

U.S. Department of Energy - Energy Efficiency and Renewable Energy

A Consumer's Guide to Energy Efficiency and Renewable Energy

Adding Insulation to an Existing Home

Unless your home was specially constructed for energy efficiency, you can usually reduce your energy bills by adding more insulation. Many older homes have less insulation than homes built today, but adding insulation to a newer home may also pay for itself within a few years.

To determine whether you should add insulation, you first need to find out how much insulation you already have in your home and where.

A qualified home energy auditor will include an insulation check as a routine part of a whole-house energy audit. An energy audit will also help identify areas of your home that are in need of air sealing. (Before you insulate, you should make sure that your home is properly air sealed.)

If you don't want an energy audit, you need to find out the following:

- Where your home is, isn't, and/or should be insulated
- What type of insulation you have
- The R-value and the thickness or depth (inches) of the insulation you have.

If you live in a newer house, you can probably find out this information from the builder. If you live in an older house, you'll need to inspect the insulation yourself if you don't want an energy audit.

Inspecting and Evaluating Your Insulation

- Check the attic, walls and floors adjacent to an unheated space, like a garage or basement. The structural elements are usually exposed in these areas, which makes it easy to see what type of insulation you have and to measure its depth or thickness (inches).
- Inspect the exterior walls using an electrical outlet:
 1. Turn off the power to the outlet.
 2. Remove the outlet cover and shine a flashlight into the crack around the outlet box. You should be able to see if there is insulation in the wall and possibly how thick it is.
 3. Pull out a small amount of insulation if needed to help determine the type of insulation.
 4. Check outlets on the first and upper floors, if any, and in old and new parts of a house. Just because you find insulation in one wall doesn't mean that it's everywhere in the house.
- Inspect and measure the thickness (inches) of any insulation in unfinished basement ceilings and walls, or above crawl spaces. If the crawl space isn't ventilated, it may have insulation in the perimeter wall. If your house is relatively new, it may have been built with insulation outside the basement or foundation walls. If so, the insulation in these spaces won't be visible. The builder or the original homeowner might be able to tell you if exterior insulation was used.
- Once you've determined the type of insulation you have in these areas and its thickness (inches), see the U.S. Department of Energy's online Insulation Fact Sheet for how to determine the R-values of insulation previously installed in your home.

Determining Recommended R-Values

When you find out the R-values of your insulation either from an energy audit, the home

builder, or your own inspection, you can then use the U.S. Department of Energy's Zip-Code Insulation Program to determine how much insulation you should add and where to achieve the recommended insulation levels for maximum energy efficiency.

Estimating Costs and Payback

The Zip-Code Insulation Program provides insulation cost estimates and a rate of return on your investment. Also see our information on estimating the payback period of additional insulation.

Deciding What Type of Insulation to Add

If you decide to add insulation to your home, review our information on the types of insulation available to help you decide what type to use and where.