Offshore Wind: Maximizing Opportunity and Protecting Resources

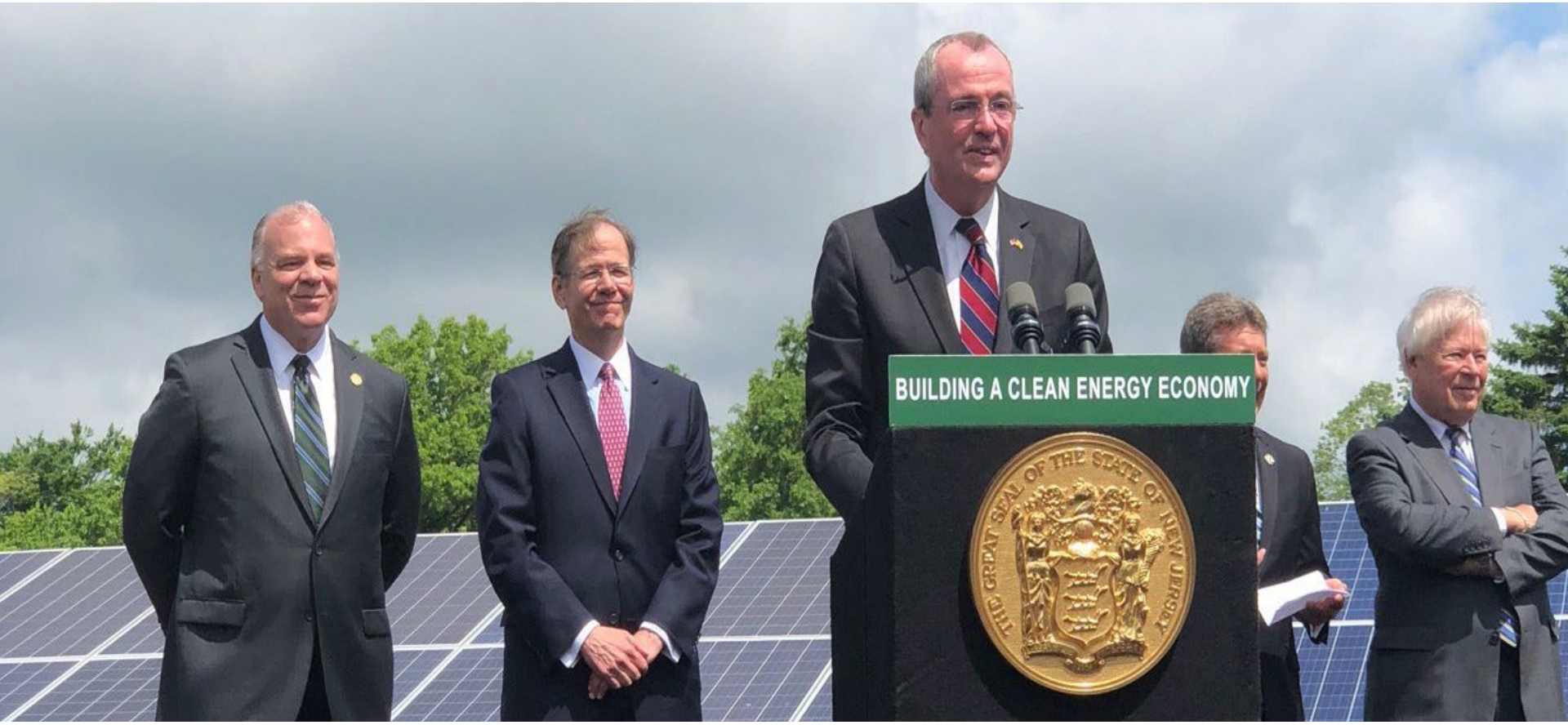
NEW JERSEY COASTAL RESILIENCE SUMMIT
CHARTING A COURSE FOR THE FUTURE
October 10, 2018

NEW JERSEY ECONOMIC DEVELOPMENT AUTHORITY

New Jersey's Commitment to Renewable Energy:

3,500 MW of offshore wind by 2030

100% Clean Energy by 2050



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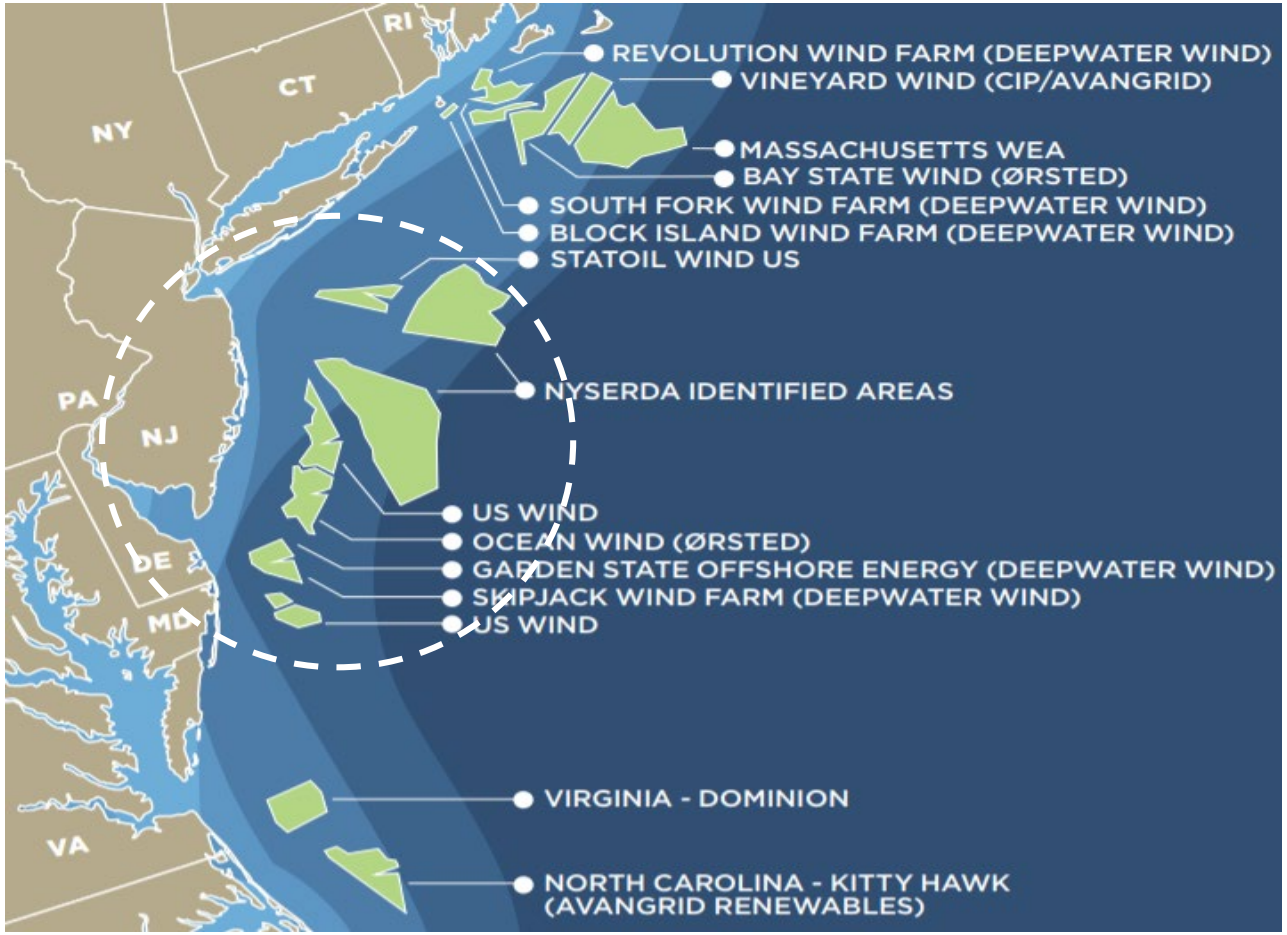
New Jersey offers access to the largest offshore wind lease area in the U.S.



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The State is not only seeking the lowest cost but the <u>best value</u> for New Jersey…




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“Best Value” is clearly defined under OWEDA

To receive ORECs, applicants must demonstrate **“positive Net-Economic and Environmental Benefits for the State”** (N.J.A.C. 14:8-6.5):

- **Environmental benefits** include greenhouse gas reductions and other reduced emissions;
- **Economic benefits include:**
  - ✓ In-State activity from construction, operations and maintenance, and equipment purchases;
  - ✓ In-State impacts or benefits from employment, wages, Indirect business taxes, and output,* with a particular emphasis on manufacturing employment.

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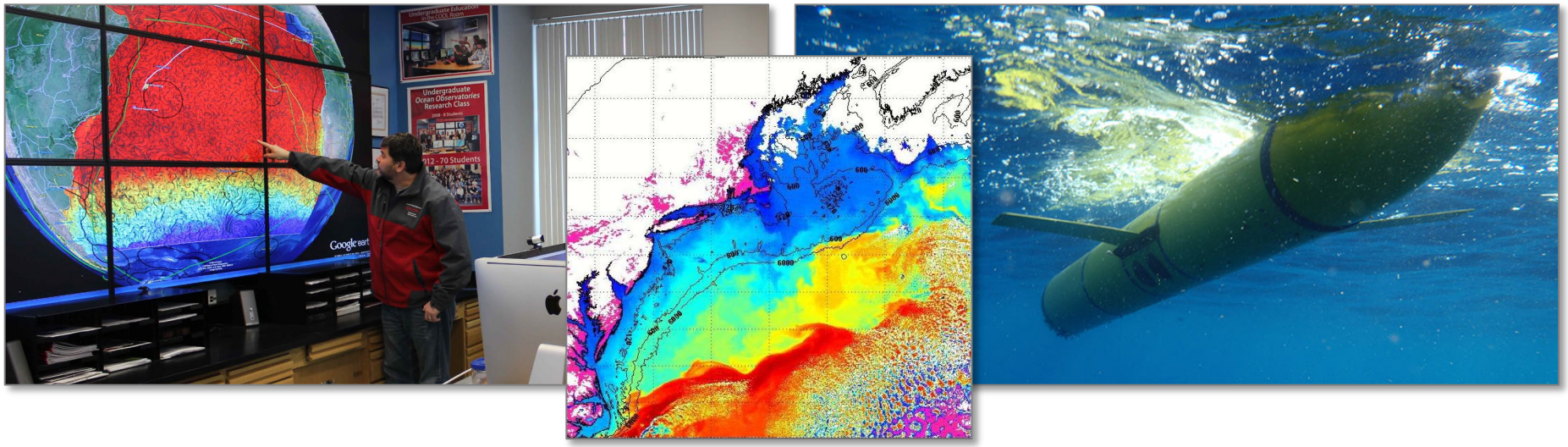
New Jersey scientific research labs are supporting offshore wind

Rutgers University - Center for Ocean Observing Leadership (RU-COOL)



- NJDEP Ecological Baseline Assessment (2010)
- RU-COOL Advanced Offshore Wind Modeling (2010 – Present)
- NREL Validation Study of Offshore Wind Modeling (2018)
- Mid-Atlantic Regional Association Coastal Ocean Observing System (MARACOOS) covers the region of Cape Cod, MA to Cape Hatteras, NC

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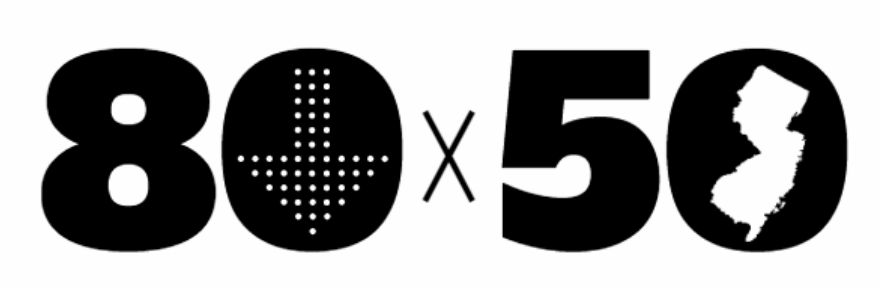
Big Picture of Addressing Climate Change



NJ Global Warming Response Act

Mandates that statewide greenhouse-gas emissions are limited to 80% below 2006 levels by 2050

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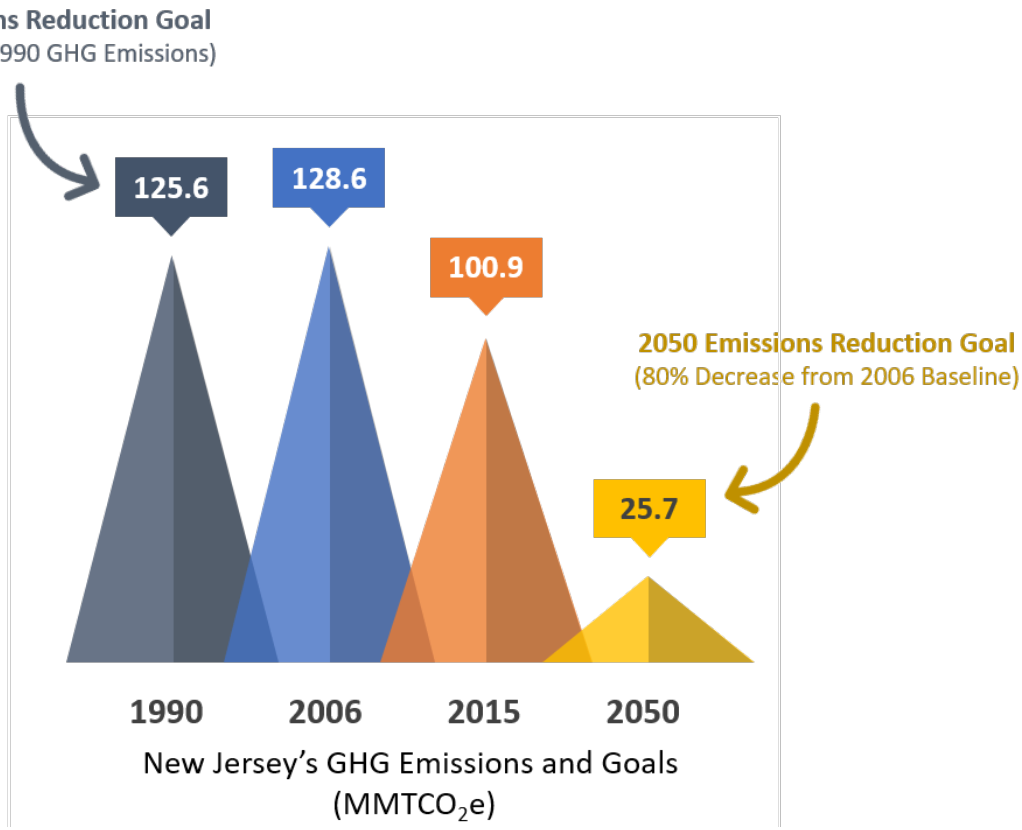
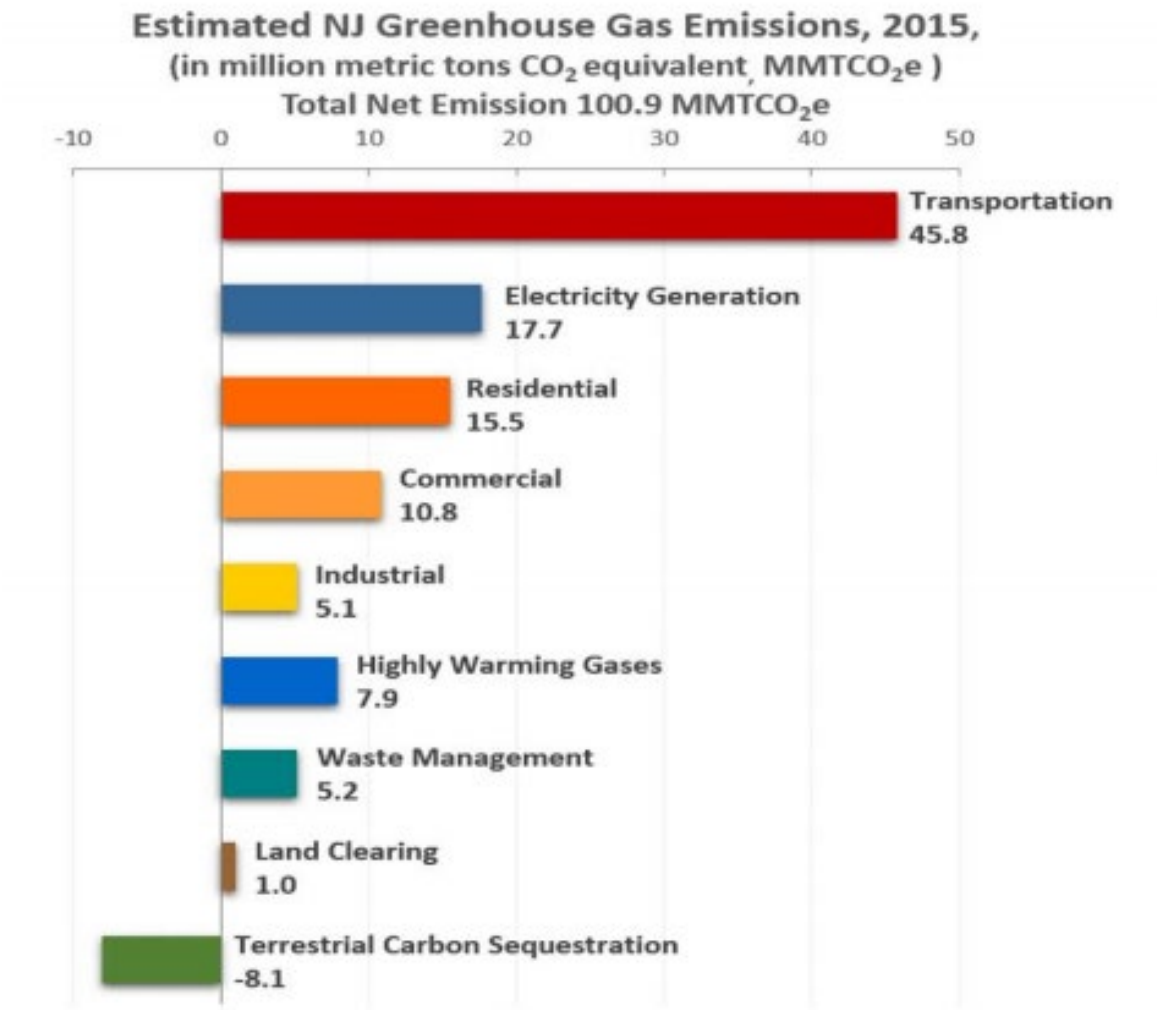
How do we get there? What is the role of renewable energy?



New Jersey's Greenhouse-Gas Emissions



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Reducing Greenhouse-Gas Emissions is not just about Climate Change

Reducing our use of fossil fuels results in the reduction of other pollutants, such as:

Carbon Monoxide
Nitrogen Oxides
Sulfur Dioxide
Volatile Organics
Particulate Matter
Ammonia
Mercury

This results in improved air quality and creates local health benefits.

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Offshore Wind and Greenhouse-Gas Reductions

OFFSHORE WIND CAPACITY (MW)	PROJECTED GENERATION* (MWh)	ESTIMATED ANNUAL EMISSIONS AVOIDED** (Tons)		
		CO_2	NO_x	SO_2
3,500	15,330,716	**7,269,716**	**5,749**	**5,979**
		VOC	PM_{25}	PM_{10}
3,500	15,330,716	**62**	**209**	**218**
		NH_3	CO	Hg
3,500	15,330,716	**94**	**570**	**0.02**

*50% capacity factor;
**CO_2, NOx, and SO_2 values estimated based on PJM emission factors (PJM-EIS public report on System Mix for 2017 @ https://gats.pjm-eis.com/GATS2/PublicReports/PJMSystemMix/Filter ; other criteria pollutant values calculated based on USEPA Air Emissions Inventory @ https://www.epa.gov/air-emissions-inventories/air-pollutant-emissions-trends-data (2017) and generation data from USDOE Energy Information Administration @https://www.eia.gov/electricity/data/browser/ .

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