

# Heat pumps are defying Maine's winters and oil industry pushback

Fossil fuel industry groups say the technology isn't ideal for the state's climate.  
Mainers aren't buying it.



By [Anna Phillips](#)

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VAN BUREN, Maine — The video starts with a Maine radio show host dressed in a bright-red jumpsuit walking through the snow to a stranger's door and delighting her with an offer of free heating oil. "My name's Blake, we're from Maine Energy Facts, and we want to fill up your oil — it's on us!" he says at another stop, where a woman thanks him profusely as she cradles her baby.

Funded by a heating oil industry group, the "Fuel Your Love" promotional campaign has a feel-good touch, but it directs viewers to a [website dispensing home heating advice](#) that is peppered with overwhelmingly negative, and sometimes misleading, claims about electric-powered heat pumps, saying they "are simply not ideal for climates like ours."

The message doesn't seem to be working. Mainers are embracing heat pumps — boxy machines that function like reverse air conditioners, combining heating and cooling systems in a single unit. In a state where winter is long and chilling, and exorbitant oil and [gas prices](#) have motivated people to switch, crews have installed tens of thousands of heat pumps, prompting the fossil fuel industry to step up its efforts to beat back the trend.

Internal documents show that the National Oilheat Research Alliance, a trade association representing heating oil sellers, has funded campaigns fighting electrification that target New England homeowners and real estate agents. The Energy and Policy Institute, a pro-renewables group, obtained the documents through a public records request and shared them with The Washington Post.

The alliance's propane counterpart, the Propane Education and Research Council, has put out training material coaching installers how to dissuade customers from switching to electrical appliances.

"The 'electrify everything' movement is moving forward across the Northeast and in other parts of the country with a vengeance," Richard Carrione, a consultant paid by the National Oilheat Research Alliance, wrote last fall in an industry magazine. "It will be incumbent on our industry to educate and activate Mainers about the pitfalls of electrification," he wrote, signing off: "The battle has just begun. Stay tuned."

Across the country, similar turf wars are playing out. As more cities ban gas hookups in new buildings and some states offer incentives for residents to ditch their furnaces, industry groups are fighting back with an array of anti-electrification messaging. Standing in the way are states such as Maine that see benefits for both the climate and consumers by encouraging residents to make the change.

Efficiency Maine, a quasi-state agency, offers rebates that cover part of the heat pump's cost; the federal government, through the Inflation Reduction Act, offers a new federal tax credit worth as much as \$2,000.

The state agency has also established a pilot program to see if heat pumps could replace furnaces in mobile and manufactured homes. Marianna Casagrande is one of 10 homeowners in the town of Freeport who signed up.

"Oh, hell no," Casagrande said, when asked recently if she missed her propane furnace. As part of the experiment, the agency promised residents they could have their fossil-fuel-burning systems back if they didn't like the results. So far, none of the homeowners have wanted to go back, according to agency officials, and Casagrande said she is more than satisfied.

"It is comfortable. It's quiet. It's really a good system," said Casagrande, a mixed-media artist whose concern about climate change had risen in tandem with her heating bills. "I'm really excited our state is so forward thinking, and we have to be, because we live in a drop-dead gorgeous part of this country and we're invested in keeping it that way."

A major test of the unit's strength came this past weekend, when Arctic air massing over the northeastern United States sent the temperature in Freeport below zero. "The house was great!" she said Monday.

The Maine Energy Marketers Association, the oil industry's voice at the state level, is promoting a different message at [MaineEnergyFacts.com](http://MaineEnergyFacts.com).

The website, which credits Carrione's marketing firm, warns that most Maine homeowners can't rely on heat pumps as a sole source of heating. It says that because heat pumps run on electricity that's still made by burning natural gas they are "no greener than the furnace in your basement."

"Overall, heat pumps have not typically been popular in places with climates like the Northeast," the site says. The message is clear: Heat pumps can't hack it in Maine.

Experts say many of these claims are exaggerations and that the handful of legitimate issues the site raises can be addressed through proper installation and design. Heat pumps do work in cold weather. Although their efficiency declines in subzero temperatures, today's models can provide heat even at minus-15 degrees. Maine officials suggest residents consider a backup heating system if they experience long stretches of cold weather that the units can't handle.

And even accounting for using electricity generated by burning fossil fuels, researchers have found that switching to a heat pump usually reduces a building's carbon emissions.

"It's a simple fact that a high-efficiency cold-climate heat pump saves carbon relative to utility gas (methane), fuel oil, or [liquefied petroleum] gas, in virtually every electric market in the U.S., and certainly in all of the Northeast," Bruce Harley, a veteran energy consultant based in Vermont, said in an email.

The Maine Energy Marketers Association raised questions about heat pumps' viability by suggesting they would tax the region's electric grid. In 2021, ISO New England, the state's power grid operator, warned of rolling blackouts because of supply chain issues affecting natural gas. Yet the trade group's president blamed the situation on the state's promotion of heat pumps.

"Our power grid is not equipped to handle the demand that is now being put on it," Charles Summers said in a radio interview. Summers said he and his fellow industry group leaders in New England had sent letters to their governors "asking that states pushing so hard toward electrification, pushing complete conversion to heat pumps, just tap the brakes for a few minutes."

Last year, the trade group began pressing Maine political candidates to sign a pledge committing to vote against any measure that would limit residents' ability to choose their homes' energy source. Although Maine isn't banning oil or gas hookups anytime soon, dozens of state lawmakers signed on, including Gov. Janet Mills (D).

In interviews and emails, officials affiliated with the heating oil and propane groups all sought to distance themselves from the anti-electrification efforts. Michael Devine, president of the National Oilheat Research Alliance, said his group has played no role in crafting its state-level affiliate's messaging. Because it is a federally chartered trade association, the money it collects on fees is supposed to be spent on research, training and consumer education.

"We may pay the invoices for these consultants, but we do not hire them," said Devine, adding that state groups have autonomy over their individual campaigns.

Summers, the Maine trade group's president, said its claims about heat pumps are factual and that "popularity is not relevant when judging whether heat pumps are ideal." He noted that some of the organization's members sell these machines and that its technical education center offers a well-attended heat pump installation class.

“We want consumers to have options,” he said by phone. “And we’ve asked policymakers not to exclude liquid fuels.”

Maine remains heavily dependent on heating oil, despite state and federal efforts to wean the state from the fuel. Its housing stock is among the oldest in the country, and many residents can’t afford to switch to a cleaner source of heat.

But oil’s market share is falling. Whereas 74 percent of the state’s homes relied on oil to keep warm in the winter of 2010, according to the Census Bureau’s American Community Survey, that figure had fallen to 60 percent by 2021.

Today, the northernmost edge of Maine, Aroostook County, has the highest concentration of heat pumps installed through Efficiency Maine rebates, per capita. This sprawling region of pine forests and potato farms is bordered on three sides by Canada, and it has endured some truly frigid cold snaps, including a record low of minus-37 degrees in Caribou in January 2009.

Despite the bitter cold, a drive up U.S. Route 1 reveals a quiet transformation underway with major implications for climate change. Mainers who have heated their homes, diners, libraries and churches with oil and propane for decades are turning to an alternative source of warmth.

Demand for heat pumps “has just exploded,” said Keith Ouellette, an Aroostook heat pump installer. “When people call me, it’s not like they say, ‘Sell me on it.’ They’re already sold. They’re asking, ‘When can you come?’”

Ouellette said the conventional wisdom has flipped that, in very cold climates, heat pumps work best as a supplement to oil or propane. “Most people use it for their primary heating system,” he said.

“If they really didn’t work in the cold, you would think people would stop buying these things, but they haven’t,” said Michael Stoddard, executive director of Efficiency Maine.

In a state with fewer than 600,000 occupied housing units, the agency has already given out rebates for 116,000 heat pumps, blowing past its original goal of helping residents install 100,000 units by 2025. While Stoddard said some were skeptical of the agency’s initial efforts to recruit installers and boost the market, now there is little doubt that heat pumps can function in cold climates, and his agency is experimenting with new uses.

In late January, the high was 23 degrees in Van Buren, a town of about 2,000 that sits on the U.S.-Canada border. But seated at his kitchen table, Paul Nadeau wore a short-sleeve polo shirt as he flipped through spreadsheets showing the thousands of dollars he has saved by heating his home with two heat pumps.

Nadeau grew up in a wood-heated home and remembers the luxury of switching to heating oil, which didn't require chopping or heavy lifting. Like many northern Maine residents with heat pumps, he has kept his oil-burning furnace as backup. But it rarely gets used. Last weekend, when the temperature plunged below minus-20 degrees in Van Buren, with wind chills of minus-50, Nadeau said he turned on his furnace for the first time this winter. His carefully maintained records show he hasn't had an oil delivery since the fall of 2021.

"I am using more electricity, there's no denying that," Nadeau said. "But it sure is a whole lot cheaper than burning oil."

Just down the street from Nadeau's home, Keith Perreault, the vice president of a heating oil delivery business, is dealing with the fallout of these decisions.

Tulsa Inc., the 52-year-old company started by Perreault's parents, is coping with a revenue drop of 5 to 10 percent as more of its customers turn to heat pumps as their dominant source of heating, he said. Heat pump water heaters, which are free for eligible low-income Maine families, have also taken a bite out his earnings.

Although home delivery of heating oil currently makes up the majority of his business, Perreault said he expects it will continue to shrink. Yet he's confident the business will survive this shift. Other markets may emerge, he said, adding that this far north, demand for oil isn't going away any time soon.

There's another force at work. Warming temperatures, caused by burning fossil fuels, are shortening New England winters and heating summers, driving demand for air conditioning. Heat pumps are filling a need that didn't exist before.

Even Perreault has a unit in his house and several at work, but he said he uses them almost exclusively for air conditioning. "I mean, I am the oil guy," he said.