

CUT YOUR UTILITY BILLS



ABOVE: Unwanted moist air in a shed can cause rust. PHOTO BY FLORIS VAN HALM, FLICKR

LEFT: Keeping a newer shed in top condition may require insulation and proper venting. PHOTO BY DAVE F3138, FLICKR

Should Outbuildings Be Insulated?

Q: We have an electric wall heater in our outdoor shed. How much will our electric bill go up if we use this heater next winter? Should we consider insulating the shed at some point?

A: Uninsulated outbuildings can be quite expensive to heat or cool depending on where you live. Even though we currently are experiencing July's warmer temperatures, I will focus on heating, since your shed includes the wall heater.

Years ago, I worked on a home energy contest that selected homes with the highest energy bills and helped owners make efficiency improvements. One year, the home with the highest energy use had an uninsulated shed that was heated to keep several cans of leftover paint from freezing. The cost of heating the shed each winter was more than it would have cost to

replace the paint.

The cost to heat or cool your outdoor shed depends on your climate, the size of the outbuilding and the price you pay for electricity. I conducted a quick calculation that showed heating an uninsulated 6-foot-by-8-foot shed could cost twice as much as heating an insulated 900-square foot home.

Some outbuildings are heated with wood, which is a sound choice if you have a free source of firewood. Another strategy often used in workshops is a radiant heater directed at the work area, perhaps in front of a workbench.

If you are paying for your fuel and decide to keep an outbuilding heated, you should definitely insulate it.

An important consideration—unless you live in a desert-dry climate—is the effect moisture can have in an outbuilding. Moisture enables

rot, insects and mold to wreak havoc on your structure, and rust to degrade tools and other metals.

When done right, heating and insulating an outbuilding can reduce or eliminate a moisture problem. But insulation installed incorrectly can trap moisture and foster mold growth.

Moisture in an outbuilding is usually caused by three things: leaks where water can get through—typically through the roof, windows and doorway; seepage through floors and walls; or condensation when nighttime temperatures drop.

To prevent moisture buildup, you need to eliminate moisture sources and prevent condensation.

As air cools, it cannot carry as much moisture—resulting in condensation, usually on the coolest object at hand. Insulating walls and ceilings can keep the interior wall or ceiling surface from getting cold enough for condensation to result.

Insulated wall or ceiling cavities must be carefully sealed so condensation does not occur inside the cavity.

I should note the cost of heating and cooling an outbuilding can be much lower if the thermostat is carefully controlled.

Only you can decide if the value of heating and cooling your outbuilding is worth the cost and effort to properly insulate and seal. Even if your shed is not heated or insulated,



This column was co-written by Pat Keegan and Brad Thiessen of Collaborative Efficiency. For more energy tips, go to collaborativeefficiency.com/energytips.