

10 Steps to a Zero Emissions Home

- ☐ **1. EPA WaterSense showerheads** *Energy savings of \$100+/year, often more than \$200/year*
 - A 1.5GPM showerhead uses 40% less water and thus 40% less energy to heat the water.
 - A typical family will save 10,000 gallons/year of hot water with low-flow showerheads.
- ☐ **2. LED light bulbs** *Energy savings of \$50+/year*
 - LEDs use 85% less energy than incandescent bulbs, and reduce electricity usage 3-5%.
 - Don't forget to replace outdoor lighting too!
- ☐ **3. Window Dressers** *Energy savings of 5-10%*
 - Insulated window inserts improve indoor comfort and energy efficiency for less than 1/10th the cost of replacing windows. www.windowdressers.org
- ☐ **4. Energy audit** *Health and Safety*
 - Have a comprehensive audit to assess air leakage and insulation needs for your home.
 - Measures energy use, identifies opportunities for improvements, and identifies moisture problems or health and safety needs like ventilation and mold remediation.
- ☐ **5. Heat pump water heater (HPWH)** *Energy savings of 10-20%*
 - Use 70% less energy than a standard electric water heater.
 - Significant rebates available through Efficiency Maine that increase their affordability.
 - Side benefit of helping dehumidify the space they're in, like a damp basement.
 - Make sure to insulate the pipes (hot and cold) to reduce heat loss and condensation.
- ☐ **6. Electric appliances** *Energy savings of up to 10%*
 - Measure your refrigerator's energy use and upgrade to an EnergyStar model as needed.
 - Replace gas cooking equipment with induction or electric for health and safety.
- ☐ **7a. Basement/crawl space** *Energy savings of 10-30%*
 - Sealing the basement or crawlspace blocks rodents and heat loss.
 - Vapor barrier prevents ground moisture from getting into the house - reducing mold.
 - We recommend 3" of spray foam (R-21) from the basement floor up over the rim joist to air seal and retain heat. This is an incredible improvement for fieldstone foundations.
 - Make sure the contractor uses HFO/5th generation/low-Global Warming Potential spray foam. Older HFC blowing agents have 500x the carbon emissions!
- ☐ **7b. Attic and wall air sealing and insulation** *Energy savings of 10-25%*
 - Because warm air rises, a significant portion of heat loss is through the attic.
 - Air sealing first ensures that insulation works properly.
 - We recommend 18-24" of cellulose insulation to achieve R60-R80 in attics.



☐ **8. Air source heat pumps** *Energy savings of 10-40%*

- Provide winter heating and summer cooling and dehumidification for your home.
- Work in temperatures as low as -15F, and can be the sole source of heat if your home is well insulated.

☐ **9. Electric Vehicle**

- A 2020 study by Consumer Reports found that the lifetime ownership costs were significantly lower for EVs. Most EVs saved \$6,000 - \$10,000 over their lifetimes.

☐ **10. Solar** *Energy production up to 100%*

- Install rooftop solar to supply all your electricity needs.
- 30% federal tax credit and financing options are available.
- Battery backup is needed for solar to work during a power outage

Other: High-efficiency wood stove

New high-efficiency wood stoves are up to twice as efficient as older models, cutting wood consumption by up to half while providing as much heat to the home. Wood stoves are a great source of backup heat during power outages.

Other: Whole-home surge protection

As we electrify our energy consumption, and especially with the complex electronics in these systems, it is essential to install whole-home surge protection. These devices can cost \$100-400, and need to be installed by an electrician. A single surge event can cause more damage than the upfront cost of the surge protector.

Other: Ventilation

As we seal our buildings and reduce air leakage (drafts), mechanical ventilation becomes more important. In many homes, exhaust fans in the kitchen and bathrooms are adequate. When homes are very tight, ventilation that both exhausts stale air and brings in fresh air is needed. Energy-recovery and heat-recovery ventilators exchange heat between the incoming and outgoing air, to temper the fresh air coming in and reduce heat loss.

Efficiency Maine: Rebates and support

Efficiency Maine's website has additional information on federal tax credits and energy rebates available in Maine. They are a great source for finding a contractor in your area to help with any of these improvements: www.energymaine.com/at-home/

More information about our program: www.MaineUP.org