

Landscaping for Energy Efficiency

Carefully positioned trees can save up to 25% of a household's energy consumption for heating and cooling. Computer models devised by the U.S. Department of Energy predict that the proper placement of just 3 trees can save an average household between \$100 and \$250 in energy costs annually. On average, a well-designed landscape provides enough energy savings to return your initial investment in less than 8 years. i-Tree Design is a useful tool that can help you plan out the placement of a certain tree in proximity to your home. The link below is a free application that can help you learn the best way to utilize trees to save money on utility bills!

<https://design.itreetools.org>

How can trees save money on electricity?

Example 1: When deciduous trees are planted on the east, west and south sides of a house, their full canopies of leaves can shade your home from the hot summer sun and cut air conditioning costs by 20-40%. While shades and drapes can also be used for this purpose, shade trees have been shown to be 7 times more effective. During the winter, the bare branches of these trees allow sunlight to filter through to your home which allows natural solar heating. Deciduous vines are woody plants that absorb and reflect the sun's rays in the summer, helping to keep heat out of your home. They lose their leaves in the fall which allows sunlight to warm the home during winter months. You can plant deciduous vines on trellises to shade walls and windows on the south side of your home or train the vines to grow directly on outside walls. Some types of deciduous vines such as Boston ivy and Virginia creeper may be damaging to wood siding but not to brick or stone walls. Some vines grow very quickly and require substantial pruning to keep under control.



Example 2: Cold winds from the northwest can cause large amounts of heat to be lost from your home during the winter, especially if your home is located on a large open piece of property. Evergreens can create a windbreak to change the force and direction of the wind away from your home, reducing heat loss and helping you save 20% or more on your winter fueling costs. To create an effective windbreak, evergreens should be planted to the northwest with the ends of the windbreak well beyond 50 feet on both sides.



Example 3: Shrubs can be used to minimize the loss of cool air away from the house in the summertime, as well as provide some additional protection from the wind during the winter. When you plant dense evergreen shrubs 4-5 feet away from a foundation wall, they will shield it from the wind and create a dead air space between the wall and the plants, creating natural insulation. These shrubs can also be used to shade outdoor air conditioning units. An air conditioning unit operating in the shade uses as much as 10% less electricity than one operating in the sun.

