Has Maine learned how to make heat pumps lower electricity costs for all?

Heat pump adoption in the state has soared. Now a new state energy-efficiency plan aims to accelerate the trend to cut emissions and control power prices.

By **Sarah Shemkus** 14 May 2025

Maine's new energy-efficiency plan is **projected to lower electricity bills for the state's residents** — even those who don't directly benefit from its rebate and incentive programs.

The plan, set to go into effect in July, is heavily focused on getting electric heat pumps in as many homes as possible. It comes as other states debate rolling back efficiency programs funded by utility customers as a short-term fix to rising energy prices. Maine's strategy takes the opposite approach: It leverages investments in efficiency and electrification to lower rates for everyone.

"This is bucking the trend," said Michael Stoddard, executive director of Efficiency Maine Trust, the agency that administers the state's energy-efficiency plans. "This is our pathway to managing electricity prices while also transitioning the consumers of our state to the highest-efficiency, lowest-polluting equipment that is available."

Maine has been an aggressive adopter of home heat pumps in recent years. In 2019, the state set the goal of deploying 100,000 heat pumps by 2025, a target it blew by two years ahead of schedule. The state now aims to get another 175,000 heat pumps up and running by 2027. Maine is also a member of a five-state coalition that is collaborating to boost heat pump adoption, lower prices, and train installers throughout New England.

The state's new energy-efficiency plan is geared toward continuing this progress. It is centered largely on the idea of "beneficial electrification," a somewhat jargony term that refers to switching from fossil fuels to electricity wherever the move would save money and cut emissions. There are plenty of opportunities to make that swap in Maine, where roughly half of households keep warm with heating oil, which can be pricey and inefficient.

Over the next three years, the incentives in the plan are forecast to support 38,000 new whole-home residential heat pump systems — including 6,500 in low-income households — and weatherization for 9,900 houses. A low-income household can get rebates of up to $9,000 for heat pump installations, and homes at high income levels qualify for up to $3,000. The incentives do not offer any money for residential fossil-fuel-burning equipment.

This strategy should decrease annual heating costs by more than $1,000 each for homes that switch to heat pumps from oil, propane, or electric baseboard heat, but it is also expected to lower electricity prices across the board, Stoddard said. Efficiency Maine Trust estimates the plan will suppress electricity rates by more than $490 million over the long term.

How? Utilities have certain fixed costs, such as maintaining power lines. To pay for them — and this is a bit of a simplification — they essentially divide the expense by the amount of power they expect customers to use in a year, and add that number to the rate they charge per kilowatt-hour. When more heat pumps come online, power demand goes up, so the fixed costs are spread out over more kilowatt-hours, lowering bills for the average consumer.

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Accomplishing that effect depends on finding ways to make sure much of the added demand occurs during off-peak hours, when there is plenty of room for more power to flow along the lines without building out more infrastructure and thus increasing the utilities' fixed costs. To achieve this timing, Maine's plan includes demand-response programs that pay consumers for using less energy at peak times, an incentive for low-income residents to buy electric vehicles with chargers that can be set to work at off-peak times, and other measures.

"We've already invested a lot of money in the grid, and yet it sits largely unused for many hours of the day," Stoddard said. "If we can find ways to manage consumption so that it is occurring during off-peak periods, then it will maximize the use of the grid infrastructure and spread the fixed costs of the utility across many more kilowatt-hours."

Maine's plan also includes an innovative program that calls for Efficiency Maine Trust to negotiate with retailers and distributors for discounted prices on electric water heaters and for agreements to keep the equipment in stock. The strategy is particularly effective at getting people to switch from fossil-fuel water heaters in moments when their old equipment has failed and they are searching for an affordable, easily available replacement, said Erin Cosgrove, director of policy and programs for the nonprofit Northeast Energy Efficiency Partnerships.

“This program is unique for the Northeast,” she said.

More states have prioritized electrification in their efficiency programs in recent years, said Mark Kresowik, senior policy director for the research group American Council for an Energy-Efficient Economy. Massachusetts, for example, phased out its incentives for oil and gas equipment last year, and Washington, D.C., has also eliminated rebates for fossil-fuel-powered systems and appliances.

“What a lot of programs across the country are doing is recognizing that providing incentives for fossil-fuel-based systems doesn’t achieve their goals,” he said. “Most of the leading states are prioritizing efficient electric appliances like heat pumps going forward.”

Energy-efficiency programs have traditionally centered the big-picture goal of helping consumers lower their energy use to save money and reduce greenhouse gas emissions, whether that energy comes from an oil-delivery truck, a natural gas pipe, or over power lines.

Amid rising concern about climate change, however, more states have looked for ways to amplify the emissions impact of their programs. The solution has been to limit or eliminate incentives for fossil-fuel equipment and lean into electrification, which can often save consumers money and almost always reduce the emissions associated with heating and cooling their homes.

“When you use those additional metrics, you realize some of those old measures don’t make sense anymore,” Kresowik said.

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