Planning & Analysis]

[Leasing]

[Site Assessment]

[Construction & Operations]



Environmental Assessment and consultations

- **Analysis ONLY covers the impacts of issuing leases and the associated site assessment and site characterization activities**
 - Meteorological (met) buoys
 - Vessel trips
 - Geological and biological surveys
- **Analysis does NOT include**
 - Specific project layouts
 - Cable routes for specific projects
 - Visual impacts of a project
 - Wind Energy Area (WEA) identification
- **Analysis of *SPECIFIC* projects**
 - Covered later in the process
 - After a lease is obtained and project plan submitted
 - Additional opportunities for engagement and consultation

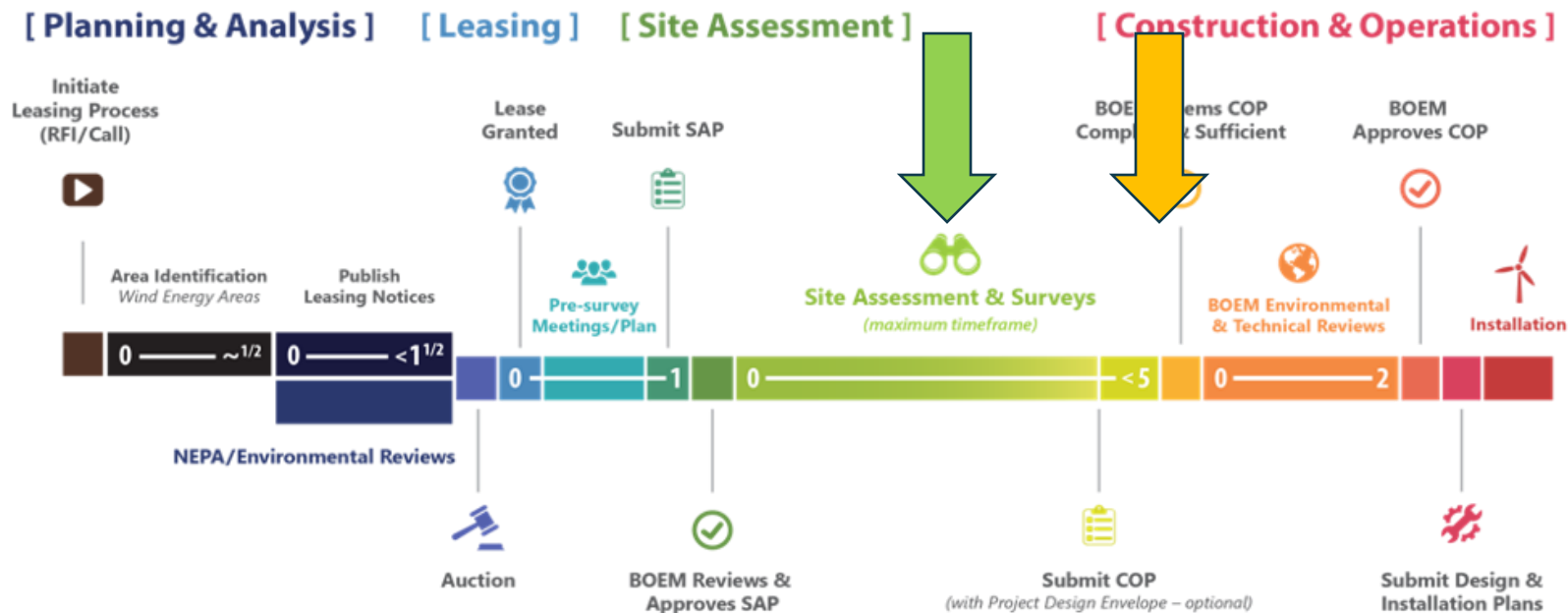


Example of a meteorological (met) buoy

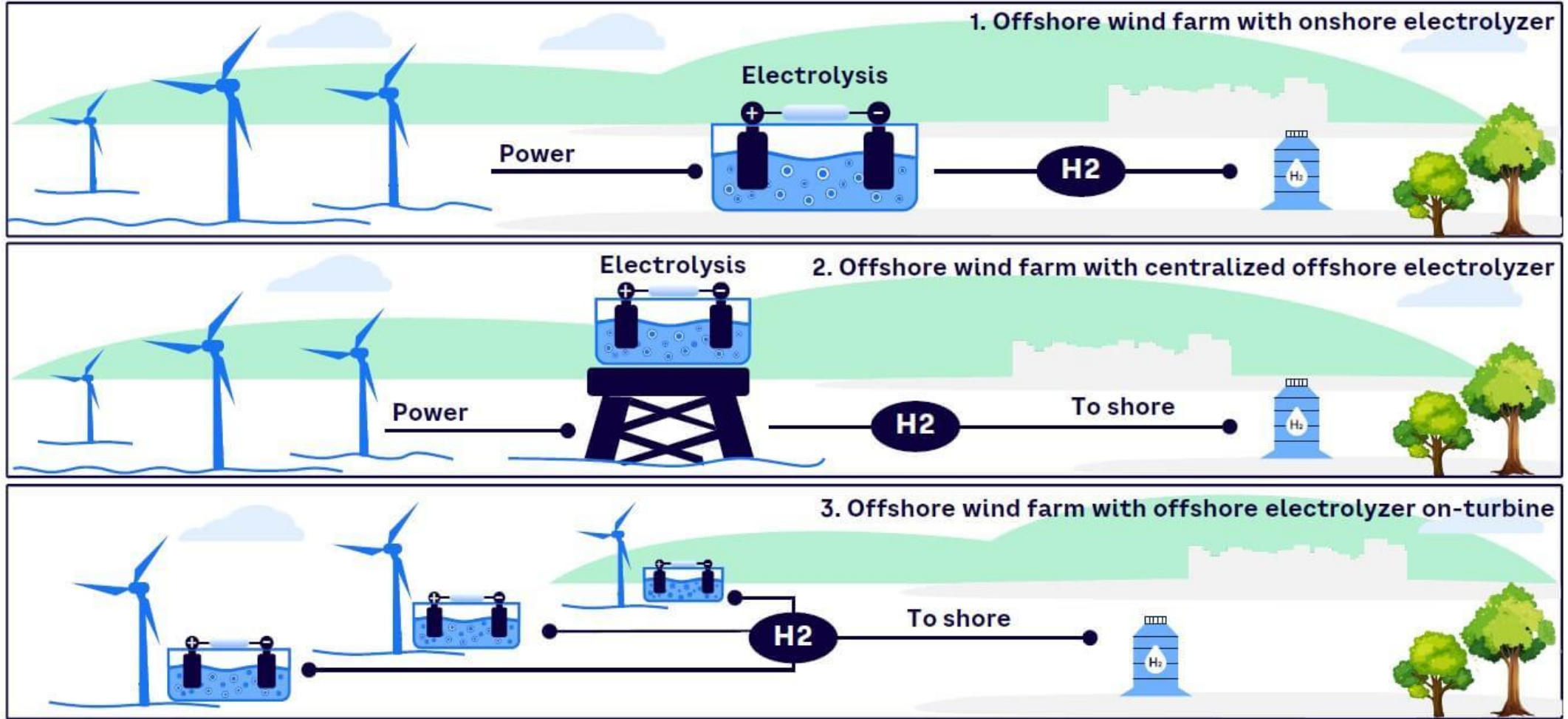
Source: National Data Buoy Center, 2012

Site Assessment and Site Characterization

- Specific activities in the lease area during site assessment and characterization may include:
 - Buoy installation and decommissioning
 - Biological & archaeological surveys
 - Geological surveys (e.g. high-resolution geophysical surveys) and geotechnical testing and sampling (e.g. coring)



Offshore Hydrogen Production Options



Source: Arthur D. Little

Hydrogen Discussion Summary Points

- Early Stages
 - No lease with the new language
 - 5-10 years before construction ops plan
- Continue collaboration
- BOEM Gulf of Mexico regional office has submitted a study profile to conduct a comprehensive literature review on the environmental impacts of green hydrogen production from offshore wind
 - Fisheries Council may want to submit idea or concepts for studies
- BOEM collaborating with DOE and other countries (UK and Denmark) to better understand best practices and environmental impacts
 - [Master Thesis Mart van der Linden.pdf \(uu.nl\)](#)




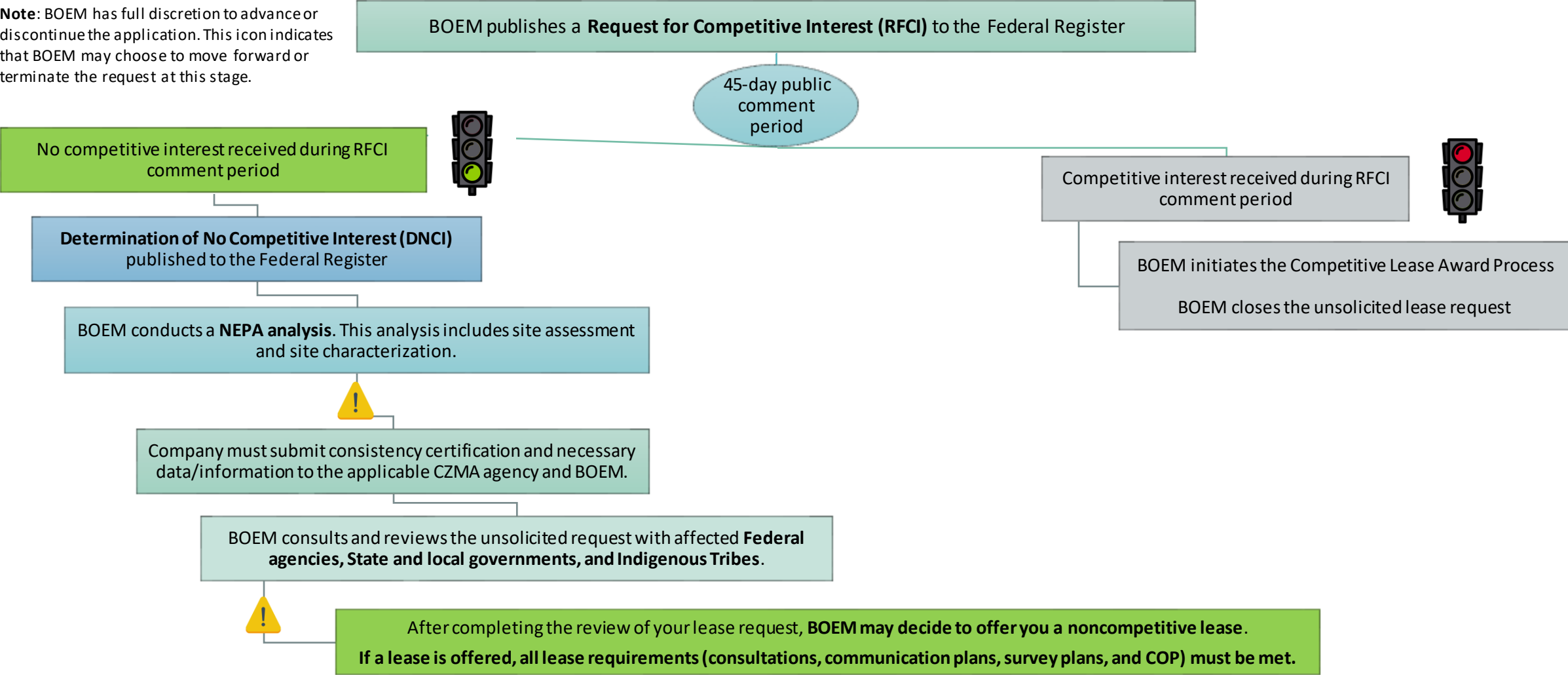


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Unsolicited Lease Request & Non Competitive Lease Process Overview

Overview of the Noncompetitive Lease Award Process

 **Note:** BOEM has full discretion to advance or discontinue the application. This icon indicates that BOEM may choose to move forward or terminate the request at this stage.



Qualifications

- **Legal, technical, and financial** qualifications are required to hold a lease or grant.
 - Per **30 CFR 585.107 and 585.108**
- **Legal** qualification is required only **once**.
- **Technical** and **financial** re-qualifications are **required for every unsolicited renewable energy lease request**.
- •**Note**: This qualification process also applies to participation in all renewable energy lease auctions.

BOEM Regulations on Unsolicited Lease Requests

Information Required: (§ 585.230):

- ❑ Area requested for lease.
- ❑ Description of objectives and facilities to achieve those objectives.
- ❑ Schedule of proposed activities, including those leading to commercial operations.
- ❑ Available and pertinent data and information concerning renewable energy and environmental conditions in the area of interest.
- ❑ If available, a statement that the proposed activity conforms with State and local energy planning requirements, initiatives, or guidance.

Competitive Interest

- If competitive interest is determined, BOEM may initiate the **competitive lease award process** (§ 585.210-216 and § 585.220-225).
- **Competitive Lease Process:**
 - Proposed Sale Notice (PSN) in Federal Register, with 60-day comment period
 - Final Sale Notice (FSN) in Federal Register
 - Auction

No Competitive Interest

- If no competitive interest is determined, a **Determination of No Competitive Interest** published to the Federal Register
- BOEM prepares and provides a written estimate of the **proposed fee to pay for the processing costs** under [§ 585.112](#), including any environmental review that BOEM may require before lease issuance.*
- You will be responsible for submitting any required consistency certification and necessary data and information pursuant to [15 CFR part 930, subpart D](#), to the applicable **State CZMA agency or agencies and BOEM**.
- BOEM: will coordinate and consult with affected federal agencies, states, and local governments, and affected Indigenous Tribes in the review of noncompetitive lease requests.

*Modernization rule effective date July 15, 2024.

NEPA Considerations and Environmental Consultations

NEPA Considerations

- Environmental Assessments (EAs) of this nature typically take **up to 12 months** to complete.
 - BOEM assumes the EA will be for **site characterization and site assessment activities ONLY**
 - BOEM may also need 6 to 12 months of pre-planning, once we know the proposed action, to create a scenario, identify the scope of the analysis, and coordinate public scoping announcements.
 - If significant impacts found, BOEM would have to prepare an EIS and could take up to an additional two years to complete an EIS.

Environmental Consultations

- Environmental consultations (e.g., Government-to-Government, Endangered Species Act, Essential Fish Habitat, Coastal Zone Management Act, and the National Historic Preservation Act consultations) must be complete before any activities may begin. BOEM will need 6-12 months of pre-planning and roughly 12 months to conduct the consultations.
 - Timeline could expand depending on the timing and location of the proposed action and consulting agencies'/parties' timelines.
 - BOEM assumes the consultations will be for **lease issuance, site characterization, and site assessment activities ONLY**.
 - This assumes that if there is no competitive interest, the potential lessee would provide detailed information about the proposed action, including site assessment and site characterization activities and other detailed information BOEM may need to support the development of the scenario.

These processes could take up to 18-24 months to complete if no significant impacts found.





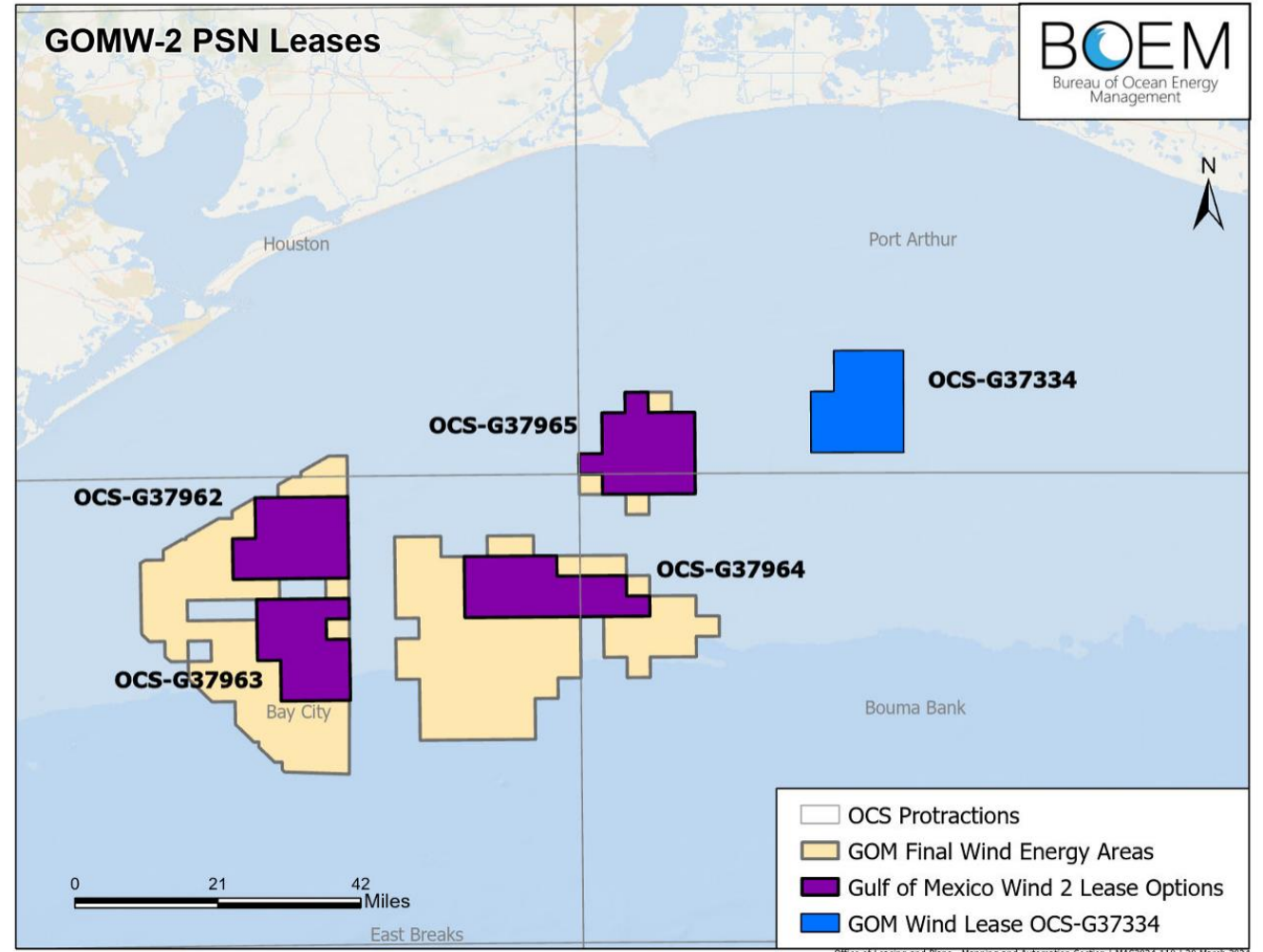
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Gulf Wind 2

GOMW-2 Proposed Sale Notice

Published March 21, 2024

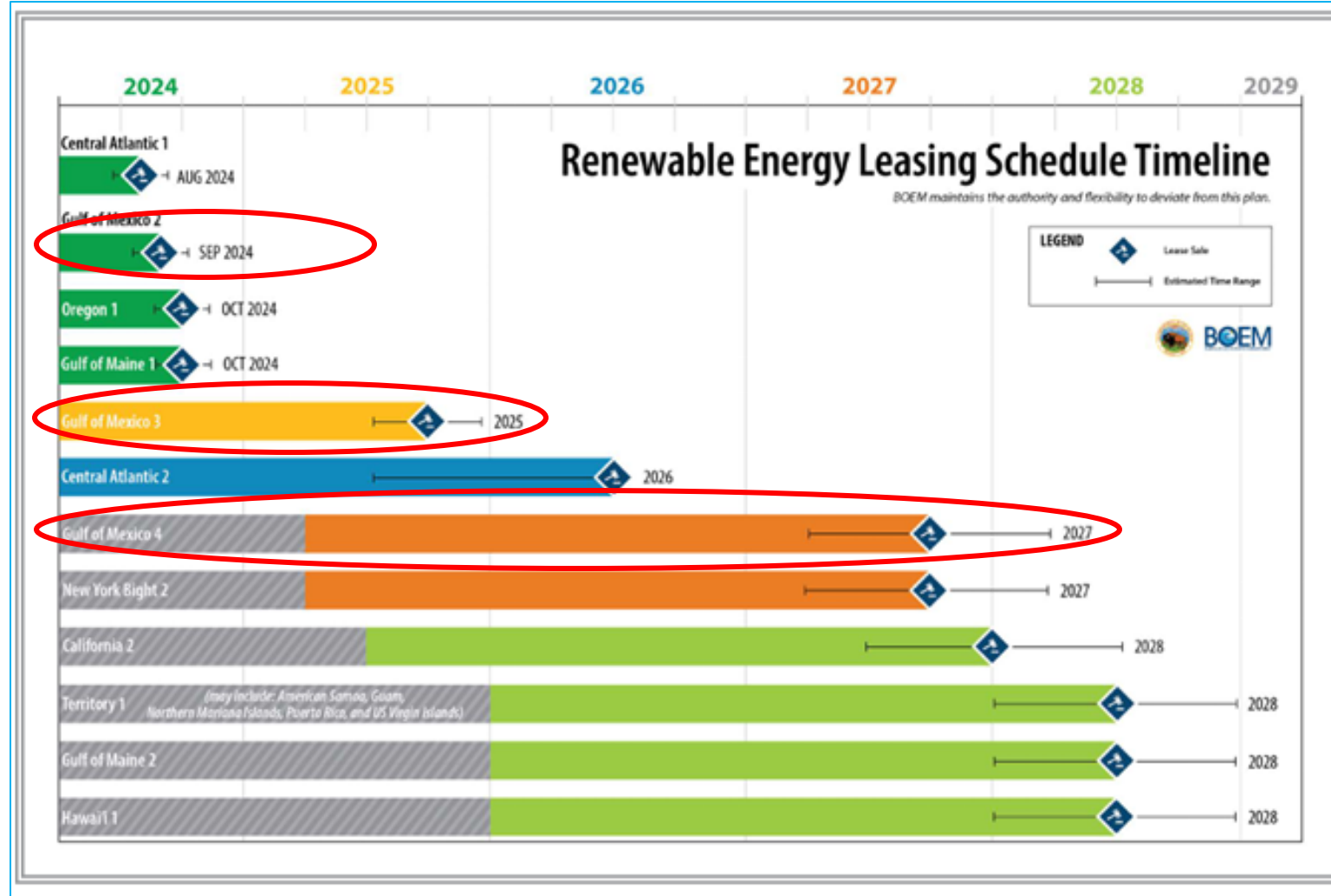
- Comment Period closed May 20, 2024
- Received 24 comments
 - Gulf of Mexico Fisheries Management Council
 - NOAA
 - Texas GLO
 - Southern Shrimp Alliance
 - ACP
 - Louisiana State Senators



Office of Leasing and Plans - Mapping and Automation Section | MAS2024-110 | 20 March 2024

Next Steps

- Review PSN Comments
- Make PSN comment responses public
- Potential publication of FSN
- Ongoing outreach and engagement
- Workshop planning - transmission workshop -DOE/NREL/NCCOS/BOEM - Aug/Oct
- New 5-year leasing schedule
- Updating NCCOS siting model
- GOMW-3 draft WEAs





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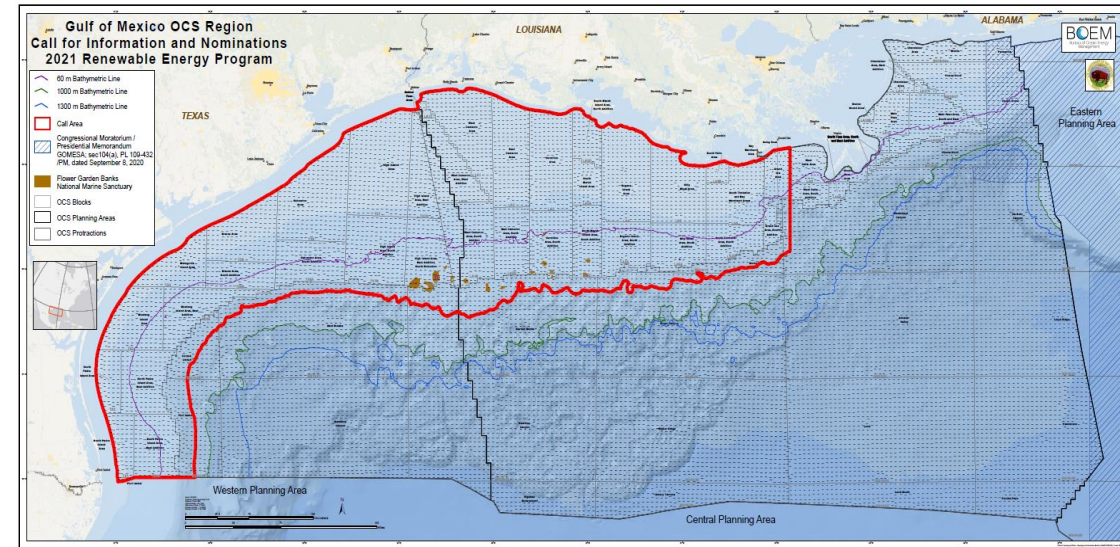
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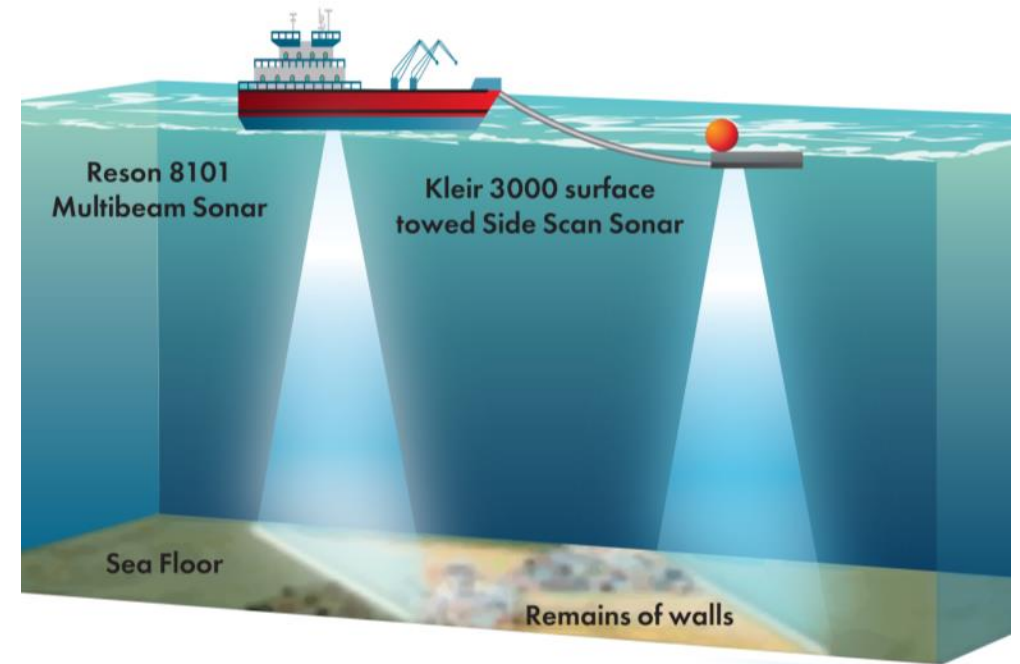
Approach for the EA

- **Approach differs from Atlantic wind energy lease issuance EAs**
 - Analyzed the Call Area rather than the WEAs
 - Allows greater flexibility for future identification of WEAs
 - Provides NEPA coverage for non-competitive and research leases proposed in the Call Area
- **Approach more in line with stakeholders in the GOM Region**
 - Familiar with regional NEPA analysis
 - Similar approach to conventional energy NEPA in the GOM Region
 - Analysis for more than one lease issuance
 - Flexibility for ID of several WEAs and lease areas over time
 - Allows for up to 18 leases to be covered in this analysis



Scope of the Analysis

- **EA is a programmatic assessment**
 - May be used for more than one lease issuance
- **Up to 18 leases in the Call Area**
 - Number of leases based on the estimate of foreseeable future activities based on historical trends of an emerging Renewable Energy Program on the Atlantic OCS
 - EA analyzes impacts of
 - A single OCS wind energy lease issuance
 - Issuance of 18 OCS wind energy leases
- **No more than 6-8 leases issued per lease sale**
 - Similar to those issued for Atlantic sales



Example of a seafloor survey

Offshore Wind Operations Plan Example

How an offshore wind farm works

Electric ground station

Transforms direct current into alternating current to supply electricity to buildings and infrastructure.

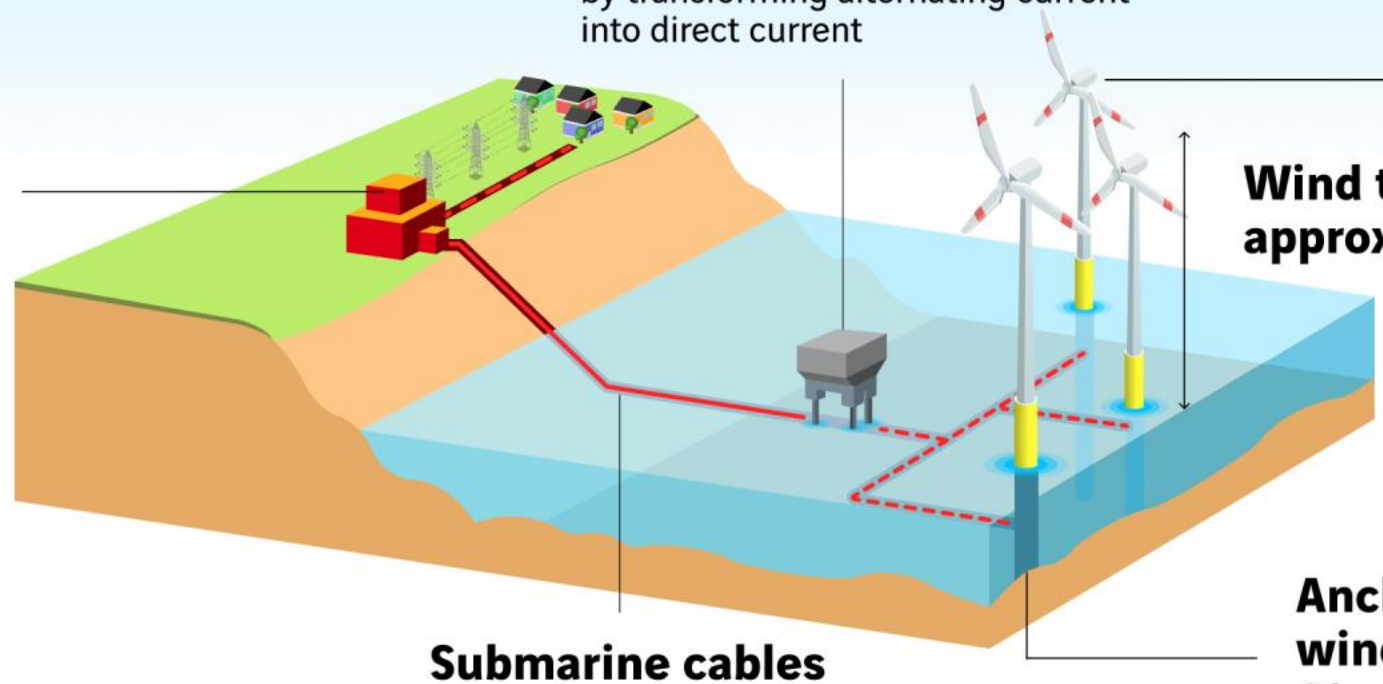
Offshore transformer substation

Minimises the energy loss associated with energy transmission by transforming alternating current into direct current

Offshore wind farm

Wind turbines: approximately 200 m high

Anchoring depth of wind turbines: 40 m maximum



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Submarine cables

[Offshore wind power: The global situation | VINCI | eMAG](#)

BOEM Program Authority



Oil & Gas

BOEM manages the nation's offshore resources to ensure that exploration and development activities are conducted in a **safe and environmentally sound** manner.



Renewables

BOEM is responsible for **offshore renewable energy** development in Federal waters. Development is anticipated from offshore wind energy, ocean wave energy, and current wave energy.



Marine Minerals

BOEM manages **sand and gravel** on the OCS. Used for coastal restoration projects (beach nourishment, coastal habitat restoration), building coastal resilience to deal with future storms / rising sea levels.

- **EFH Consultation with NMFS was completed for the call area on 12/14/2022.**
 - This consultation considered the site assessment and site characterization activities from up to 18 leases.
- **ESA Consultation for site assessment and site characterization**
 - Consultation with FWS completed on 11/18/2022; considered up to 18 leases in the call area.
 - Consultation with NMFS completed on 12/14/22; considered up to 18 leases in the call area in water depths no greater than 100 m.
- **NHPA Section 106**
 - Invitations to consult were sent 1/31/24, with responses due 2/29/24.
- **Government-to-Government Consultation**
 - Letters inviting consultation were sent to tribes with a known interest in GOM.
 - Several responses received requesting to be informed throughout the process.



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