2022 New Jersey State Infrastructure Report
(January 1, 2022 – December 31, 2022)

May 2023
1. Planning
   • Generation Portfolio Analysis
   • Transmission Analysis
   • Load Forecast

2. Markets
   • Capacity Market Results
   • Market Analysis
   • Net Energy Import/Export Trend

3. Operations
   • Generator Production
   • Emissions Data
• **Existing Capacity:** Natural gas represents approximately 68 percent of the total installed capacity in the New Jersey service territory while nuclear represents approximately 24.9 percent. Comparatively across PJM, natural gas and nuclear are 46.6 and 17.7 percent of total capacity, respectively.

• **Interconnection Requests:** Offshore wind represents 72.1 percent of proposed generation requests in New Jersey, while storage represents approximately 21.5 percent of new requests.

• **Deactivations:** 797.2 MW of generation deactivated in New Jersey in 2022. There are now no more active coal units in New Jersey.

• **RTEP 2022:** 2022 RTEP projects located in New Jersey total approximately $1.3 billion in investment. The portion of State Agreement Approach (SAA) projects that are located in New Jersey total approximately $947.40 million. There are also SAA-affiliated projects located in Maryland and Pennsylvania that total $116.96 million, which are cost allocated to New Jersey ratepayers.*

* The projects located in Maryland and Pennsylvania are not included in the $1.3 billion figure.
• **Load Forecast:** New Jersey’s summer peak load is projected to remain flat or be negative over the next ten years, ranging from -0.5 and 0.0 percent growth depending on the individual transmission zone. Comparatively, the overall PJM RTO projected summer peak load growth rate is 0.8 percent.

• **2023/24 Capacity Market:** New Jersey’s service territory cleared at the MAAC price of $49.49/MW-day for the 2023/2024 Base Residual Auction.

• **2024/25 Capacity Market:** New Jersey’s service territory cleared the Eastern MAAC price of $54.95/MW-day for the 2024/2025 Base Residual Auction.

• **1/1/22 – 12/31/22 Market Performance:** New Jersey’s average hourly LMPs were below the PJM average hourly LMP.

• **Emissions:** New Jersey’s average CO2 emissions increased in 2022 compared to 2021 levels. Nitrogen oxides and sulfur dioxide levels slightly decreased in 2022.
PJM Service Area – New Jersey
Planning
Generation Portfolio Analysis
New Jersey – Existing Installed Capacity
(CIRs – as of Dec. 31, 2022)

NJ
Total
13,894 MW

- Waste, 131 MW
- Nuclear, 3,457 MW
- Oil, 217 MW
- Solar, 212 MW
- Hydro, 425 MW

Natural Gas, 9,452 MW
PJM Queued Capacity (Nameplate) by Fuel Type
(“Active” in the PJM Queue as of April 1, 2023)

- **Solar**, 147,986 MW
- **Storage**, 55,037 MW
- **Wind***, 43,221 MW
- **Natural Gas**, 5,537 MW
- **Hydro**, 824 MW
- **Other**, 60 MW

*Wind includes both onshore and offshore wind
New Jersey Queued Capacity (Nameplate) by Fuel Type

(“Active” in the PJM Queue as of April 1, 2023)

- Offshore Wind, 17,413 MW
- Storage, 5,183 MW
- Solar, 1,406 MW
- Hydro, 30 MW
- Natural Gas, 131 MW

NJ 24,163 MW
New Jersey – 2022 Generator Deactivations
## New Jersey – 2022 Generator Deactivations

<table>
<thead>
<tr>
<th>Unit</th>
<th>TO Zone</th>
<th>Fuel Type</th>
<th>Request Received to Deactivate</th>
<th>Actual or Projected Deactivation Date</th>
<th>Age (Years)</th>
<th>Capacity (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vineland West CT</td>
<td>AE</td>
<td>Oil</td>
<td>7/6/2022</td>
<td>10/14/2022</td>
<td>50</td>
<td>21.1</td>
</tr>
<tr>
<td>Cape May County Municipal LF</td>
<td></td>
<td>Methane</td>
<td>5/5/2022</td>
<td>3/1/2022</td>
<td>9</td>
<td>0.6</td>
</tr>
<tr>
<td>Essex 9</td>
<td>PSEG</td>
<td>Natural Gas</td>
<td>3/3/2022</td>
<td>5/1/2022</td>
<td>32</td>
<td>81.0</td>
</tr>
<tr>
<td>Logan</td>
<td>AE</td>
<td>Coal</td>
<td>3/9/2022</td>
<td>5/31/2022</td>
<td>27</td>
<td>219.0</td>
</tr>
<tr>
<td>Chambers CCLP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>27</td>
<td>240.0</td>
</tr>
<tr>
<td>New Bay Cogen CC</td>
<td>PSEG</td>
<td>Natural Gas</td>
<td></td>
<td></td>
<td>28</td>
<td>120.2</td>
</tr>
<tr>
<td>Pedricktown Cogen CC</td>
<td>AE</td>
<td></td>
<td></td>
<td></td>
<td>29</td>
<td>115.3</td>
</tr>
</tbody>
</table>
Planning
Transmission Infrastructure Analysis
For reporting purposes, the 2022 state infrastructure reports provide maps displaying all baseline, network, and supplemental projects for the respective state. The reports also include aggregated project cost tables of these projects by Transmission Owner zone. For a detailed list of each project shown on a state’s project map, please see that state’s section in the 2022 Annual RTEP Report on pjm.com: https://www.pjm.com/-/media/library/reports-notices/2022-rtep/2022-rtep-report.ashx

The complete list of all RTEP projects in PJM, including those from prior years, can be found at the RTEP Upgrades & Status – Transmission Construction Status page on pjm.com: https://www.pjm.com/planning/project-construction
New Jersey – RTEP Baseline Projects

<table>
<thead>
<tr>
<th>TO Zone</th>
<th>Cost ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JCP&amp;L</td>
<td>$7.70</td>
</tr>
<tr>
<td>PSEG</td>
<td>$41.30</td>
</tr>
<tr>
<td>New Jersey SAA (AEC, JCP&amp;L, MAOD, LS POWER, PSEG)</td>
<td>$947.40*</td>
</tr>
</tbody>
</table>

*This total represents the portion of RTEP project b3737 that are located in New Jersey. There are also SAA-affiliated projects located in Maryland and Pennsylvania that total an additional $116.96 million. These projects are cost allocated to New Jersey ratepayers, and in this report are not included in the $947.40 million figure for NJ-located projects.

Note: Baseline upgrades are those that resolve a system reliability criteria violation.
New Jersey – RTEP Network Projects

New Jersey had no network project upgrades in 2022.

Note: Network projects are new or upgraded facilities required primarily to eliminate reliability criteria violations caused by proposed generation, merchant transmission or long term firm transmission service requests, as well as certain direct connection facilities required to interconnect proposed generation projects. The costs of network projects are borne by the interconnection customer.
Note: Supplemental projects are transmission expansions or enhancements that are not required for compliance with PJM criteria and are not state public policy projects according to the PJM Operating Agreement. These projects are used as inputs to RTEP models, but are not required for reliability, economic efficiency or operational performance criteria, as determined by PJM.

### NJ Supplemental Projects

<table>
<thead>
<tr>
<th>TO Zone</th>
<th>Cost ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEC</td>
<td>$43.70</td>
</tr>
<tr>
<td>JCP&amp;L</td>
<td>$8.80</td>
</tr>
<tr>
<td>PSEG</td>
<td>$252.80</td>
</tr>
</tbody>
</table>
New Jersey – Merchant Transmission Project Requests

<table>
<thead>
<tr>
<th>Queue Number</th>
<th>Queue Name</th>
<th>TO Zone</th>
<th>Status</th>
<th>Actual or Requested In-Service Date</th>
<th>Maximum Output (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A62-076</td>
<td>Raritan River 230 kV</td>
<td>JCP&amp;L</td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>A62-146</td>
<td>Werner 230 kV - Ravenwood 345 kV</td>
<td>JCP&amp;L</td>
<td>Active</td>
<td>1/1/2024</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12/1/2026</td>
<td>0</td>
</tr>
</tbody>
</table>
Planning
Load Forecast
PJM Annual Load Forecast
(Jan. 2023)

PJM RTO Summer Peak Demand Forecast
The summer and winter peak megawatt values reflect the estimated amount of forecast load to be served by each transmission owner in the noted state/district. Estimated amounts were calculated based on the average share of each transmission owner’s real-time summer and winter peak load in those areas over the past five years.
Markets
Capacity Market Results
2023/24 Base Residual Auction Clearing Prices ($/MW-Day)
## 2023/24 Cleared MW (UCAP) by Resource Type

<table>
<thead>
<tr>
<th></th>
<th>ANNUAL</th>
<th>SUMMER</th>
<th>WINTER</th>
<th>Total (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Generation</strong></td>
<td>131,256.3</td>
<td>47.0</td>
<td>474.1</td>
<td>131,777.4</td>
</tr>
<tr>
<td><strong>DR</strong></td>
<td>7,919.1</td>
<td>177.1</td>
<td>0.0</td>
<td>8,096.2</td>
</tr>
<tr>
<td><strong>EE</strong></td>
<td>5,221.1</td>
<td>250.0</td>
<td>0.0</td>
<td>5,471.1</td>
</tr>
<tr>
<td><strong>Total (MW)</strong></td>
<td>144,396.5</td>
<td>474.1</td>
<td>474.1</td>
<td>144,396.5</td>
</tr>
</tbody>
</table>
2024/25 Base Residual Auction Clearing Prices ($/MW-Day)

- **DEO&K**: $96.24
- **RTO**: $28.92
- **BGE**: $73.00
- **MAAC**: $49.49
- **Eastern MAAC**: $54.95
- **DPL-South**: $90.64
## 2024/2025 Cleared MW (UCAP) by Resource Type

<table>
<thead>
<tr>
<th></th>
<th>ANNUAL</th>
<th>SUMMER</th>
<th>WINTER</th>
<th>Total (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Generation</strong></td>
<td>131,779.3</td>
<td>38.2</td>
<td>605.6</td>
<td>132,423.1</td>
</tr>
<tr>
<td><strong>DR</strong></td>
<td>7,804.3</td>
<td>188.4</td>
<td>0</td>
<td>7,992.7</td>
</tr>
<tr>
<td><strong>EE</strong></td>
<td>7,289.7</td>
<td>379.0</td>
<td>0</td>
<td>7,668.7</td>
</tr>
<tr>
<td><strong>Total (MW)</strong></td>
<td>146,873.3</td>
<td>605.6</td>
<td>605.6</td>
<td></td>
</tr>
</tbody>
</table>
Markets
Market Analysis
New Jersey – Average Daily LMP
(Jan. 1, 2022 – Dec. 31, 2022)

Note: The significant price spike in late Dec. 2022 was a result of Winter Storm Elliott’s impact on system conditions.
New Jersey’s average hourly LMPs were below the PJM average hourly LMP.
New Jersey – Net Energy Import/Export Trend
(Jan. 2022 – Dec. 2022)

Positive values represent exports and negative values represent imports.
Operations
New Jersey – 2022 Generator Production

- Nuclear, 51.9%
- Natural Gas, 44.3%
- Solar, 0.1%
- Coal, 0.9%
- Other, 2.8%

The data in this chart comes from EIA Form 923 (2022).