HEAT PUMPS ARE THE HEALTHY CHOICE

Buildings are a significant contributor to carbon emissions and air pollution in Massachusetts because most are heated by burning fossil fuels like gas and oil.

Energy efficient heat pumps that are powered by electricity are healthier and safer than fossil fuels. They are also better for our planet because they can be powered by clean, renewable energy.

Improves AIR QUALITY

In Massachusetts, buildings powered by fossil fuels contribute over **7 times** more outdoor nitrogen oxides than electricity generation,[1] and air pollution from buildings cost an estimated $8 billion in health impact costs in 2017.[2]

Healthier FOR CHILDREN

Air pollution aggravates asthma, which affects **1 in 8** children in Massachusetts and disproportionately affects low-income children.[3] Close to half (41%) of children with current asthma were unable to go to school or daycare for at least one day during the past twelve months due to asthma.[4]

1 EPA. National Emissions Inventory. 2017. epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data

2 rmi.org/health-air-quality-impacts-of-buildings-emissions/#MA

3 Mass.gov. Statistics about asthma. mass.gov/service-details/statistics-about-asthma **4** Ibid.

5 Barreca, A, Clay, K, Deschenes, O, Greenstone, M, and Shapiro, J. Adapting to Climate Change: The Remarkable Decline in the US Temperature-Mortality Relationship over the Twentieth Century Journal of Political Economy 2016 124:1, 105-159

6 Bouchama A, Dehbi M, Mohamed G, Matthies F, Shoukri M, Menne B. Prognostic factors in heat wave related deaths: a meta-analysis. Arch Intern Med. 2007 Nov 12;167(20):2170-6. doi: 10.1001/archinte.167.20.ira70009. Epub 2007 Aug 13.

7 Weatherization and Indoor Air Quality: Measured Impacts in Single-Family Homes under the Weatherization Assistance Program (ORNL/TM-2014/170)

GBPSR

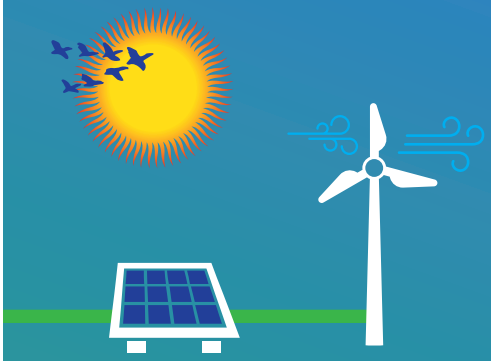
HeatSmart Alliance

Mass ENERGIZE

Efficient HEATING & COOLING

Heat pumps provide cooling as well as heating. Because of climate change, Massachusetts will have more hot summer days above 90 degrees. Access to air conditioning is very important for preventing heat-related deaths.[5] In heat waves, people over 65 without air conditioning are **4 times** more likely to die from heat-related illnesses than those with air conditioning.[6]

Fights CLIMATE CHANGE



Climate change is affecting our health in many ways, including more insect-related illnesses like Lyme disease, respitory illnesses, and weather-related emergencies. Switching from fossil fuel heating to a heat pump is one of the biggest ways to cut household carbon dioxide emissions. Using electricity to heat buildings will reduce carbon emissions and help fight climate change, especially as wind and solar replace natural gas for generating electricity.

Safer THAN FOSSIL FUELS

Unlike natural gas, oil or propane heating systems, heat pumps never emit carbon monoxide.[7] At low levels carbon monoxide can increase hospitalizations of people with heart disease, and at high levels can cause death. Gas is also explosive, and gas leaks can pose a public safety hazard.

TAKE ACTION

- ✔ **Take advantage of rebates for heat pumps at MassSave.com**
- ✔ **Instead of buying window air conditioning units, buy small, very efficient "mini-split" heat pumps that heat AND cool.**
- ✔ **When updating or adding central air conditioning, select a heat pump for greater efficiency.**
- ✔ **Whenever an oil or gas furnace gets old, replace it with a cold-climate heat pump.**

Learn more at

MassEnergize.org

HeatSmartAlliance.org

gbpsr.org/issues/electrification