Nuclear New York

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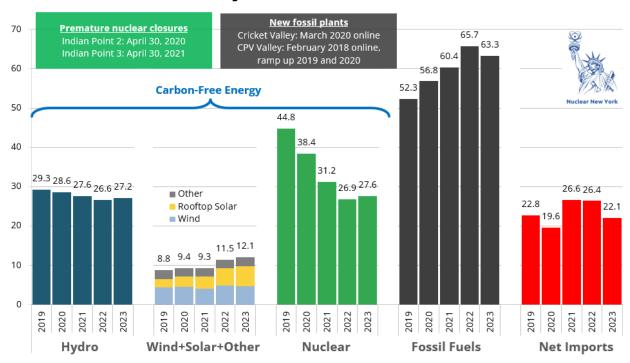
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Four Years Since Passing the Climate Leadership and Community Protection Act, New York Struggles to Replace Shuttered Clean Energy

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New York Replaces Carbon-Free Nuclear Power with Fossil Combustion generation mix in terawatt-hours



Date sources: New York Independent System Operator - Open Access Same-Time Information System Behind the Meter Solar "Estimate Actuals for 2021-2023, NYISO Gold Book for 2019-2020

In 2023, nuclear power was once again the largest single source of clean energy in New York State. Electricity generation from this carbon-free source totaled 27.6 terawatt hours (TWh), up 2.7% over 2022.¹ Nuclear covered 18.1% of the state's total electricity demand (including behind-the-meter "rooftop" solar generation), and amounted to 42.7% of in-state clean electricity.

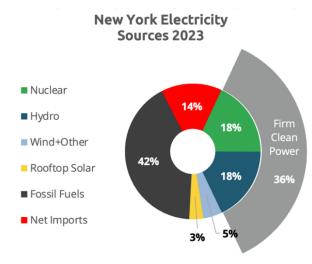
Hydro, the second largest source of carbon-free power, recovered 2.1% in 2023 to 27.2 TWh, covering 17.9% of demand. These two 'firm clean' generation sources provide on-demand power regardless of the time of day or weather.²

Despite increasing deployed wind capacity in 2022 by 13% over 2021, generation from this source declined 3.9% in 2023 over 2022 to 4.7 TWh, demonstrating the perils of relying on weather-dependent renewable energy.³ New York Independent System Operator (NYISO) does not report grid-connected solar

as a separate category, given its currently minuscule contribution to the generation mix. However, rooftop solar generation increased 18% to 5.2 TWh, covering 3.4% of demand.

New York's electricity demand declined by 4.8 TWh over 2022 (-3.1%), which enabled the state to reduce net imports by 4.3 TWh. In-state fossil fuel combustion decreased by 2.3 TWh, but remained 11.0 TWh (21%) above 2019 levels, when clean energy generation peaked.

Since passage of the Climate Leadership and Community Protection Act (CLCPA), New York has significantly *reduced* clean energy generation and *increased* electricity-sector fossil pollution. Fossil fuel interests and their anti-nuclear allies forced the nuclear



Source: New York Independent System Operator OASIS

reactors at Indian Point Energy Center to premature shutter, handing over the market share to gas. Today, New York is struggling to fulfill its promise of a carbon-free power system by 2040 due to its focus on underperforming intermittent generation. Multiple offshore wind projects along the northeastern U.S. are being canceled due to cost escalations. And last week, BP and Equinor terminated the 1,260-megawatt (MW) Empire Wind 26 after the NYS Public Service Commission denied a 78% contract-price increase request in October 2023. Many other clean energy projects also requested rate increases, revealing the challenges of the energy transition. Unfortunately, none of the initiatives being pursued by New York are able to provide reliable electricity, exposing the state to "firming costs" that become substantial at higher penetration levels of intermittent generation.

Fortunately, however, awareness is growing of the need for reliable, zero-emission electricity. New York's neighbor Ontario is planning to double the world's largest nuclear power plant, build up to four small modular reactors, and refurbish other plants. At the recently concluded COP28 climate summit, the United States led over 22 countries in pledging to triple nuclear energy by 2050. In November 2022, the New York State Energy Research and Development Authority (NYSERDA) presented information to the state's Climate Action Council on how building nuclear plants can save New Yorkers money while conserving land and material resources. Furthermore, with the Inflation Reduction Act, the federal government now offers (48E) tax credits worth 30-50% of capital for new nuclear investments.

More recently, the Public Service Commission held a technical conference to consider firm, carbon-free resources necessary to ensure grid reliability even as New York's demand for electricity grows. Among technologies considered, nuclear is the most proven scalable zero-emission resource able to provide on-demand energy. Between the provide on-demand energy.

Isuru Seneviratne, Executive Director of Nuclear New York, expressed hope that the state will join other national and international leaders in pursuing opportunities for advanced nuclear. "Nuclear has the lowest environmental impact of any energy source and is capable of eliminating greenhouse gas emissions while supporting vibrant local communities," said Seneviratne. "By including additional nuclear in its resource planning and clean energy solicitations, New York can achieve its climate goals while providing reliable electricity essential to a prosperous society."

¹ Data source: New York Independent System Operator - Open Access Same-Time Information System. http://mis.nviso.com/public/

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¹⁴ Nuclear New York. November 14, 2022. Advocates for Sound Climate and Energy Policy Praise New York for Proposing Nuclear Power https://www.nuclearny.org/press-release-advocates-for-sound-climate-and-energy-policy-praise-new-york-for-proposing-nuclear-power/

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