Window Energy Efficiency & Conservation Tips

Windows can be one of your home’s most attractive features. Windows provide views, daylighting, ventilation, and heat from the sun in the winter. Unfortunately, they can also account for 10% to 25% of your heating bill by letting heat out.

During the summer, your air conditioner must work harder to cool hot air from sunny windows. Install ENERGY STAR®-qualified windows and use curtains and shade to give your air conditioner and energy bill a break.

If your home has single-pane windows, consider replacing them with double-pane windows with high-performance glass—low-e or spectrally selective coatings. In colder climates, select gas-filled windows with low-e coatings to reduce heat loss. In warmer climates, select windows with spectrally selective coatings to reduce heat gain.

If you decide not to replace your windows, consider following these tips to improve their performance.

**Cold Weather Window Tips**

Illustration shows how windows with low-e coatings reflect back part of your room's heat in the winter.

- Use a heavy-duty, clear plastic sheet on a frame or tape clear plastic film to the inside of your window frames to reduce drafts.
- Install tight-fitting, insulating window shades on windows that feel drafty after weatherizing.
- Close your curtains and shades at night to protect against cold drafts; open them during the day to let in warming sunlight.
- Install exterior or interior storm windows, which can reduce heat loss through the windows by 25% to 50%. They should have weather-stripping at all movable joints; be made of strong, durable materials; and have interlocking or overlapping joints.
- Repair and weatherize your current storm windows, if necessary.

**Warm Weather Window Tips**

Illustration shows how windows with low-e coatings reflect back part of the summer sun.

- Install white window shades, drapes, or blinds to reflect heat away from the house.
- Close curtains on south- and west-facing windows during the day.
- Install awnings on south- and west-facing windows.
- Apply sun-control or other reflective films on south-facing windows to reduce solar heat gain.
Long-Term Savings Tip
Installing high-performance windows will improve your home's energy performance. While it may take many years for new windows to pay off in energy savings, the benefits of added comfort, improved aesthetics, and functionality can offset the cost.

Shopping Tips for Windows

- Look for the ENERGY STAR® label.
- Choose high-performance windows that have at least two panes of glass and a low-e coating.
- Choose a low U-factor for better insulation in colder climates; the U-factor is the rate at which a window, door, or skylight conducts non-solar heat flow. Select windows with a U-factor of 0.35 or less. The lower the U-factor, the more insulated the glass. If you don’t have central air conditioning, windows with U-factors as high as 0.40 are also energy-efficient, if the Solar Heat Gain Coefficient is 0.50 or higher. Some double-glazed low-e products have U-factors below 0.30. Some three-layer products have U-factors as low as 0.15.
- Look for a low solar heat gain coefficient (SHGC)—this is a measure of solar radiation admitted through a window, door, or skylight. Low SHGCs reduce heat gain in warm climates. In our region, to reduce heating, select the highest SHGC you can find, (usually 0.30-0.60), so that winter solar gains can offset a portion of the heating energy need. If you have central air conditioning, select windows with an SHGC less than 0.55.
- Select windows with both low U-factors and low SHGCs to maximize energy savings in temperate climates with both cold and hot seasons.
- Look for whole-unit U-factors and SHGCs, rather than center-of-glass (COG) U-factors and SHGCs. Whole-unit numbers more accurately reflect the energy performance of the entire product.
- Have your windows installed by trained professionals according to manufacturer's instructions; otherwise, your warranty may be void.
- Consider windows with impact-resistant glass if you live along a coast or in areas with flying debris from storms.

Contact the HELPS toll free number, 888-333-7525 for more information or visit our website at www.muniHELPS.org

*Source: energy.gov