CEQ GUIDANCE ON GHG EMISSIONS, CLIMATE CHANGE, AND RENEWABLE ENERGY DEVELOPMENT IMPLICATIONS

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CEQ Interim Guidance on GHG and Climate Change

• CEQ NEPA interim guidance takeaways:

- Quantify reasonably foreseeable direct and indirect gross and net GHG emissions increases or reductions, both for individual GHG pollutants and aggregated in terms of carbon dioxide equivalence;
- Use the best available estimates of the social cost of GHGs to monetize the climate change effects of a project's GHG emissions;
- Use information from the NEPA process to help inform decisions that align with climate change commitments and goals, such as evaluating reasonable alternatives that would have lower GHG emissions;
- Consider the projected future state of the environment and the effects of climate change on a proposed action based on the best available climate change reports;
- Consider effects of climate change on environmental justice and underserved communities when designing a project and identifying alternatives.
- CEQ emphasizes the "urgency of the climate crisis and NEPA's important role in providing critical information to decision makers and the public."

Recent NEPA Cases on Greenhouse Gas Emission

Food & Water Watch v. Fed. Energy Reg. Comm'n, 28 F.4th 277 (D.C. Cir. 2022) Two environmental groups petition for review of FERC's decision to authorize a new natural gas pipeline and compressor station in Agawam, Massachusetts. The D.C. Circuit found the EA failed to account for the reasonably foreseeable indirect effects of the project —specifically, the greenhouse-gas emissions attributable to burning the gas to be carried in the pipeline. The D.C. Circuit granted Food & Water Watch's petition for review and remanded for preparation of a conforming EA.

350 Montana v. Haaland, 29 F.4th 1158 (9th Cir. 2022), amended by 50 F.4th 1254 (9th Cir. 2022) Environmental organizations brought action against Office of Surface Mining Reclamation and Enforcement alleging violations of NEPA in connection with approval of proposed expansion of coal mine in Montana. Ninth Circuit found that the record is unclear about the significance of the magnitude of the project's GHG contribution (0.44 % of global) to the environmental harms identified in the EA.

Diné Citizens Against Ruining Our Environment v. Haaland, 2023 WL 1430620 (10th Cir. 2023) BLM failed to take requisite hard look under NEPA at impact of greenhouse gas emissions in EAs in connection with BLM's approvals of applications for permits to drill for oil and gas in shale formations where BLM used the emissions calculated for one year to represent the estimated direct and indirect emissions over a 20-year period and BLM did not explain why using the carbon budget method would not contribute to informed decisionmaking.

Abundant Offshore Wind Potential in the U.S.

Total technical potential: 2,059 GW - nearly twice the total utility-scale electric generating capacity in the US at the end of 2020

Only 4% of technical resource area would need to be developed to reach 86 GW by 2050



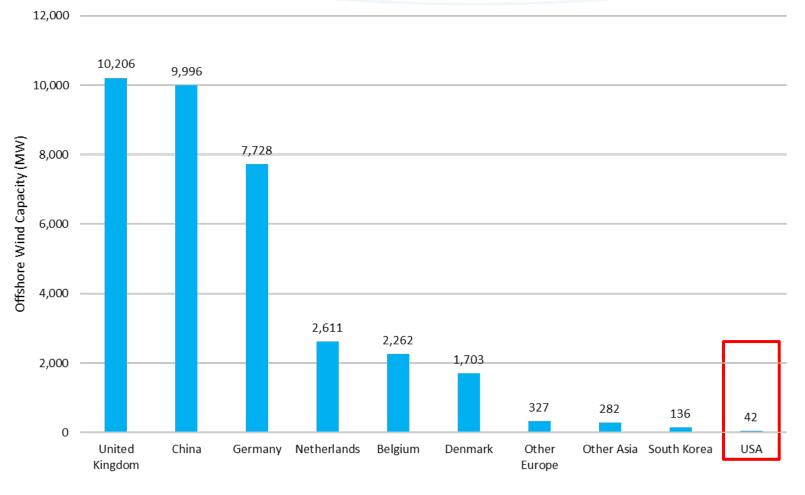
Hawaii Data Source: AWS Truepower 0-12nm; Vaisala/3Tier 12-50nm; linear extraction by NREL to 200nm. National Renewable Energy Laborat

Global vs. U.S. Offshore Wind Installations



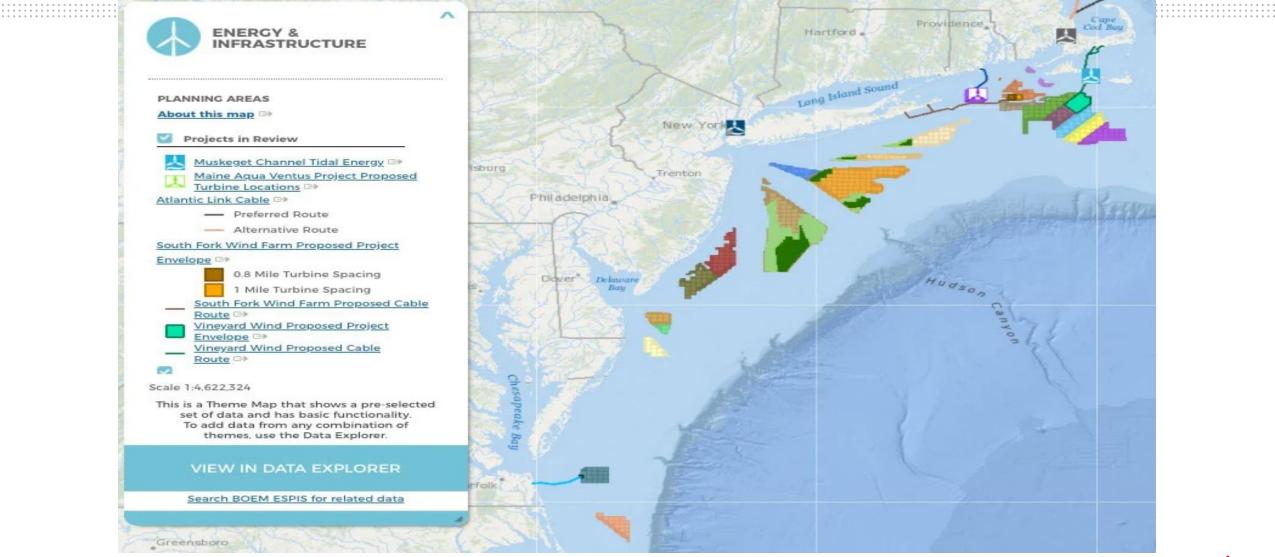
- 24,837 MW in Europe
- 10,414 MW in Asia-Pacific
- 42 MW in U.S.
- 2020 Additions
 - 3,060 MW in China
 - 1,493 MW in Netherlands
 - 706 MW in Belgium
 - 12 MW installed in U.S.

Total Global Offshore Wind Installations, 2020



Source: GWEC Global Wind Report 2021

30 GW of offshore wind by 2030

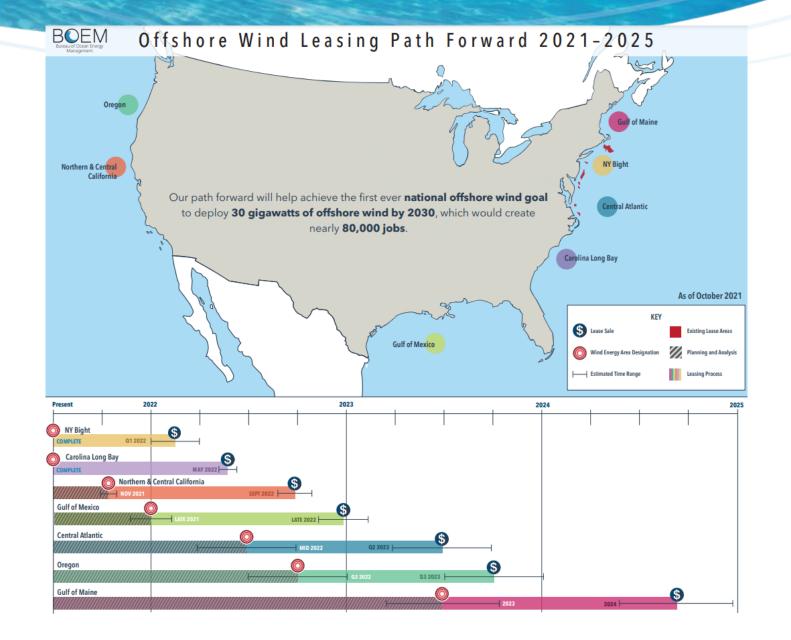




BOEM Path Forward: Leasing in 2022 - 2025

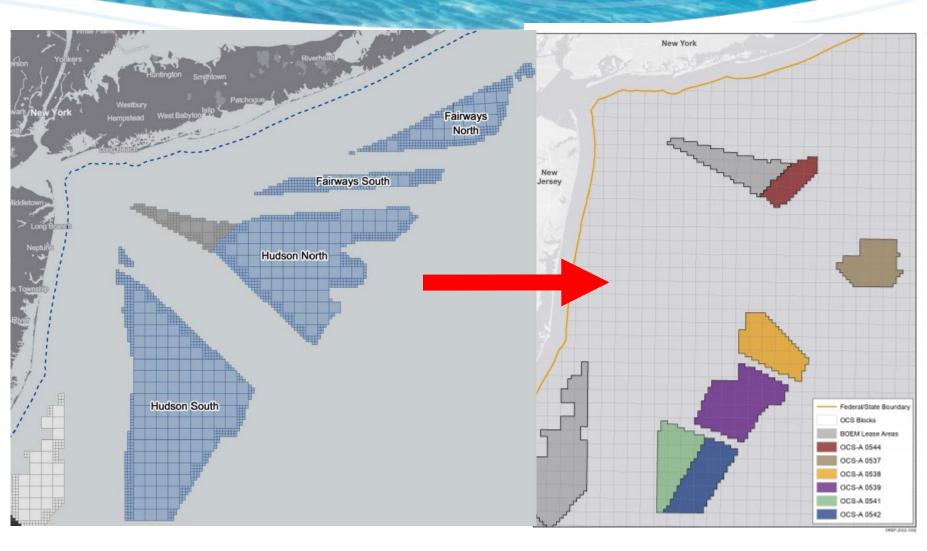
Leasing schedule:

- NY Bight February 2022
- North Carolina May 2022
- California December 2022
- Gulf of Mexico Proposed Sale Notice Feb. 24, 2023
- Central Atlantic mid 2023 (8 Wind Energy Areas)
- Oregon late 2023 (Call for Nominations on 2 Areas)
- Gulf of Maine late 2024



NY Bight Lease Sale - February 23-25, 2022 - \$4.37 Billion in winning bids

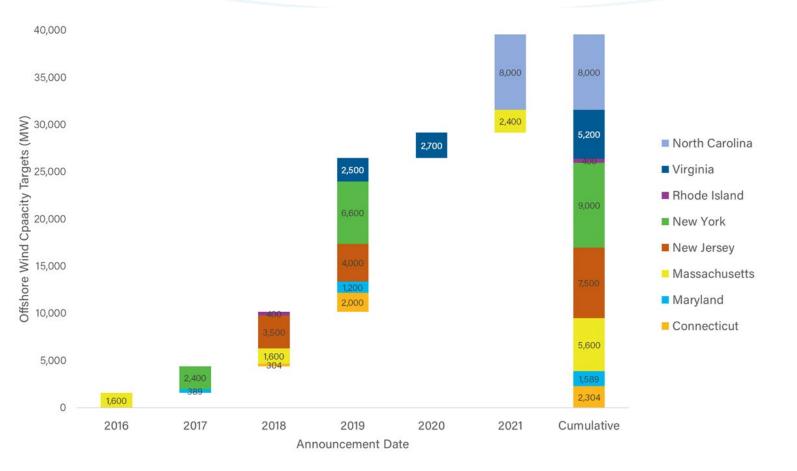
- First lease sale in the Biden Admin
 - o 6 leases
 - 25 qualified bidders
- Planning process began in 2017.
- 72% reduction from Call Area; 22% reduction from proposed sale notice (mostly for fishing conflicts)



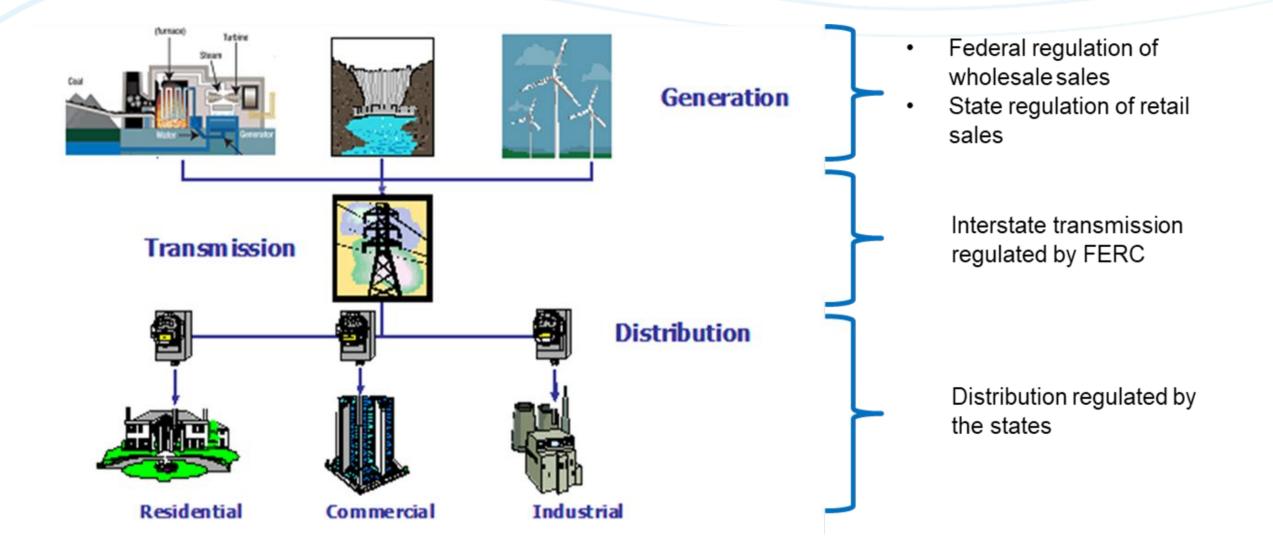
States are Driving Demand

States have established nearly 40 GW of offshore wind procurement targets through legislation, conditional targets, or executive orders

- New York: 9,000 MW by 2035
- •New Jersey: 7,500 MW by 2035
- Virginia: 5,200 MW by 2034
- Massachusetts: 1,600 MW by 2027.
 - Authorized additional 4,000 MW by 2035
- Connecticut: 2,000 MW by 2030, plus 304 MW purchased in 2018
- Maryland: 1,200 MW by 2030, plus 389 MW purchased in 2017
- Rhode Island: 400 MW purchased in 2018
- North Carolina: 8,000 MW by 2040 (2,800 MW by 2030)



Regulation of the power grid is split between state and federal government



- Energy inputs into the grid must always equal energy withdrawals at all times
- Electricity follows the path of least resistance
- Each element of the grid has a limit to the amount of energy it can transfer (and very bad things happen if that limit is exceeded)

