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Home Improvements That Address Climate Change

Here are three easy suggestions that will help you address climate change. Your home will be more comfortable and quieter also. As a bonus, you'll save money on your heating and cooling bills.

First, Contact Cape Cod Light Compact (CLC) for a Home energy assessment of your home. Homeowners can choose between a Virtual Home Energy Assessment or an In-Home Assessment. The virtual assessment can be done via phone or computer and allows you to access the same rebates and incentives as the in-person assessment. This way no one needs to enter your home.

There are numerous rebates and incentives are. Here are three examples: more energy efficient lightbulbs, air sealing, and insulation. CLC pays 100% for light bulbs and air sealing and 75% of your insulation costs.

Second, before your home's systems, like your furnace, water heater, roof, etc., reach the end of their service life make a replacement plan. Choose the most energy efficient, cost effective replacement. You definitely don't want to make a decision in the midst of an emergency when one of these systems fails.

Like all technology, heating, cooling, and building shell technology are constantly changing. Consult a design professional, trusted builder, contractor, plumber or heating, ventilation, and air conditioning (HVAC) company for recommendations.

Periodically update your plan to the latest technology available. Here are some examples:

- Water heaters, you can install an air source heat pump or an air-to-water heat pump.
- For heating and cooling, one option is mini splits. The split is an indoor wall hung unit and an exterior condenser, like you'd see for central air conditioning.
- For homes with ducted forced hot air, you can replace your furnace with a whole house air-to-air heat pump. Heat pumps not only provide heat, but you get central AC at no extra cost. Have a professional assess you existing ductwork. Make sure that the ducts get insulated
- A final heating and cooling option is solar assisted air-to-water heat pumps. These are popular in Europe as a replacement for certain forced hot water heating systems. They work well with radiant heat and low temperature radiators. There are rebates and incentives for all of the above/

Third, if you are planning a kitchen remodel, addition, installing a new roof, windows or siding again, consult a trusted design professional or contractor. Ask them if they are versed with Net Zero, Passive House, or other low energy usage intensity (EUI) building principles.

The following principals are common to very low EUI systems. They all:

- Use continuous insulation throughout the entire building envelope, the building's shell, to avoid thermal bridging, i.e., heat loss through components like studs or rafters.
- Make sure the building envelope is extremely airtight, preventing infiltration of outside air and loss of conditioned air.
- Employ high-performance windows (triple-paned windows in New England) and doors. Solar gain is managed to exploit the sun's energy for heating and to minimize overheating during the cooling season.
 - Use some form of balanced heat- and moisture-recovery ventilation.
 - Use a minimal space conditioning system.

Many people assume that these building methods are too expensive. Oftentimes, the extra upfront costs have a reasonable payback period. The Massachusetts Department of Energy Resources Webinar "*Passive House for Municipalities*" (YouTube) states that a Net Zero or Passive House home may pay back the initial investment in ten to fifteen years. You'll be more comfortable and spend less on energy during that time and beyond.

Do one or more of these actions and you've taken positive climate action. And the sooner you do it, the quicker the payback.