



# ENERGY STAR® Qualified Windows, Doors & Skylights

When Canadians want to reduce energy use and save money, they look for the ENERGY STAR symbol to identify energy-efficient products.

Even though windows, doors and skylights do not consume energy, they can be a significant source of heat loss in a home or building. ENERGY STAR qualified products will save money by reducing overall annual energy costs by about 8 percent. They will also help keep the home or building more comfortable year-round and may have less condensation in cold weather compared with a conventional product.

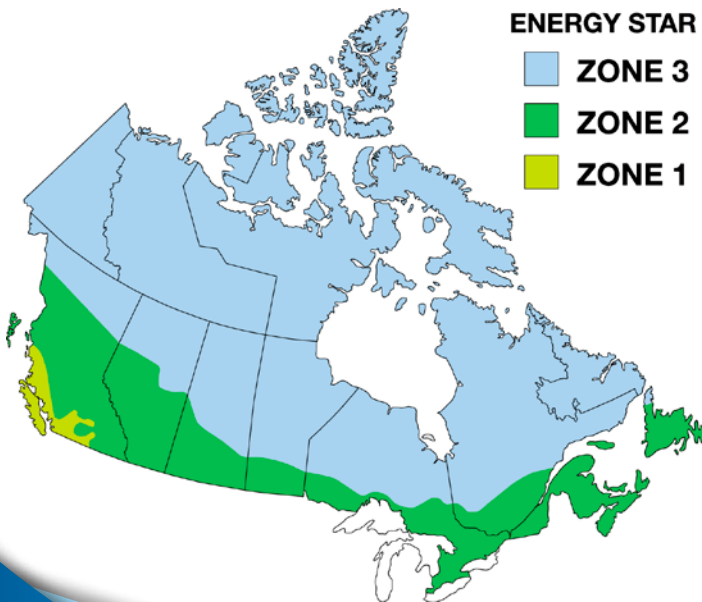


## How do these products qualify for ENERGY STAR?

To be ENERGY STAR qualified, products must meet specific energy efficiency levels that have been set for three climate zones in Canada. In addition, all products must be certified for their energy efficiency by an accredited agency.

The three climate zones were developed by using heating degree-days, a measure of annual average temperature. The efficiency levels indicate how well a window, door or skylight insulates against the cold and how well it uses the sun's heat to supplement the heating system of a home or building. Because the climate becomes progressively colder from Zone 1 to Zone 3, the levels are more stringent for each successive zone. This means that models that qualify for Zone 3 also qualify for Zones 1 and 2.

## Climate zones



## Criteria

Products are rated on either their U-factor or their Energy Rating (ER). The U-factor is a measure of the rate of heat loss. The lower the number, the slower the heat loss. The ER is a formula that includes the U-factor, air leakage and the benefit of potential solar gain. The higher the value, the higher the potential annual energy savings. Products must also have an air leakage rate of  $\leq 1.5$  litres per second per square metre of product area.

| Windows and doors<br>(effective February 1, 2015) |                          |                                  |    |   |
|---|--------------------------|----------------------------------|----|---|
| Zone  | Heating degree-day range | Minimum Energy Rating (unitless) | or | Maximum U-factor<br>W/m <sup>2</sup> ·K<br>(Btu/h·sq. ft.·°F) |
| 1   | <3 500                   | 25                               | or | 1.60 (0.28)   |
| 2   | 3 500 to <6 000          | 29                               | or | 1.40 (0.25)   |
| 3   | $\geq 6 000$             | 34                               | or | 1.20 (0.21)   |

| Skylights*<br>(effective February 1, 2015) |                          |  |
|--|--------------------------|--|
| Zone                                       | Heating degree-day range | Maximum U-factor<br>W/m <sup>2</sup> ·K (Btu/h·sq. ft.·°F) |
| 1  | <3 500                   | 2.60 (0.46)  |
| 2  | 3 500 to <6 000          | 2.40 (0.42)  |
| 3  | $\geq 6 000$             | 2.10 (0.37)  |

\*The requirement for tubular-type skylights for all three zones is 2.60 (0.46).

## U-factor conversion to R-value

Windows, doors and skylights are not normally assigned an R-value when tested. However, contractors and window salespeople may refer to the R-value as a way to measure performance. R-value is a measure of resistance to the flow of heat. To help you better understand the R-value system, sample U-factors in both metric and imperial units have been converted to R-values in the following table. Because ER values are derived from a formula that uses both the U-factor and solar heat gain, there is no method to directly convert the ER value to an R-value.

| U-factor conversion to R-value |                            |                         |
|--------------------------------|----------------------------|-------------------------|
| U-factor (W/m <sup>2</sup> •K) | U-factor (Btu/h•sq. ft.°F) | R-value (sq. ft.°F/Btu) |
| 3.40                           | 0.60                       | 1.7                     |
| 3.20                           | 0.56                       | 1.8                     |
| 3.00                           | 0.53                       | 1.9                     |
| 2.80                           | 0.50                       | 2.0                     |
| 2.60                           | 0.46                       | 2.2                     |
| 2.40                           | 0.42                       | 2.4                     |
| 2.10                           | 0.37                       | 2.7                     |
| 2.00                           | 0.35                       | 2.9                     |
| 1.80                           | 0.32                       | 3.2                     |
| 1.60                           | 0.28                       | 3.6                     |
| 1.40                           | 0.25                       | 4.0                     |
| 1.20                           | 0.21                       | 4.8                     |
| 1.00                           | 0.18                       | 5.6                     |
| 0.80                           | 0.14                       | 7.1                     |
| 0.60                           | 0.11                       | 9.1                     |


## How to identify a qualified product

All qualified products must be clearly labelled with the ENERGY STAR symbol and the zone or zones for which the product qualifies.

### Sample label showing the qualification for Zones 1 and 2


**Qualified for area indicated.  
Admissible pour les régions indiquées.**

**Canada**



**ENERGY STAR**

1 800 387-2000  
energystar.gc.ca



**■ = Zones 1 2**

DO NOT REMOVE UNTIL FINAL INSPECTION/NE PAS RETIRER AVANT L'INSPECTION FINALE

### Sample label showing the qualification for Zones 1, 2 and 3



**ENERGY STAR**

DO NOT REMOVE UNTIL FINAL INSPECTION/NE PAS RETIRER AVANT L'INSPECTION FINALE

**Canada • Zone**

**1 2 3**

**energystar.gc.ca**

## Joining ENERGY STAR

Natural Resources Canada (NRCan) administers the ENERGY STAR initiative in Canada. Manufacturers who want to label some or all of their models with the ENERGY STAR mark for sale in Canada must sign an administrative arrangement with NRCan and have these models registered and qualified for ENERGY STAR. By signing the arrangement, the manufacturer verifies that the products to be labelled meet the ENERGY STAR specification for Canada. Dealers and retailers may also sign an arrangement with NRCan or receive permission to use the ENERGY STAR name and promotional symbols directly from their supplier.

For more information on ENERGY STAR in Canada, visit the Web site at [energystar.gc.ca](http://energystar.gc.ca). You can view or order publications on energy efficiency at the [OEE Virtual Library](#).

W/m<sup>2</sup>•K = watts per square metre-Kelvin

Btu/h•sq. ft.°F = British thermal unit per hour-square foot-degree Fahrenheit

sq. ft.°F/Btu = square foot-hour-degree Fahrenheit per British thermal unit

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Portes, fenêtres et puits de lumière homologués ENERGY STAR®