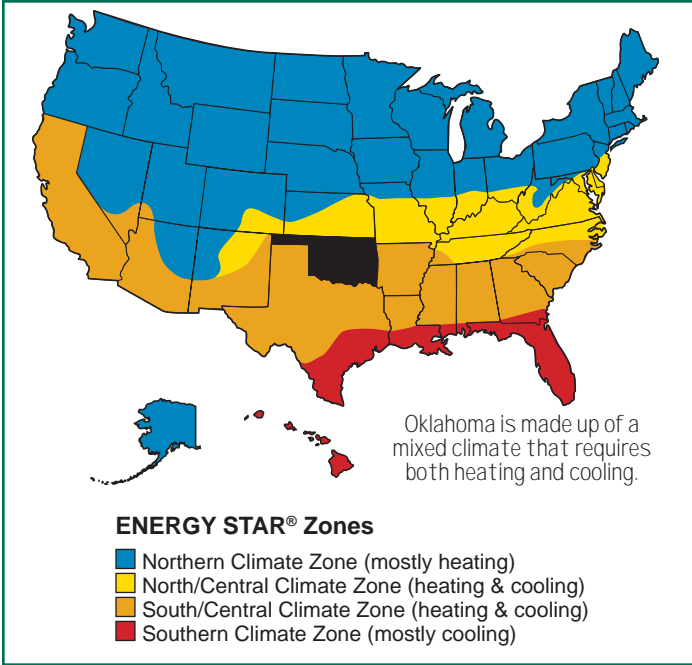




# Fact Sheet: Selecting Energy Efficient Windows in Oklahoma



## 1. Look for the ENERGY STAR®

The Department of Energy (DOE) and the Environmental Protection Agency (EPA) have developed an ENERGY STAR (www.energystar.gov) designation for products meeting certain energy performance criteria. Since performance of windows and skylights vary by climate, product recommendations are given for the four ENERGY STAR climate zones. To distinguish between ENERGY STAR products, go to Step 2.



## 2. Look for Efficient Window Properties on the NFRC Label

The National Fenestration Rating Council (NFRC) has developed a window rating system based on whole window product performance (www.nfrc.org). The NFRC label provides the only reliable way to compare products. The NFRC label appears on all fenestration products which are part of the ENERGY STAR program. See Page 2 for the recommended properties for this climate. For typical cost...

		<b>World's Best Window Co.</b> Millennium 2000® Vinyl-Clad Wood Frame Double Glazing - Argon-Fill - Low-E Product Type: Vertical Slider	
<b>ENERGY PERFORMANCE RATINGS</b>			
U-Factor (U.S./I-P)	Solar Heat Gain Coefficient	<b>0.35</b>	<b>0.32</b>
<b>ADDITIONAL PERFORMANCE RATINGS</b>			
Visible Transmittance	Air Leakage (U.S./I-P)	<b>0.51</b>	<b>0.2</b>
Condensation Resistance		<b>51</b>	—
<small>Manufacturer declares that these ratings conform to applicable NFRC procedures for determining whole window performance. These ratings are determined on a basis of standard test conditions and a specific product size. NFRC does not recommend any product and does not warrant the suitability of any product for any specific use. Consult manufacturer's literature for other product performance information. www.nfrc.org</small>			

## Benefits of High Performance Windows

### Cooling and Heating Season Savings

New glazings with low-solar-gain low-E coatings can reduce solar heat gain and heating loads, resulting in lower energy costs for both cooling and heating.

### Improved Daylight and View

New glazings with low-solar-gain low-E coatings can reduce solar heat gain while maintaining high visible light transmission, providing better daylighting and views.

### Improved Comfort

In summer and winter occupant comfort is increased; window temperatures are more moderate and there are fewer cold drafts. Discomfort from strong summer sunlight is reduced.

### Reduced Condensation

Frame and glazing materials that resist heat conduction do not become cold and this results in less condensation.

### Reduced Fading

UV-protective coatings on window glass reduce fading of fabrics and furnishings.

### Lower Mechanical Equipment Costs

Windows with better energy performance may reduce the size and cost of heating and cooling equipment.

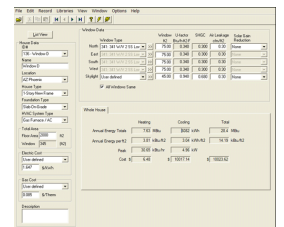
## 3. Compare Annual Energy Costs for a Typical House

Computer simulations for a typical 2000 square-foot house are used to compare the annual energy performance of different window types. A comparison of the energy performance of a set of windows for a typical house is shown below.



## 4. Customize Energy Use for a Specific House

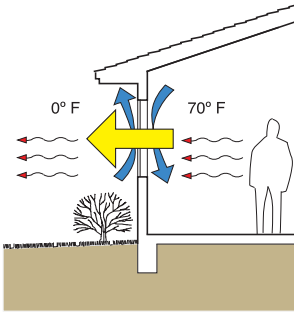
A computer simulation program, such as RESFEN (windows.lbl.gov/software/resfen), lets you compare window options by customizing calculations by adding heating and cooling costs for your climate, house design options, and utility rates.



For more information on the benefits of high performance windows, visit our website at [www.collaborativeefficientwindows.org](http://www.collaborativeefficientwindows.org) or call 1-800-451-9800.

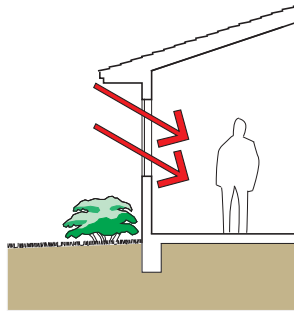


# Look for Efficient Window Properties on the NFRC Label



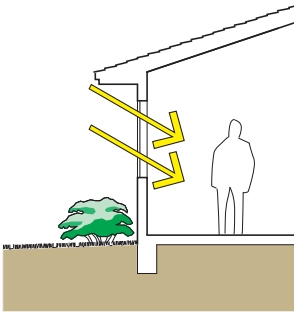
### U-Factor

The rate of heat loss is indicated in terms of Btu per hour per square foot per degree Fahrenheit (Btu/h·ft²·°F) for a window assembly. The insulating value is indicated by the R-value which is the inverse of the U-factor. The lower the R-value, the better its insulating value.



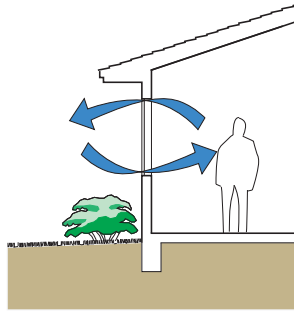
### Solar Heat Gain Coefficient (SHGC)

The solar heat gain coefficient (SHGC) is the fraction of incident solar radiation admitted through a window, both directly transmitted and absorbed by the window and then re-radiated and convected into the room.



### Visible Transmittance (VT)

Visible transmittance (VT) is a property that indicates the amount of visible light that passes through a window. The lower the VT, the less light is transmitted.



### Air Leakage (AL)

Air leakage (AL) is expressed in cubic feet of air passing through a square foot of window area. The lower the AL, the less air will pass through cracks in the assembly.



South/Central Climate Zone (heating & cooling)

## Recommended Properties in the South/Central Zone (heating and cooling)

U-factor	Solar Heat Gain Coefficient (SHGC)	Visible Transmittance (VT)	Air Leakage (AL)
U-factor: 0.35	SHGC: 0.45	VT: 0.70	AL: 0.10

For more information, see www.energystar.gov.

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