

Renewable Heating and Cooling

Do you want your home to be cooler in the summer or warmer in the winter? Are your heating or cooling bills too high?

About [3 in 10 Massachusetts families](#) still heat their homes with oil, and most of the rest use natural gas. Heating is responsible for a greater share of [Massachusetts' global warming pollution](#) than electricity. The fossil fuels we burn to heat our homes and businesses and produce hot water also contribute to harmful air pollution that affects human health.

The good news is that we have alternatives. We can heat our water using thermal energy from the sun. And with efficient air source heat pumps, we can keep our homes and businesses at a comfortable temperature with clean, renewable electricity. Switching to these technologies will help reduce the use of fossil fuels and promote a 100% renewable future for Massachusetts.

Even better, these systems have lots of incentives so that you can get them installed and be heating your home with renewable energy for a lot less. The incentives are at both the federal and the state level. There are also programs that help you make choices about what kind of heating is right for you and help you find an installer.

Renewable Heating Technologies

- [Solar water heaters](#) use energy from the sun to provide hot water. These systems use “collectors” on the roof of a home or business to collect heat from the sun, which is then used to heat water. The hot water is kept in a tank that is connected to the plumbing system and can be used in the same way as hot water from an oil or gas boiler.
- Solar energy can also be used for [space heating](#).
- [Air source heat pumps](#) use electricity to heat or cool a home efficiently. Thanks to recent improvements in technology, air source heat pumps are now able to heat homes effectively even in cold climates like New England. A study from the Northeast Energy Efficiency Partnership found that air source heat pumps are [significantly more cost-effective](#) than oil heaters or electric resistance heating. And because these heat pumps run on electricity, they can be powered by renewable resources like the sun and wind.
- [Ground source or geothermal heat pumps](#) provide heating, cooling, and water heating by using the temperature of the ground, which is nearly constant throughout the year.

What incentives are available?

Incentive programs from the state and federal government can help make a system in your home more affordable.

- The Massachusetts Clean Energy Center (MassCEC) lists the incentives available for [residents, businesses, government agencies, and nonprofits](#) to install renewable heating technologies.
- MassCEC offers [rebates for solar hot water systems](#), up to \$4,500 or 40% of the installed cost. MassCEC has created a [guide](#) for residential solar hot water systems.
- MassCEC also offers rebates for [air source heat pumps](#).



- MassSave offers [zero-interest loans](#) for replacing your heating system with efficient technologies, including air source and ground source heat pumps.

What can local communities do to promote renewable heating?

This year, MassCEC is running a pilot project to promote renewable heating as part of its [Solarize Mass program](#). Solarize Mass program, a partnership between the Massachusetts Clean Energy Center (MassCEC) and the Green Communities Division of the Massachusetts Department of Energy Resources, increases the adoption of small-scale solar installations through community outreach campaigns. As part of this pilot program, up to two communities will be selected to promote solar hot water, air source heat pumps, or electric vehicles alongside solar electricity.

Communities that are looking to increase the adoption of renewable heating technologies could seek to join MassCEC's "Solarize Mass Plus" program. Alternatively, a community could choose to create its own outreach and bulk purchasing program for renewable heating technologies, along the model of the Solarize Mass program.