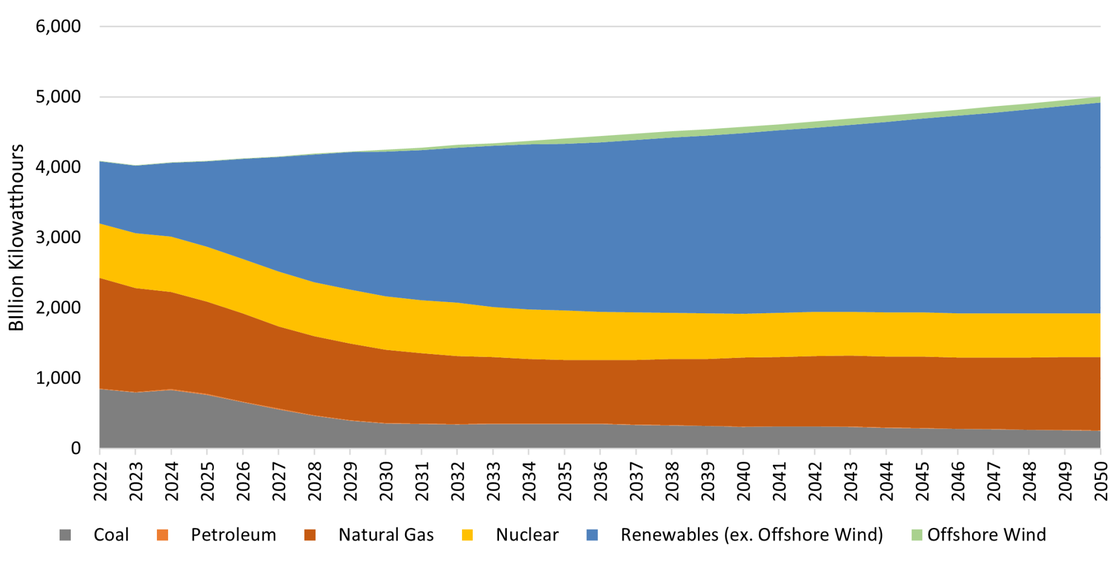
Bureau of Ocean Energy Management | Department of the Interior

Economic Impacts of Offshore Wind

What Are the Advantages of Offshore Wind?

- **High Energy Potential:**
  - ✓Offshore wind speeds are often faster and more consistent than onshore winds, leading to reliable energy production.
- **Proximity to Population Centers:**
  - ✓Areas with strong wind speeds are often located near densely populated areas, allowing for strategic placement of lease areas.
- **Land Use Efficiency:**
  - ✓Valuable onshore land is left free for alternative uses, recognizing the opportunity cost associated with choosing where electricity is generated.
- **Job Creation:**
  - ✓As the industry grows, a diverse workforce of engineers, metal workers, electricians, turbine technicians and many other professions will be in high demand.

UNITED STATES TOTAL ELECTRICITY GENERATION[1]



The United States' total electricity generation is predicted to rise by roughly 25 percent over the next 27 years, according to the EIA's 2023 Annual Energy Outlook. In 2022, renewables accounted for about 22% of all electricity generated; by 2050, that percentage is expected to rise to over 60%. At its peak, offshore wind is projected to make up 3.5% of renewables.

[1]*Energy Information Administration 2023 Annual Energy Outlook – Generation by Fuel Type*

COMPARISON OF ENERGY RESOURCES

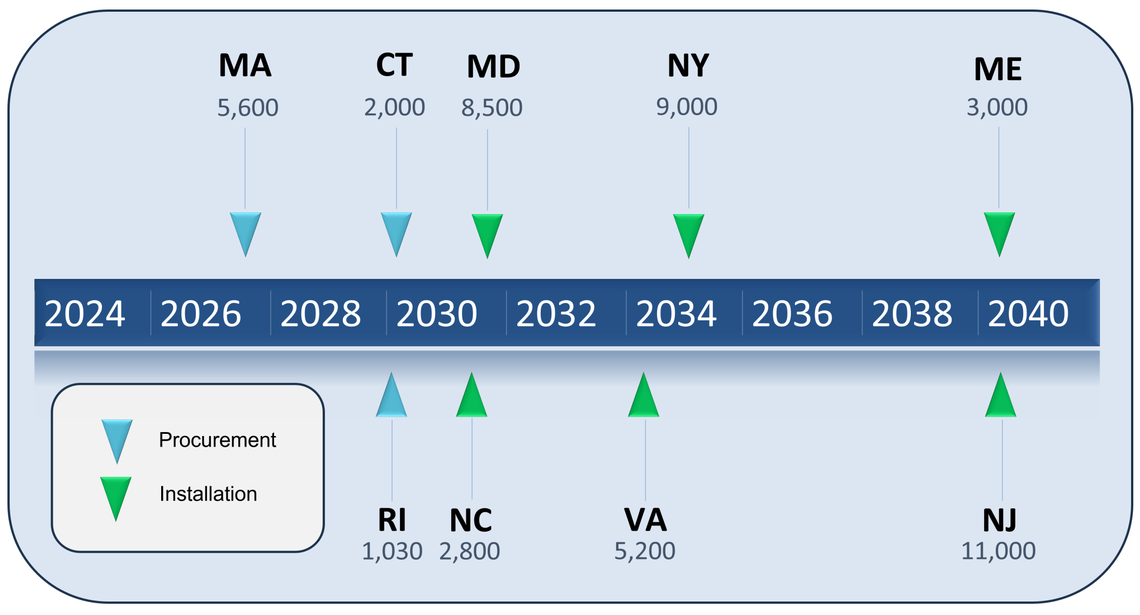
Resource	LCOE ($/MWh)[2]	LCOE Including Tax Credits ($/MWh)[2]	Life Cycle GHG Emissions (g CO2e/KWh)[3]	Capacity Factor[2]
Offshore Wind	$127	$100	19	44%
Onshore Wind	$51	$31	12	40%
Biomass	$95	$77	52	83%
Solar	$41	$23	43	29%
Geothermal	$45	$37	37	90%
Hydropower	$73	$57	21	56%
Nuclear	$91	$71	13	90%
Natural Gas	$43	$43	486	87%
Coal	$89	$89	1001	85%

Despite its high levelized cost of energy (LCOE), offshore wind development reduces greenhouse gas emissions when it displaces coal and natural gas. LCOE for offshore wind is expected to be more competitive as the industry matures in the United States.

[2]*Energy Information Administration 2023 Annual Energy Outlook – Estimated Unweighted Levelized Cost of Electricity and Levelized Cost of Storage*

[3]*National Renewable Energy Laboratory - Life Cycle Emissions Factors for Electricity Generation Technologies*

EAST COAST OFFSHORE WIND STATE PROCUREMENT TIMELINE (MW)



ROLE OF POWER PURCHASE AGREEMENTS