



New Jersey 2024 Energy Master Plan

Public Hearing #3

New Jersey Board of Public Utilities

May 29, 2024

ILLUME



Energy+Environmental Economics

New Jersey Energy Master Plan Goals



The overarching goal of this study is to create New Jersey's 2024 Energy Master Plan (EMP), which outlines the state's strategic use, management, and development of energy. The 2024 EMP will reflect the State's accelerated goal of reaching 100% clean energy by 2035.

The 2024 EMP will consist of several elements:



A progress report on New Jersey's successes and barriers toward meeting 2019 EMP goals



A policy analysis that includes a literature review of national best practices, executive orders, funding opportunities, and actions to inform the decarbonization scenarios



An Integrated Energy Plan based on economy-wide energy system modeling of New Jersey's pathways for meeting near and long-term climate and energy goals



An analysis of the impact that electrification and decarbonization will have on customer costs



Strategic stakeholder engagement and incorporation of feedback throughout the EMP process

What is new for 2024?

The current analysis aims to build off and improve on the 2019 EMP by:

- + Conducting a deeper and more robust study on the costs of climate mitigation for NJ residents**
 - The study will include detailed gas and electric rate modeling, in addition to the up-front capital costs of decarbonization
- + Exploring how a diverse range of energy demand reduction strategies may help alleviate peak electric load**
- + Exploring the potential of using gas to provide back-up heating during the coldest hours of the year**
- + Studying the cost and required infrastructure of achieving a zero-emissions electric sector**
- + Including detailed inputs and assumptions on the offshore wind industry that are being developed as part of the Offshore Wind Strategic Plan 2**

2024 EMP UPDATE TIMELINE

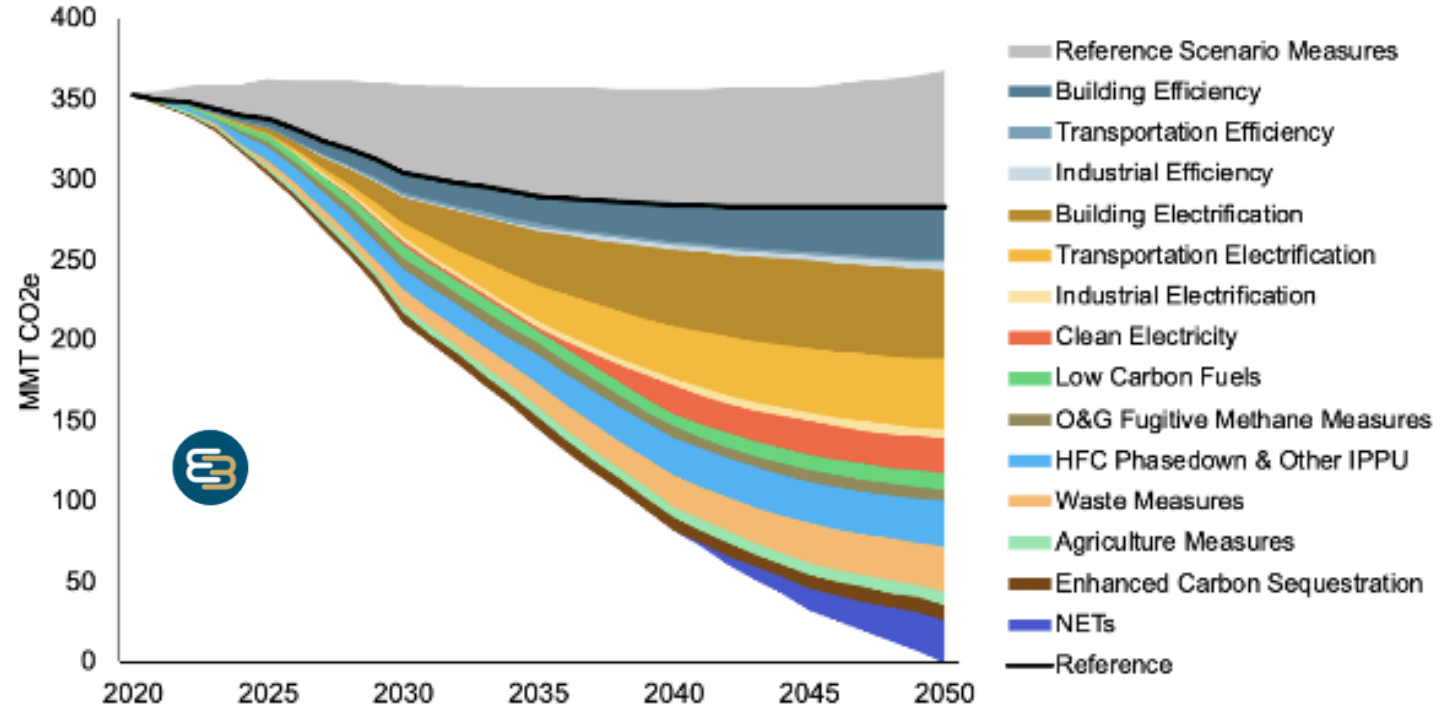


Milestone	Timeline
Consultant Selection	Q4 2023
Four Public Hearings	Q2 2024
Draft EMP	Q3 2024
Final EMP	Q4 2024
Final Comprehensive Climate Action Plan	Q3 2025



E3 is the national leader in developing rigorous, state-level and utility-specific clean energy plans

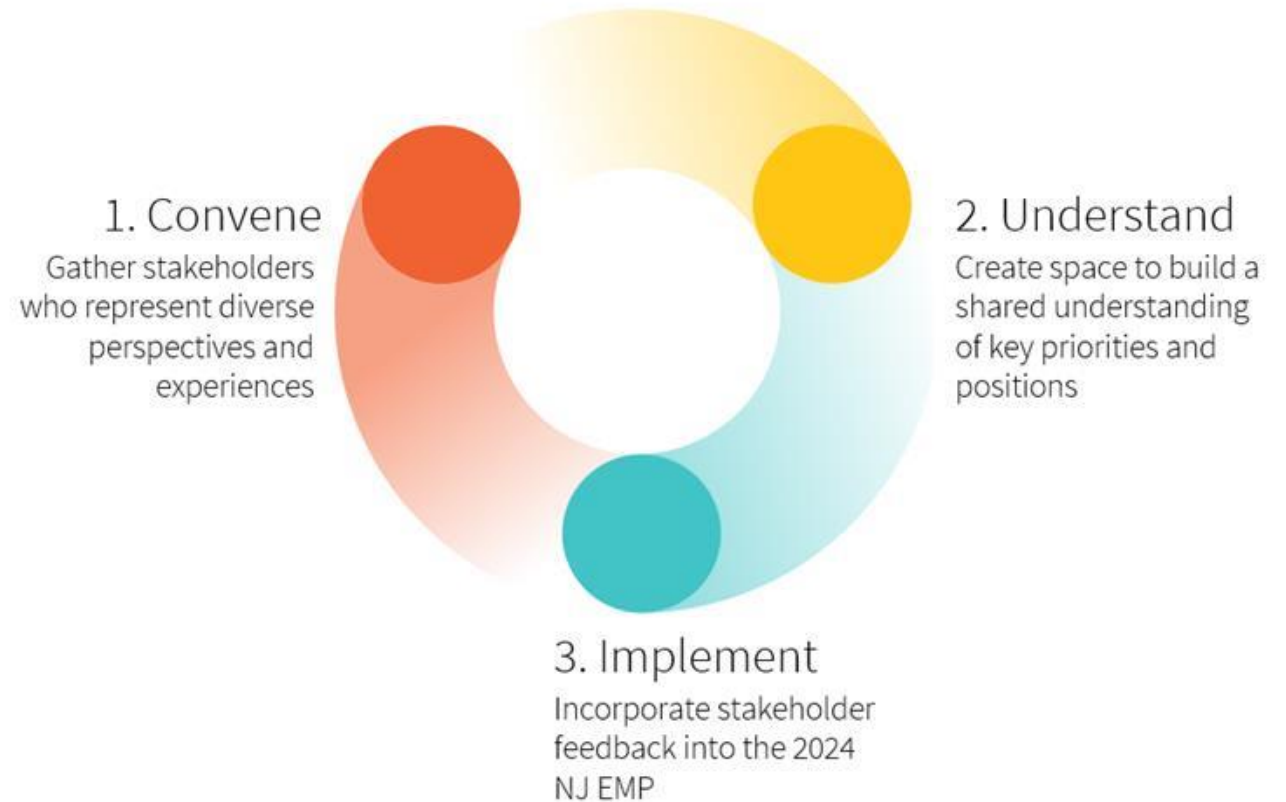
E3 models GHG emissions reduction measures to decarbonize states and regions, and addresses the challenges associated with deep decarbonization across North America and the east coast. Notable states E3 has completed energy master planning for include New York, Maryland, Maine, North Carolina, Colorado, California, Oregon, Minnesota, and New Mexico



Recent Projects

- US Climate Alliance Greenhouse Gas Emissions through 2050
- New York Climate Action Council Scoping Plan
- Impact of Massachusetts's Decarbonization Goals on Local Gas Distribution Companies

ILLUME provides expertise in elevating the perspectives of **stakeholders to shape a more equitable energy future. To support the development of the Energy Master Plan, ILLUME will convene small-group workshops to understand the perspectives of key community stakeholders and incorporate these findings into the planning process.**





May 29, 2024 – Public Hearing 3 Strategies 6 & 7 in the 2019 EMP



Strategy 6 - Support Community Energy Planning and Action



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6.1 - Encourage and support municipalities to establish and enact Community Energy Plans

- In 2020 Office of Clean Energy Equity redesigned CEPG program
- OBC's receive \$25,000 grant
- After CEPG, municipalities eligible to receive Community Energy Plan Implementation Grants of up to \$250,000

6.1.3 - Prioritize EE programs in LMI and EJ Communities

- See Stakeholder 2 presentation
- Overall re-orientation of state+ utility EE programing towards LMI and EJ communities including HOMES/HEERA, Utility EE, Comfort Partners, Whole House Pilot.



Strategy 6 – Support Community Energy Planning and Action

6.3 - Prioritize clean transportation options in LMI and EJ communities

- ChargeUp program
- PIV Act of 2021, EV purchase goals
- RGGI Strategic Funding Plan- cross agency initiatives for EV purchases and deployment in OBCs
- Utility+state charging incentives
- NEVI program



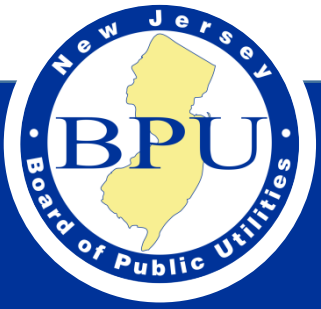
Strategy 6 – Support Community Energy Planning and Action

6.4 - Identify barriers that prevent the participation in and benefit from the clean energy economy and create outreach programs that work with communities to overcome those obstacles

- Office of Clean Energy Equity (OCEE)
 - Established in 2020 at NJBPU to bring an equity lens to the development of clean energy program development and implementation and development of plans to expand workforce diversity in the space
- Council on the Green Economy
 - Multiple Reports on green workforce,
 - Council made up of diverse stakeholders to work on issues related to current and future participation in the green economy



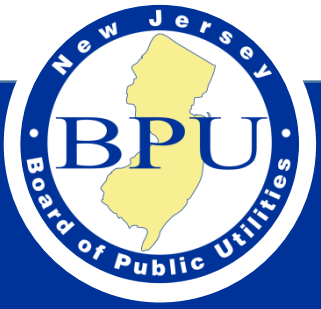
Strategy 7 – Expanding the Clean Energy Innovation Economy



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7.1 - Grow world-class research and development and supply chain clusters for high-growth clean energy sub-sectors

- Wind Institute Fellowship Program and RMI invested in OSW research at 8 NJ Universities
- NJ Wind Port
- Paulsboro Monopile Facility



Strategy 7 – Expand the Clean Energy Innovation Economy

7.2 - Establish workforce training programs to ensure New Jersey has the local expertise necessary to support a growing clean energy economy and provide support to those in stagnating industries to refine their skills in line with new needs

- BRIDGE and OSW Workforce Grant Challenge awarded almost \$9 million in skills development training programs
- Wind Institute partnerships with numerous vocational training providers



Strategy 7 – Expand the Clean Energy Innovation Economy

7.3 - Provide innovative financing and low-cost loans to support in-state clean energy projects and technology development

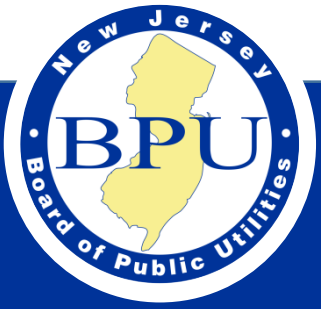
- Launch of NJ Green Bank
- NJEDA and Green Bank are State Energy Financing Institutions for federal Loan Program (LPO) funding
- NJEDA included as a sub-awardee from National Clean Investment Fund program application to EPA
- C-PACE and Clean Energy Revolving Loan Fund



Strategy 7 – Expand the Clean Energy Innovation Economy

7.4 - Capitalize on offshore wind economic development opportunities, including establishment of the WIND Institute, to provide the coordination and connection to resources, including workforce training, research and development, and capital investments to make New Jersey the home of the U.S. offshore wind industry

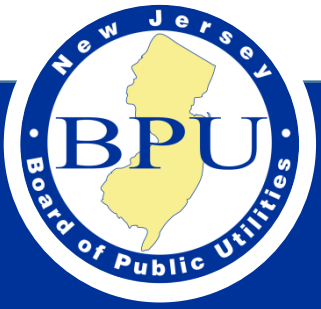
- Wind Institute for Innovation and Training housed within EDA has launched a portfolio of workforce and research programs



Strategy 7 – Expand the Clean Energy Innovation Economy

7.5 - Establish a Clean Energy New Technology Innovation Center and other state-level facilities and resources to support research, development, and commercialization for promising and emerging clean energy innovations

- HAX Strategic Innovation Center focused on climate tech in Newark, and plans for OSW/renewable energy innovation center is currently in development.



Strategy 7 – Expand the Clean Energy Innovation Economy

7.6 - Explore establishing a Clean Buildings Hub to develop workforce training, awareness, and education for builders, architects, contractors, engineers, real estate agents, and code enforcers in the most efficient electrification, construction, and retrofit building techniques

- Launch of Clean Buildings Working Group
- Currently Evaluating next steps for programming



Case Study: New Jersey Wind Institute



Mission & Focus Areas



ACCELERATE DEVELOPMENT OF A ROBUST AND DIVERSE OFFSHORE WIND WORKFORCE



CHAMPION RESEARCH AND INNOVATION THAT UNLOCKS MARKET POTENTIAL

The Wind Institute galvanizes cross-organizational efforts across **four key areas**:



01

Training

Prepare NJ residents for high-wage and high-growth jobs, with a focus on NJ's overburdened communities



02

Education

Build public engagement and education opportunities on the science & benefits of offshore wind farms



03

Research

Support cutting-edge research that addresses the most pressing challenges facing the offshore wind industry



04

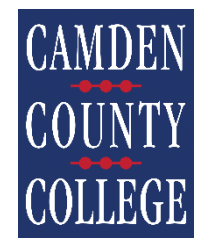
Innovation

Deliver resources to support early-stage offshore wind technology development and commercialization





Wind Institute Collaborators and Grantees



OSW Workforce Development Training Grants (round 1)



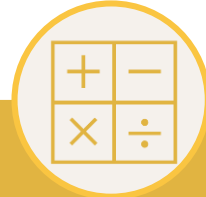
Apex Solutions Foundation

- ▶ Train-to-hire program focused on construction trades & operations specialty managers
- ▶ OSHA 30-Hour
- ▶ LEED Green Associate
- ▶ PMI-CP Construction Professional
- ▶ Atlantic City and South Amboy focus



Eastern Atlantic States Carpenters Technical College

- ▶ Pre-apprenticeship program focused on pile driving, millwright, and carpentry fundamentals
- ▶ Offshore wind modules, including marine training and working on vessels
- ▶ Specific participation targets for women and people of color
- ▶ Atlantic City focus



Ivy Hill Neighborhood Association

- ▶ Pre-apprenticeship program focused on math and verbal upskilling
- ▶ Introduction to offshore wind
- ▶ Prep for exams and admission to apprenticeships and skills training programs
- ▶ Newark focus



Mid-Atlantic States Career and Education Center

- ▶ Lifting Futures Forklift Training
- ▶ Welding Training
- ▶ Siemens Certified Mechatronics Systems Assistant Certification (Level 1)
- ▶ Siemens Certified Mechatronics Systems Associate Certification (Level 2)
- ▶ Salem County focus



New Jersey Environmental Justice Alliance

- ▶ Training on environmental justice, offshore wind, construction site safety, and introductory carpentry and electrical skills
- ▶ OSHA 30-Hour
- ▶ 8-Hour Fall Prevention
- ▶ Newark focus

Wind Institute Fellowship Program

The Wind Institute Fellowship Program provides NJ undergraduate and graduate university students with an opportunity to conduct paid, independent research in offshore wind over an academic year.



Students receive a financial stipend to conduct research under the mentorship of a university faculty advisor



Students gain industry knowledge through monthly cohort meetings, guest lectures, site visits, and other activities



Students present their research findings to industry, academic, and community stakeholders at annual symposium



2022-23 cohort supported 26 fellows across 4 NJ universities; 2023-24 cohort grew to 40 fellows across 8 NJ universities



Innovation Center (in development)



Solidify New Jersey as an innovation hub for offshore wind and clean energy, building on existing expertise and facilities



Create targeted space and resources for clean energy start-up companies



Attract industry, academic, and other partners to leverage resources and catalyze technology development

Next Steps

- The Board is accepting written and/or electronic comments.
 - The deadline for comments on this matter is 5:00 p.m. E.T. on June 12, 2024.
 - Please file electronic comments under Docket No. QO24020126, and if mailed, please include the Docket No. in the subject line to the Board Secretary at board.secretary@bpu.nj.gov.
- The fourth EMP Public Hearing is on June 3, 2024 at 1:00 p.m. E.T and will review Strategies 1 – 7 listed in the 2019 EMP.