



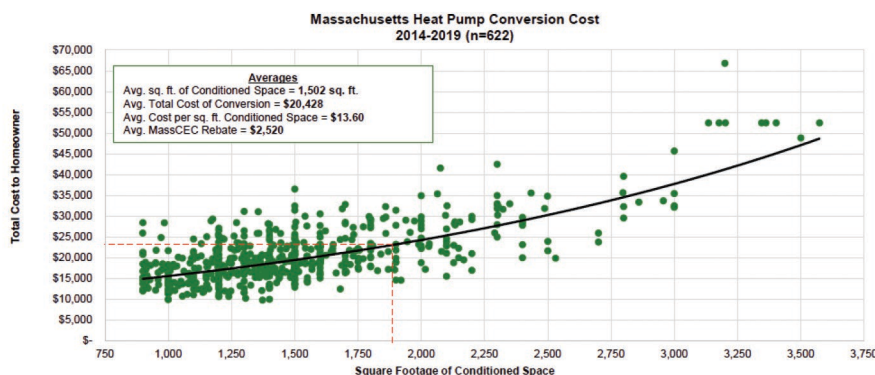
ELECTRIC HEAT PUMPS

New York and other states in the Northeast are looking to convert homes to electric heat pumps to help reduce emissions. However, according to real-world data from the Massachusetts Clean Energy Center, heat pumps come with considerable financial and performance challenges.

CONSUMER COSTS

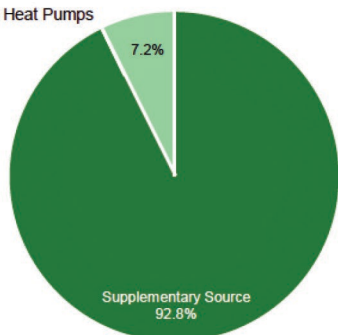
The cost of converting to an electric air-source heat pump is substantial. At over \$21,000 on average, these systems are unaffordable for many low- and middle-income residents, even with a rebate.

MEDIAN HOME CONVERSION COST: \$21,572

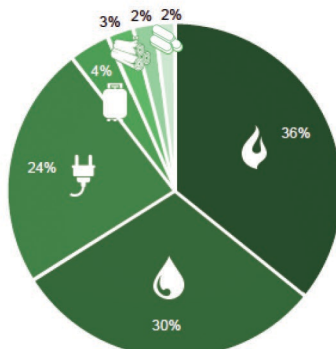


Percent of Conversions Retaining a Supplementary Heat Source (n=622)

Only Heat Pumps



Supplementary Heat Source (n=571)



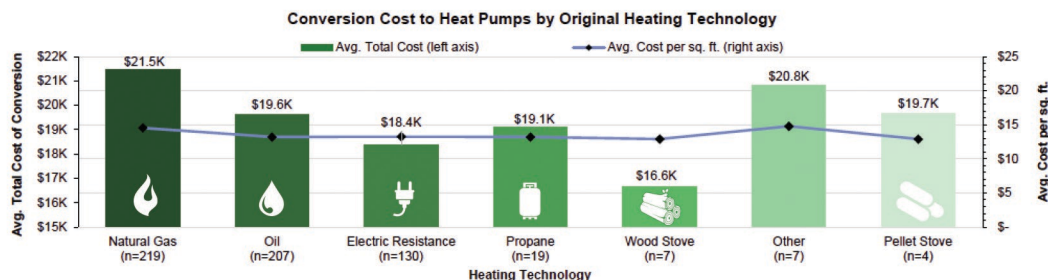
- Natural Gas
- Oil
- Electric Resistance
- Propane
- Wood Stove
- Other
- Pellet Stove

HEATING PERFORMANCE

Most heat pumps on the market begin to lose heating efficiency at 47°F, and over 92% of the homeowners who installed heat pumps have kept their existing heat source or installed a supplemental heat source.

CONSUMER COSTS VARY DEPENDING ON HEAT SOURCE

The average price of a heat pump conversion varies depending on the home's existing heat source. However, the average conversion cost remains above \$16,000 regardless of the existing heating technology.



ABOUT BIODIESEL AND RENEWABLE DIESEL

Sources: Massachusetts Clean Energy Center; Massachusetts Department of Energy Resources.



Made from plant-based oils, used cooking oils, and animal fats



Clean-burning ultra-low carbon



Can be used in any diesel engine without modification



Commercially available nationwide



Today's solution for heavy-duty trucking, emergency vehicles, bus fleets, and farm equipment