

# Weatherization Report from Exeter Energy Committee, 2020

Is heating your historic home costing too much? Here are some quick tips...

## Windows

A single pane window has an R-value of 1. Adding a storm window brings it to an R-2. Replacing that with a pretty good efficiency new window will bring it up to an R-3 to R-5. That's not a huge increase in the insulating value of the window, especially given the cost to replace.

## Insulation

If you have uninsulated walls, they are likely somewhere around an R-4, about the same as the old window. Depending on when your building was built and the size of the framing, you'll probably be able to get up to R-60 installed in the walls today. The same principles apply for ceilings. It is more difficult to insulate the slab and foundation walls, but it can be done via spraying. However, most insulation upgrades are focused on above grade walls and ceilings. Therefore, you get a lot more insulating value updating the walls and ceilings rather than windows, and it is much less costly. Check the calendar to see a one-hour workshop video/event that explains home heating science: <https://plymouthenergy.org/nh-saves-button-up/> or cut to the chase and see pdf of their powerpoint:

<https://secureservercdn.net/198.71.233.179/oxh.185.myftpupload.com/wp-content/uploads/2019/02/ButtonUp-2019-PDF.pdf>

Insulation Type R-Value

- Fiberglass Batt Insulation R-8 (3" thickness) to R-38 (12")
- Other Batt Insulation R-11 (3-1/2") to R-30 (9-1/2")
- Fiberglass Blown-in Insulation R-8 (3") to R-60 (27-1/4")
- Cellulose Blown-In Insulation R-8 (2") to R-60 (18-3/4")

## Rebates

NH Saves is a program run by utility companies in NH. In Exeter, Unitil would like to see your home better insulated, and will give you matching rebates up to \$4000 to do so. Use the online Home Heating Index calculator to see if you qualify for a free audit. <https://nhsaves.com/programs/energy-audits-weatherization/>

The Department of Energy also has programs: <https://www.energy.gov/eere/wap/weatherization-assistance-program>

## Heat Pumps

Also called Mini-Splits, this is a highly efficient electric heating and cooling system. A compressor/fan is located outside your house, with a conduit that runs inside. A small unit hangs on the upper wall inside your house. You may want to consider converting to a heat-pumps system or adding one in a hard to heat/cool area. Compare them at: <https://www.consumerreports.org/cro/heat-pumps/buying-guide/index.htm>

**FYI - NH Electricity Energy Mix 2020** (net generation estimate): 66% Seabrook Nuclear, 12 % natural gas, 20% renewables (solar/wind/hydro/biomass), 2% other. <https://www.eia.gov/state/print.php?sid=NH>