

# NJ 2019 EMP Final – Executive Summary Outline Notes

## Maxwood Solutions

### Executive Summary Outline Breakdown:

- Based on: ...evidence that New Jersey’s current trajectory and efforts will be insufficient to reach the goals we have established to address climate change (Page 9)
  - including Governor Murphy’s goal of 100% clean energy by 2050 and the Global Warming Response Act (GWRA) state greenhouse gas emissions reductions of 80% below 2006 levels by 2050. (Page 9)<https://www.state.nj.us/dep/aqes/sggi.html>
  - The EMP defines “100% clean energy by 2050” to mean 100% carbon-neutral electricity generation and maximum electrification of the transportation and building sectors (the sectors that produce the greatest carbon emissions in our state) to meet or exceed the GWRA emissions reductions by 2050. (Page 9)
  - The EMP defines “100% clean energy by 2050” to mean 100% carbon-neutral electricity generation and maximum electrification of the transportation and building sectors (the sectors that produce the greatest carbon emissions in our state) to meet or exceed the GWRA emissions reductions by 2050. (Page 9)
  - the state also has the opportunity to manage and control these costs through measures such as energy efficiency, revised rate design and ratemaking processes, and exercising more regulatory oversight over transmission projects, as well as phasing these goals in over an appropriate and reasonable timeframe. (Page 9)
  - 2019 draft EMP outlines a roadmap with **seven main strategies** to reach the goals of 100% clean energy and 80% emissions reductions from 2006 levels by 2050:
    1. **Strategy 1: Reduce Energy Consumption and Emissions from the Transportation Sector.**  
(Page 9)  
(46% of the state’s net greenhouse gas emissions)
      - The transportation sector should be almost entirely electrified by 2050, with an early focus on:
        - Light-duty (passenger) vehicles
        - Short-range medium
        - Heavy-duty vehicles
          - particularly in environmental justice communities
      - Continue to encourage electric vehicle (EV) adoption and deployment of EV charging infrastructure throughout the state, in part motivated by:
        - The launch of a tri-agency partnership—co-led by:
          - NJBPU
          - NJDEP
          - NJEDA
- To focus on accelerating aspects of electric vehicle deployment.

- There will be a concerted effort to explore:
  - Alternative fuel technologies,
  - Reduce vehicle miles traveled
  - Reduce port emissions through initiatives such as:
    - Expansion of mass transit
    - Electrification of port vehicles and equipment
    - Airport vehicles and equipment

2. **Strategy 2: Accelerate Deployment of Renewable Energy and Distributed Energy Resources** (Page 10)

- New Jersey should maximize the development of:
  - Offshore wind and
  - In-state renewable energy generation (including community solar)
  - The interconnection of carbon-neutral distributed energy resources (DER):
    - On-site systems
    - Storage
    - Equipment or Processes that are appropriately:
      - Sized
      - Modular
      - Decentralized

To support

- The Economy
- Increase local jobs
- Encourage private sector investment
- Accelerate clean power production
- Improve resiliency

This includes

- Transitioning to a successor solar incentive program
- Encouraging development of renewable energy in:
  - Low-income communities
  - Moderate-income communities
  - Training the local workforce

- Other recommended solutions include:
  - Mandating non-wires solutions on state-funded projects
  - Maximizing the use of source separated organic waste for energy production
  - Encouraging anaerobic digestion for
    - Electricity production
    - Natural gas pipeline injections
- Relevant regulatory agencies will work together to achieve these strategies, including:
  - NJBPU
  - NJDEP
  - NJDCA
- To promote carbon-neutral energy generation, NJBPU established carve-outs through 2030 for:
  - In-state solar
  - Offshore wind

but must develop a new incentive delivery system to motivate additional carbon-neutral generation using a competitive approach to stimulating

- Competition
- Investment
- Must also model with an emphasis on least-cost options to achieve 100% clean, carbon-neutral electricity generation by 2050
  - Scenarios
  - Pathways
- NJBPU will explore ways to open currently restricted electric distribution companies' circuits that are currently restricted from accepting new requests for interconnection of DER. Solutions to be explored include strategic adoption of:
  - Energy storage
  - Energy efficiency
  - Smart inverters
  - Other distribution system protective equipment
- Relevant agencies will also develop for DER:
  - low-cost loans
  - Financing
  - Develop a market-based mechanism to compensate DER for its full value stack at:
    - Regional levels
    - Federal levels

**3. Strategy 3: Maximize Energy Efficiency and Conservation, and Reduce Peak Demand (Page 10)**

- Strengthen efforts toward promoting energy efficiency and managing and reducing peak load, including: (Page 10)
  - Clear energy-reduction goal setting
  - Accountability, through
    - Financial incentives
    - Consequences for utilities that
      - Do not meet those targets
      - Reducing wasted energy through
        - Improvements in building thermal envelopes
        - Appliance efficiency
        - Energy benchmarking
        - Equipment controls
        - Strategic energy management
        - Attention to peak demand reduction
        - Ensuring access to increased efficiency for all residents
  - Must enforce the requirement that
    - Electric utilities reduce consumption by at least 2%
    - Gas utilities reduce consumption by at least 0.75%
  - Expand New Jersey's Clean Energy Program (NJCEP)
  - Adopt equitable clean energy
  - Energy efficiency financing mechanisms

**4. Strategy 4: Reduce Energy Use and Emissions from the Building Sector (Page 11)**

Buildings are responsible for a combined 61.7% of the state's total end-use energy consumption

- Building sector should by 2050 be largely:

- Decarbonized
- Electrified
- An early focus on new construction
- Electrification of buildings fueled with:
  - Oil
  - Propane
- We must expand and accelerate the current statewide net zero carbon homes incentive programs for both
  - New construction
  - Existing homes,
- Study and develop mechanisms and regulations to support:
  - Net zero carbon new construction
  - Develop building codes for:
    - EV ready
    - Demand response ready
    - New multi-unit dwelling
    - Commercial construction.
  - We must also develop a transition plan to a fully electrified building sector, including appliances like electrified:
    - Heat pumps
    - Hot water heaters

**5. Strategy 5: Modernize the Grid and Utility Infrastructure (Page 11)**

- Plan for:
  - Finance
  - Implement distribution system upgrades that will be required to handle:
    - Increased electrification and integration of DERs
    - Support bi-directional grid power flow
    - Assess integration of voltage optimization (or Volt/Var Control)
    - Actively engage in transmission planning and siting.
  - This will require utilities to establish Integrated Distribution Plans (IDPs) to allow for the anticipated growth of DERs and EVs on the electric distribution system.
  - Utilities will act as the “air traffic controllers” in this new distributed marketplace, and should propose and adopt tariffs to implement a distributed marketplace that encourages non-wires solutions using private sector investment.
  - Such programs are particularly important to compare the cost of
    - Non-wires alternatives
    - Expansion vs. Upgrade of the distribution and transmission system
    - Additional generation resources.
  - This also involves modifying:
    - Current rate design and ratemaking processes to empower customers':
      - Energy management
      - Self-generation
 (especially as EVs are increasingly adopted),
    - Align utility incentives with state goals
    - Facilitate long-term planning and investment strategies.

- Importantly, NJBPU will exercise its regulatory jurisdiction and increase oversight over transmission upgrades.
- Finally we must instruct gas utilities to prioritize the replacement of pipelines leaking methane.

**6. Strategy 6: Support Community Energy Planning and Action in Low- and Moderate-Income and Environmental Justice Communities (Page 11)**

- The state has a responsibility to facilitate equal access to and representation of the clean energy economy and all the opportunities and benefits it provides, and will:
  - Support and incentivize local Clean power generation especially
    - Rooftop solar
    - Community solar,
  - Prioritize clean transportation options in:
    - Low-income
    - Moderate-income
    - Environmental justice communities.
  - Encourage municipalities that house predominantly low- and moderate-income populations to:
    - Establish community energy plans
    - Enact them with state support
    - Develop programs that support:
      - Affordable
      - Equitable access to renewable:
        - Energy
        - Energy efficiency

**7. Strategy 7: Expand the Clean Energy Innovation Economy (Page 11)**

- New Jersey will expand upon its existing 52,000 clean energy jobs to bring cutting-edge clean energy research and development to New Jersey.
- Support the growth of in-state clean energy industries through:
  - Workforce training programs
  - Clean energy finance solutions
  - Investing in innovative research and development programs
  - Including a:
    - Clean energy workforce needs assessment
    - Clean Energy Job Training program to assist current New Jersey workers to pivot their skills as necessary to meet changing industry needs
    - Vocational Training to establish a pipeline of well qualified, modern energy specialists.
- Must also explore the establishment of a New Jersey Green Bank that would:
  - Leverage public dollars to grow private sector investment
  - Provide low-cost financing
  - Develop financial protocols to support
    - New Jersey's clean energy economy
    - Goals of the EMP, such as:
      - Lowering the cost of capital for:
        - Renewables
        - Energy efficiency projects.

- Capitalize on the offshore wind economic development opportunities by establishing a WIND Institute.
- Also recommend establishing a Carbon-Neutral New Technology Incubator to fund and support:
  - Research
  - Development
  - Commercialization for upcoming clean energy technologies
  - Clean Buildings Hub to develop
    - Workforce training
    - Awareness and education for:
      - Builders
      - Architects
      - Contractors
      - Engineers
      - Code enforcers

In the most efficient construction and retrofitting building techniques.

- This necessary activity will generate considerable: (Page 12)
  - job-creation
  - Economic benefits
  - Contribute to the state’s clean energy innovation economy while also building out our clean energy future.
- The EMP is a living document through the next 30 years. (Page 12)
  - It acknowledges that there are impending technologies that are not yet available or discovered
  - Allows enough flexibility to use today’s tools but also incorporate tomorrow’s advances.
- Draft 2019 EMP focuses on strategies and goals to reach Governor Murphy’s 100% clean energy mandates. (Page 12)
  - NJBPU is concurrently developing an Integrated Energy Plan study that will model several scenarios reflecting the draft EMP’s strategies to identify:
    - The most strategic
    - Least-cost pathways
 to achieve New Jersey’s 2050 goals of 100% clean energy and 80% emissions reduction.
- The Final 2019 EMP will incorporate the findings of the Integrated Energy Plan as well as several other studies NJBPU is or has conducted in the last 18 months , and will include: (Page 12)
  - Specific dates
  - Targeted dates
  - Metrics (not yet reflected in this draft)