



## **A Guide To Saving On Heating Costs**

With the right windows, air sealing  
and insulation

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# A Guide To Saving On Heating Costs

## With the right windows, air sealing and insulation

It will come as no surprise to most Americans that heating and cooling accounts for almost half of the energy use in a typical US home. In fact, research conducted by the Department of Energy revealed that heating and cooling makes up 48% of total energy use. As you might expect, this means that heating and cooling is the largest energy expense for most US homes. Yet as utility prices continue to rise and household budgets face ever increasing pressure, there are simple things you can do around your home to beat the chill this winter – and save money.

Windows are an essential part of every home, providing light, warmth and ventilation. But they also play a major part in a home's energy efficiency. Windows, especially older single pane varieties, become a vehicle for temperature transfer; the exchange of thermal energy between environments. In simple terms, it means that during winter older style windows allow too much heat to escape – up to 40%. That's why you find yourself constantly turning up the thermostat, or throwing another log on the fire to stay comfortable.

Thankfully, in recent years the technology behind windows and window frames has become much more sophisticated. Homeowners have more choices now than at any point in history, and stand to benefit from huge cost savings from advanced technology along with updated, sleek designs.



When properly selected and installed, energy efficient windows can help minimize your heating and cooling costs.

- US Department of Energy

### Installing Energy Efficient Windows

There are a number of new replacement window products available on the market that promise to make your home more energy efficient and comfortable. Today, windows come in a massive array of varieties. Double and triple pane glass offers unprecedented energy savings, while high-tech finishes and coatings prevent temperature transfer.

But not all windows are created equal. House design and window orientation play a big part in determining which product offers you the most energy efficiency.

#### Things to consider when upgrading your windows:

- The energy performance rating of different windows
- The climate of where you live
- The orientation of your home in relation to the sun
- The placement of windows around your home

#### Do your research

The National Fenestration Rating Council (NFRC) operates a voluntary program that tests, certifies and labels windows, doors and skylights based on their energy performance. It is a reliable way to assess their potential for gaining and losing heat, as well as transmit-ting light into your home.

Take some time to compare the products on the market.

## Don't forget the frame

The window frame itself plays a vital role in regulating internal temperature, working in conjunction with the glass to prevent heat transfer. Frames come in a variety of materials, including aluminum, vinyl, fiberglass and metal. Each of these materials have different energy efficiency ratings, and performance is best achieved when the window frame matches your selected window and it's finishing.

## Always use a professional

Of course, the energy efficiency of your new windows is only as good as the quality of the installation technique.

Always use a professional to install your windows to ensure safety, and maximum value for money.

### Through the looking glass... how different window options influence energy efficiency

#### Insulated Windows

Are windows with two or more panes of glass. Triple pane windows have become a staple on the market and offer the biggest energy savings for your home.

#### Heat-Absorbing Tints

Are special glazes that absorb solar radiation.

#### Gas Fills

Are used in the spaces between the panes of glass of double or triple pane windows. Argon or krypton are most typically used, as they are more resistant to temperature transfer than air.

#### Reflective Coatings

Reduce the transmission of solar radiation, blocking more light than heat.

#### Spectrally Selective Coatings

Filter out up to 70% of heat, without blocking any light.

#### Low-emissivity coatings

Are applied to the window to reduce heat transfer. This finish typically costs about 10-15% more than a window without it, but have been shown to reduce energy loss by up to 50%.



# Upgrading your existing windows

Caulking and weather stripping are both useful tools in reducing air leaking around your existing windows. Storm windows – which can be placed inside or outside the primary window – are another effective tool to reduce air leakage, although they offer minimal insulation and almost no impact on heat transfer.

## Air Sealing

Most homes experience a phenomenon called ‘air leakage.’ This occurs when outside air enters, and conditioned air exits your home. Reducing that leakage is a cost effective way to reduce the heating and cooling costs of your home. But there are benefits beyond energy efficiency as well. Air leaks can lead to elevated indoor humidity, especially in attics and basements. This can lead to mold deposits and cause the structural elements of your home to warp and rot.

Most air sealing techniques provide a return on investment in as little as one year. Caulking and weather stripping are two of the more common ways to ‘air seal’ your home.

## Caulking

Caulk is a multipurpose substance that seals air leaks created by gaps, cracks and joints. Ideal for sealing cracks less than 1/4 inch wide, it’s a common product found at every hardware store and is quick and easy to apply.

## Weather stripping

This is the process of sealing the openings around doors and windows to prevent air from entering and escaping. This can include any material that helps block air flow, including foam, vinyl, felt and tape.

### Playing Detective

Most of us know where the drafts and cold spots are in our homes, but there are simple things you can do to detect those mystery air leaks that are costing you money.

### Building pressurization test

A simple test that closes your known air exit points such as air doors, windows and flues. It builds internal pressure, revealing the leaks where air is escaping.

### Ask the experts

Bring in a qualified Windows on Washington technician to complete a detailed energy assessment of your home, including a ‘blower door test.’ We will be able to identify and eliminate the air leaks around your home.

### Visual Inspection

On the outside of your house, inspect all areas where two different building materials meet, including:

- Exterior corners
- Water faucets
- Siding and chimneys
- Foundation and bottom layer of bricks or siding

### On the interior, inspect:

- Electrical outlets
- Door and window frames
- Attic hatches
- Cable TV and phone lines
- Electrical outlets

# Insulation

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Insulation works to inhibit the transfer of heat. In winter, it prevents cold air from outdoors penetrating the inside of your house. Conversely, during summer, insulation helps trap cool, conditioned air inside the home while resisting the heat from outdoors. It is one of the most important features of any energy efficient home.

There are four standard types of insulation used in residential buildings:

## Blanket insulation

Filled with mineral fibers, including rockwool and fiberglass

## Polyurethane and polyisocyanurate foam insulation

Sprayed into the crevices and cavities of a home by a professional installer

## Loose fill insulation

Consisting of cellulose, rockwool and/or fiberglass, contained in pellets or fibers and installed with pneumatic tools

## Rigid insulation

Typically packaged in boards or pipe fittings and is typically used to insulate wall sheaths and foundations

If you would like to know more about how to properly insulate your home while saving you energy dollars all year round, contact Windows on Washington today. Visit our website at [www.windowsonwashington.net](http://www.windowsonwashington.net)



# Windows on Washington Is Home Improvement You Can Trust

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Windows on Washington is a locally owned and operated company focused on improving the energy efficiency and appearance of our clients' homes. Our company was founded on a simple philosophy: be upfront and honest. Many home improvement companies force homeowners to sit through three hour sales presentations and then close with high-pressure tactics to make the sale. We created a better way to do business.

At Windows on Washington, we work with our clients the way we want to be treated in our own homes - knowledgeably, professionally, and respectfully. We take the time to listen to your home improvement needs and then create a solution using best-in-class products coupled with our expert installation techniques. Whether you are looking for energy efficient replacement windows, beautiful siding, gutters, a new roof, or money saving insulation and air sealing, we are your answer. We will educate you on our approach to your project, explain your options and encourage you to do additional research. There is no obligation, pressure, or hidden charges.

## Mission Statement

At Windows on Washington, we provide our customers with quality products and expert workmanship to improve the comfort, beauty and energy efficiency of their homes. And we do it with unparalleled service. Our work is not complete without your total satisfaction.

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