

Landscaping to Save Energy
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Recent gas price increases remind us how dependent we are on all forms of energy. Even when cooling and heating our homes, we are never certain what the price of energy may be. Therefore, it is important to make choices that are as economical as possible. An added benefit, of course, is that using less energy is more environmentally friendly. One approach to reducing energy use is through the careful placement of plants, particularly trees, in the landscape.

Creating windbreaks is not a new concept, but it is a very effective one. Properly placed windbreaks can cut heating costs in the winter by reducing wind speed around a house. Large evergreen plants, such as pines, spruces and large junipers (cedars), when placed to the north and northwest of a home will diminish the prevailing winds. Where adequate space is available, several rows of trees or shrubs can be useful. If possible, the ends of windbreaks should extend to each side of the house on the north and northwest. Evergreens placed in north locations do not shade the house in winter, which allows heating from the sun.

In smaller landscapes, small trees or a group of plants can provide some benefit. They reduce the wind speed, deflect cold winds away from the house, allow winter sun to warm walls, and control drifting snow. Evergreens, such as junipers and yews, are often used for appearance as foundation plantings along the front and sides of a house, but actually provide insulation by creating dead air space between the plant and the wall.

During the summer, deciduous trees, planted on the east and west side of your house will provide shade at the beginning and end of the day, and also can reduce glare and reflection from walls and windows, heat from roads, and provide outdoor cooling as moisture evaporates from plant leaves. Planting trees near driveways and parking areas will keep cars cooler and keep their air conditioners from working too hard. Open-branched deciduous trees, such as Kentucky coffee tree, cast cool summer shade and let cool breezes pass, but the bare branches in winter let the warm sun shine through.

Oaks, maples and other large trees that lose their leaves in fall are most useful for energy saving when placed south and southwest of the house. A tree shading the roof or sides of the house on a hot sunny day is said to be seven times more effective than pulling heavy drapes over a window where the sun is shining in. As water evaporates from the leaves of a large tree, natural cooling also occurs. One large tree can release 88 gallons of water a day through its leaves, the cooling effect of 5 room-size air conditioners.

Where there is no space for large trees or shrubs, vines may be the solution. Vines that do not keep their leaves during the winter will act the same as trees for keeping walls cooler in summer and warmer in winter, and can be used to provide a dead air space behind them when placed on trellises.

Since it takes many years for plants to reach maturity and be effective for energy saving, plant trees now to save energy in the future! Remember, the Arboretum's motto is "Plant Trees!".