



Your Full Service Nursery & Landscape Center
Since 1987
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Landscaping for Energy Conservation

When planning our landscapes, we consider design basics such as color, texture and mature height of plants but we rarely consider energy conservation. However, proper landscaping can modify your home's climate, reducing heat gain in summer and heat loss in winter - possibly reducing heating bills up to 25% and cooling bills up to 50%.

Hot summer sun is our primary concern in Arizona. Summer cooling is best achieved by shading sunny borders of your home. To shade south-facing roofs and walls receiving direct midday sun, plant large deciduous trees (those that lose their leaves in winter). They will shade the house in summer but allow the winter sun through to warm the house. When choosing shade trees, you should consider their mature height and shape of the crown. The trees should be positioned to cast as much shade as possible on roofs and walls - generally, this means planting as close to the house as is practical. Be sure to choose varieties that are not susceptible to breakage and promptly remove diseased or damaged limbs. It is also helpful to keep the lower trunk pruned so low branches do not shade the house in winter.

East and west facing walls receiving direct morning and afternoon sun can be shaded with groupings of smaller deciduous trees and large shrubs or by growing vines along walls. Vines may be safely grown along masonry walls (be sure to choose a variety that clings to this type of wall) but should be grown on a trellis in front of wooden walls. Vines can also be trained to grow over an overhead structure to create a shady arbor. This is especially inviting if your entryway faces west.

Wind is another important factor when planting for energy conservation. A properly placed windbreak can save up to 25% on heating costs. Windbreaks should be composed of evergreen trees and should be located upwind from the home. The mature height determines the distance the windbreak should be planted from the house. For the greatest reduction in wind velocity, plant trees one to three times their mature height from the house (40' trees should be planted from 40' to 120' feet from the house). If possible, extend the row 50' beyond the ends of the home. Even a one-row windbreak is helpful but the most effective windbreak would be composed of up to 5 rows with trees spaced 6' apart.

Lower-growing, spreading evergreens can be used along north and east walls to provide insulation by creating a trapped dead airspace.

When planning your energy-conserving landscape, observe the sun in different seasons - noting how it strikes the house between 9 AM and 3 PM, and especially in early morning and late afternoon in summer. Also observe the direction of wind in the winter. Now you're ready to think about combining, these energy-conserving elements into your landscape design.

For more information you can read *Energy-efficient and Environmental Landscaping* by Anne Moffat and Mark Schiler.