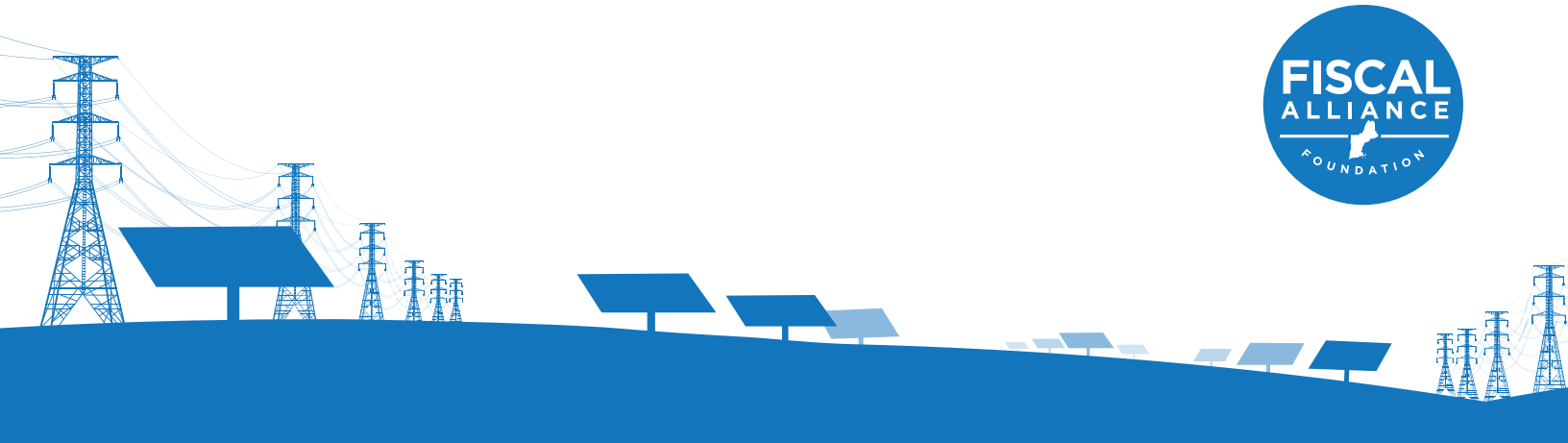
New England's Energy Transition: Colliding With Reality

Twenty-Five Years of Data Show Persistent Fossil Dependence Amid Growing Reliability and Cost Risks

by Lisa Linowes



AT A GLANCE: NEW ENGLAND'S GRID DISCONNECT

Unchanged Fossil Share: Fossil fuels generated 55.4% of New England's internal electricity in 2025, virtually identical to the 54.6% share in 2000.

Fuel Consolidation, Not Elimination: Coal and oil have been largely displaced, but the region has concentrated its fossil reliance overwhelmingly in natural gas.

Development Pipeline Reversal: Natural gas represented 63% of proposed new capacity in January 2016. By January 2026, proposed capacity was 46% battery storage, 44% wind and 10% solar.

Growing Reliability and Cost Risk: New England remains heavily dependent on natural gas even as policies increase its operating cost and discourage new investment. With electricity demand expected to rise, the region risks higher costs and insufficient dependable supply if replacement resources cannot perform when needed.

Executive Summary

New England's electric system has changed dramatically over the past 25 years, but its dependence on fossil generation has not. Coal has nearly disappeared, oil has been reduced largely to backup and winter use, two nuclear plants have closed, and wind and solar have expanded substantially. Yet fossil resources supplied 55.4% of electricity generated inside New England in 2025, slightly more than their share in 2000. The principal change has been a shift from coal and oil to natural gas.

This brief examines how New England arrived at this point. The region initially appeared headed toward a system in which natural gas would remain the dependable backbone while wind, solar, efficiency and imports expanded around it. Instead, proposed new gas generation has largely disappeared while the development pipeline shifted overwhelmingly toward wind, solar and battery storage.

That shift is occurring just as the period of declining grid demand is ending. Electricity use and peak demand are expected to rise over the coming decade as transportation and heating electrify. At the same time, aggressive climate policies are increasing the cost of operating the gas fleet on which New England still depends while discouraging investment in new gas generation and fuel infrastructure.

The central policy question is whether New England can reduce its dependence on fossil generation while maintaining reliability and affordability as electricity demand begins to rise. This brief examines whether the resources now dominating new development can provide comparable capability at the scale and cost required.

1. New England's Power System Over Time

New England's power grid looks vastly different from the grid of 25 years ago. Coal has virtually disappeared, oil is confined mostly to winter backup, two nuclear plants have closed, and solar and wind have expanded rapidly.

Yet despite these dramatic shifts, fossil resources still generate over half of the electricity produced inside New England. The quarter-century data[1] below highlight a surprising reality: New England altered its resource mix, but it did not eliminate its dependence on fossil fuels.

Comparing the 2000 and 2025 endpoints illustrates the core underlying shift. Internal generation levels remained virtually flat across 25 years, while total fossil output slightly increased.

What fundamentally changed was the composition of that fossil baseline. In 2000, New England split its fossil generation among coal, oil, and gas. By 2025, coal and oil together accounted for barely 1% of internal generation, while natural gas output expanded to surpass what all fossil resources combined had produced a quarter-century earlier. In short, the region did not exit fossil generation; it concentrated it almost entirely into natural gas.

2. Fuel Switching, Not a Fossil Exit

New England's shift toward natural gas was already underway in the early 2000s as new gas-fired plants displaced coal and oil. It accelerated around 2008, when the Great Recession slowed electricity demand growth and the shale-gas boom delivered abundant, low-cost domestic gas. Gas-fired generation provided real environmental gains, substantially reducing carbon dioxide, sulfur dioxide, and nitrogen oxide emissions. But this was fuel switching, not a structural exit from fossil energy.

At the same time, New England was losing zero-carbon nuclear power with the retirements of Vermont Yankee in 2014 and Pilgrim in Massachusetts in 2019. Over the 2015–2025 period, wind and solar output increased sharply.

Metric	2000	2008	2015	2025
Electricity supplied through the regional grid (Net Energy for Load) includes net imports/exports	125,394 GWh	131,753 GWh	126,955 GWh	117,764 GWh
Internal generation	110,198 GWh	124,749 GWh	107,916 GWh	111,657 GWh
Total fossil generation	60,118 GWh	71,573 GWh	58,213 GWh	61,864 GWh
Fossil share of internal generation	54.6%	57.4%	53.9%	55.4%
Nuclear generation	34,345 GWh	35,547 GWh	31,890 GWh	27,620 GWh
Grid-visible wind and solar	Negligible	29 GWh	2,632 GWh	9,467 GWh
Estimated behind-the-meter solar	—	—	864 GWh	6,356 GWh

1 Source: Author's compilation from ISO New England's Net Energy and Peak Load by Source report downloaded August 12, 2026 (spreadsheet lists latest revision July 2026), and ISO New England's Resource Mix data, which estimate that behind-the-meter solar reduced demand on New England's grid by 6,356 GWh in 2025. ***https://www.iso-ne.com/isoexpress/web/reports/load-and-demand/-/tree/net-ener-peak-load***

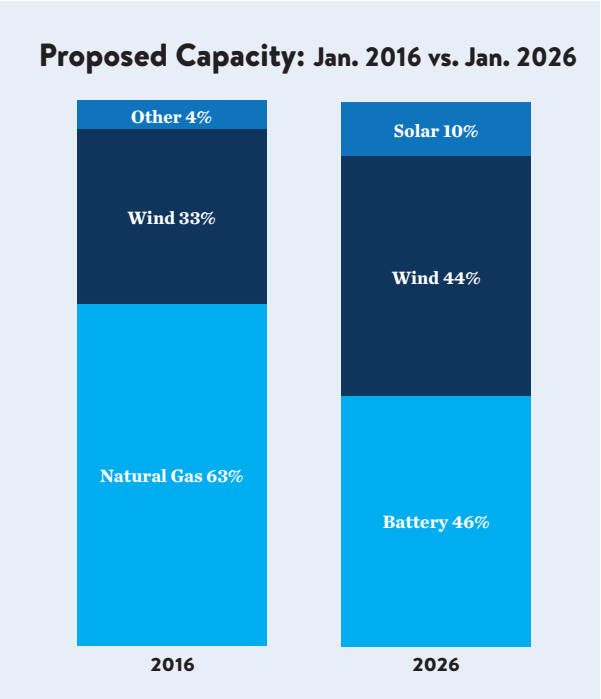
However, nuclear generation and net imports also declined, while natural-gas generation rose by more than 8,000 GWh, thereby solidifying gas as the region's dominant source of internal generation.

3. The System New England Expected

Between 2015 and 2018, New England's grid operator, ISO New England (ISO-NE), expected the next stage of the transition to remain gas-centered. As older nuclear, coal and oil plants retired, ISO-NE anticipated that much of that capacity would be replaced by new natural-gas plants and wind, with behind-the-meter solar, efficiency and imports also increasing.

In 2016, natural gas represented 63% of the capacity proposed in ISO-NE's interconnection queue, while wind accounted for 33%. By early 2018, ISO-NE was still describing the proposed fleet as mostly gas and wind. Solar was expected to grow rapidly, but not as a substitute for gas. The expected system was straightforward: solar and efficiency would reduce grid demand, wind would add energy, and gas would remain the backbone.

Some of that forecast materialized. Behind-the-meter solar expanded rapidly, and electricity supplied through the regional grid fell by about 9,200 GWh between 2015 and 2025. But more than half of that decline appears to reflect electricity shifting from the wholesale grid to solar behind customer meters rather than disappearing altogether.



Source: ISO New England interconnection queue data.

The anticipated buildout of new gas generation did not occur. Over the following decade, state climate policies and changing market incentives dramatically reshaped the investment landscape. By January 2026, the queue had completely reversed: battery storage represented 46% of proposed capacity, wind 44%, and solar 10%.[2]

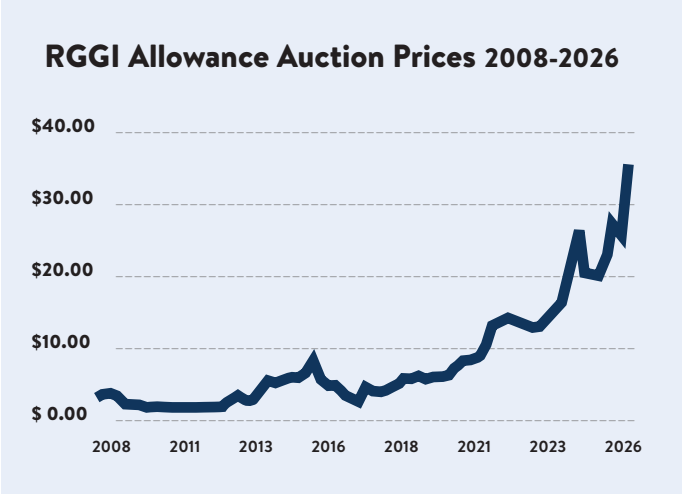
New England therefore arrived at a striking mismatch: the existing system remains heavily dependent on natural gas, while the development pipeline has almost completely moved away from it. That mismatch is becoming more consequential as ISO-NE projects electricity consumption and peak demand to begin rising again.

2 The solar shown in ISO-NE's interconnection queue does not include customer-sited solar, which is tracked separately and represents a much larger share of the solar generation already operating in New England.

4. RGGI Changes the Economics

The six New England states participate in the Regional Greenhouse Gas Initiative (RGGI), a carbon-pricing program that limits power-plant emissions by requiring fossil generators subject to the program to purchase one allowance for every short ton of CO_2 they emit. By steadily shrinking the supply of available allowances, RGGI restricts those emissions while directly increasing the generators' operating costs.

Under the updated framework slated to take effect in 2027, the annual allowance limit will decline through 2037, while the minimum auction price will rise automatically each year. The mechanics are complicated, but the result is clear: existing fossil generation becomes more expensive to operate, while investment in new gas capacity becomes more difficult to justify.



Source: RGGI, Inc. auction results ***https://www.rggi.org/auctions/auction-results***

The cost is already rising sharply. RGGI allowances averaged $13.49 in 2023 and reached $35 in June 2026. Because natural gas frequently sets New England's energy-market price, carbon costs imposed on fossil generators raise the market-clearing price across the regional market. ISO New England estimates that carbon-pricing programs increased average wholesale energy prices by about $9/MWh in 2025, adding roughly $1.1 billion to regional energy costs.[3]

The reversal in ISO-NE's interconnection queue is also an investment signal. A new combined-cycle plant must operate for decades to recover its construction cost. Few investors will finance a 30-year asset when its future operating hours and carbon costs are increasingly uncertain.

RGGI is therefore doing more than raising the price of gas generation. It is reinforcing the broader policy signal against investment in a resource New England still relies on before a dependable replacement system has been shown to be feasible at a cost consumers can afford.

3 Source: ISO New England, 2025 Annual Markets Report. The estimate includes RGGI and Massachusetts' separate Electricity Generator Emissions Limits (EGEL) program. RGGI applies region-wide, while EGEL imposes an additional carbon cost on certain Massachusetts generators. ***https://www.iso-ne.com/static-assets/documents/100035/2025-annual-markets-report.pdf***

5. The Cost of the Current Trajectory

New England's current path carries the risk that consumers will pay for two power systems at the same time.

The region is investing in wind, solar, battery storage, transmission and imports as it seeks to reduce its reliance on natural-gas generation. But those investments do not necessarily eliminate the need for the existing gas fleet. If gas plants or other dependable supplies must remain available when the new resource mix cannot meet demand, consumers may have to support both systems.

The cost consequence is straightforward. Consumers could be required to finance the new resources and infrastructure intended to reduce reliance on gas while also paying to maintain enough dependable generation to keep the system reliable. Affordability must therefore be measured at the system level: the total cost of all the resources and infrastructure required to deliver electricity reliably when it is needed.

After 25 years, New England has nearly eliminated coal, sidelined oil, lost two nuclear plants and built thousands of megawatts of wind and solar. Yet the region remains about as dependent on fossil generation as it was in 2000. The region is now driving up operating costs for its existing gas fleet while simultaneously discouraging investment in new natural gas capacity. Yet it is pursuing this policy shift without first proving that a dependable alternative system can be built at sufficient scale and at a price consumers can afford.

6. Conclusion and Policy Recommendations

After 25 years of transition, New England has not materially reduced its dependence on fossil generation. Fossil resources supplied 55.4% of internal generation in 2025, essentially unchanged from 54.6% in 2000. What changed was the fuel: coal and oil largely disappeared while the region became overwhelmingly dependent on natural gas.

That makes the current policy trajectory increasingly consequential. New England is deliberately raising the cost of operating the gas fleet on which it still depends while the development pipeline has shifted almost entirely toward wind, solar and battery storage. At the same time, electricity demand is expected to begin rising again.

Wind and solar are weather-dependent, and batteries store electricity rather than generate it. A system built around those resources must therefore include enough generation, storage, transmission, imports or other firm supply to maintain service through extended periods of low renewable output.

The central issue is that the region is accelerating policies intended to move beyond fossil generation before its underlying dependence on that generation has actually disappeared. If those policies produce sharply higher costs or leave insufficient dependable supply when it is needed, the consequences will fall on consumers. Policymakers pursuing this course should be prepared to demonstrate how that risk will be avoided.

RECOMMENDATIONS:

Reopen the Natural Gas Option: Allow new high-efficiency natural gas generation and the fuel infrastructure needed to support it to be considered rather than effectively ruling them out.

Preserve Dependable Resources Until Equivalent Capability Is Demonstrated: Do not treat proposed wind, solar and battery capacity as equivalent to dispatchable generation. Existing dependable resources should remain available until replacement resources can demonstrate comparable energy and reliability performance when the system is under stress.

Reassess Policies That Increase the Cost of Dependable Generation: Examine whether policies that deliberately raise the operating cost of existing fossil generation are moving faster than the region's ability to replace the services those generators provide.

Reconsider Behind-the-Meter Solar Cost Allocation: Review whether net-metering and related compensation policies fairly allocate the costs of maintaining the grid and reflect the actual time and system value of solar generation.

Require All-In Cost and Reliability Comparisons: Evaluate competing resource portfolios on the cost, emissions and reliability of the complete system required to support them, including transmission, storage, firming, fuel infrastructure and other supporting resources.

The Fiscal Alliance Foundation promotes individual liberty and greater fiscal responsibility and transparency in government for a better New England, through education and legal assistance.

www.fiscalalliancefoundation.org