

**Improving Home Improvement** 

### SOLUTIONS GUIDE

Together, we're saving more than money.



Lowe's, named "Retail Partner of the Year." Again.



#### Our energies are focused on a more efficient world

As ENERGY STAR Retail Partner of the Year for the second year in a row, Lowe's is committed to offering you ENERGY STAR solutions for your home that help you save money and increase comfort.

From ENERGY STAR qualified lighting and appliances to heating and cooling products, we have it all. And with the tips and solutions offered in this guide, you'll learn about steps you can take to save energy and reduce air pollution.

Lowe's understands that the quality of our environment is everyone's responsibility and is proud to be your home for ENERGY STAR Solutions!

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### Lowe's is your home



ENERGY STAR is the national symbol for superior energy efficiency. Backed by the U.S. Environmental Protection Agency (EPA) and the Department of Energy (DOE) – these products help save energy and money, and make a difference for the environment by helping to prevent air pollution.

Did you know that a typical household spends \$1,500 a year on energy bills? With ENERGY STAR, you can save up to 30% or about \$450 per year. Last year with ENERGY STAR qualified products sold at Lowe's, customers saved more than \$60 million on energy bills and prevented 200 million pounds of air pollution equivalent to removing nearly 75,000 cars from the road.

We encourage you to join us in creating a cleaner, greener, and more efficient world. Be a part of the solution by following these steps from the EPA and DOE.

- **Step 1** Change 5 lights. Replace your 5 most frequently used lights, or the bulbs in them, with ones that have earned the ENERGY STAR.
- **Step 2** Look for products that have earned the ENERGY STAR. Lowe's carries lighting, appliances, and more.
- **Step 3** Heat and cool smartly. Improve the performance of your heating and cooling system by having it cleaned and serviced annually, and using an ENERGY STAR qualified programmable thermostat.
- Step 4 Seal up your home. Seal air leaks, add insulation, and choose ENERGY STAR qualified windows when replacing old windows.
- **Step 5** Tell family and friends. Help spread the word that energy efficiency is good for your home and good for our environment.



Together, we're saving more than money

#### PARTNER OF THE YEAR 2004

We're proud to have been selected by the EPA and DOE for this national honor in 2003 and 2004, which is awarded for outstanding efforts in promoting ENERGY STAR qualified products and reducing greenhouse gas emissions.

## for ENERGY STAR® solutions

#### **ENERGY STAR Qualified Products Available at Lowe's**

Product		ENERGY STAR Product Benefits	Your Savings*
×	Ceiling Fans	<ul><li>Circulate air up to 20% more efficiently than conventional models.</li><li>Available with ENERGY STAR qualified light kits for extra savings.</li></ul>	<ul> <li>Save up to \$25 each year by replacing an old ceiling fan with a new ENERGY STAR qualified ceiling fan and light kit combo.</li> </ul>
	Clothes Washers	<ul> <li>Use on average 50% less energy and 40% less water than conventional models.</li> <li>Save up to10,000 gallons of water a year – enough to do one year's worth of laundry.</li> <li>Extract more water from clothes, which reduces drying time.</li> </ul>	<ul> <li>Save \$55-\$150 a year in energy and water costs, depending on model.</li> </ul>
	<ul> <li>Compact Fluorescent Light Bulbs (CFL)</li> <li>Use 2/3 less energy than standard incandescent bulbs.</li> <li>Last 6 to 10 times longer than standard incandescent bulbs, up to 7 years.</li> </ul>		• Save up to \$42 in energy costs over the lifetime of the bulb (assumes a bulb with a lifetime of 10,000 hours.)
Ì	Dehumidifiers	• Uses up to 10% less energy than a standard model.	• Average size (40 pt) saves \$110 over the lifetime of the unit.
	Dishwashers	• Use 25% less energy than non-qualifying models.	• Save \$25-\$50 a year in energy costs.
FT-T-T	Freezers	<ul><li>Uses 10% less energy than the federal standard.</li><li>Manual and automatic defrost mechanisms.</li></ul>	• Save up to \$16 in energy costs per year.
	Indoor/Outdoor Light Fixtures	<ul> <li>Use up to 2/3 less energy than standard lighting.</li> <li>Use an ENERGY STAR qualified CFL that lasts up to 7 years.</li> </ul>	<ul> <li>Save up to \$30 per year in energy costs for each fixture.</li> </ul>
	Programmable Thermostats	• Have four temperature settings, allowing you to choose a different temperature for different times of the day.	<ul> <li>Installed and used properly, save about \$100 a year on energy costs.</li> </ul>
	Refrigerators	<ul> <li>Require about half as much energy as one manufactured before 1993.</li> </ul>	<ul> <li>Replace a 10-year-old refrigerator and save between \$30 and \$70 a year, depending on the model.</li> <li>Use 1/2 the electricity of a 10-year old model.</li> </ul>
	Room Air Cleaners	• Use 35% less energy than conventional models.	• Savings of \$200 over the lifetime of the unit.
	Room Air Conditioners	<ul><li>Use at least 10% less energy than conventional models.</li><li>Choose the right size for maximum comfort and energy savings.</li></ul>	• Save up to \$180 over the 12-year lifetime compared with models manufactured before 1994.
	Windows, Doors and Skylights	<ul> <li>Keep your home cooler in summer and warmer in winter.</li> <li>Low-e coating reduces sun damage and fading, protecting home interiors like curtains, furniture, and photographs.</li> </ul>	• Replace older windows with ENERGY STAR qualified products and save up to 15% on your energy bills.
	Water Coolers	<ul><li>Improved chilling mechanisms.</li><li>More insulation to keep heated water hot and chilled water cold.</li></ul>	• Save up to \$47 a year in energy costs with hot and cold water coolers and up to \$7 a year with cool and cold models.



# Improving Your Home's

#### ENERGY IN YOUR HOME



The average American household spends about \$1,500 per year on energy bills – with more than half of that amount going to heating and cooling. Homes also account for 15% of the total energy used in the United States which means they generate more greenhouse gas emissions than cars. So reducing energy consumption and air pollution literally begins at home.

One of the simplest and most cost-effective ways to achieve these goals is to improve your home's "envelope" – the walls, windows, doors and floors that enclose your home – by sealing air leaks, replacing windows and adding insulation.

To learn more about sealing your home properly, visit Lowes.com/HomeSealing



#### ENERGY STAR HOME SEALING

EFA recommends sealing the "envelope" that surrounds your living space • the ceiling • outer walls • windows • floors

ENERGY STAR is a program of the U.S. Environmental Protection Agency and the U.S. Department of Energy.

#### To save on your heating and cooling bill and increase the comfort of your home:

- Add insulation
  - Seal air leaks
  - Choose ENERGY STAR qualified windows when replacing windows

www.energystar.gov

# "Envelope"

One of the easiest and least expensive ways to improve the comfort of your home while also lowering your energy bills is to seal air leaks and add insulation. ENERGY STAR calls this process Home Sealing.



#### Air Sealing

Insulation

The first step is to seal gaps, cracks, and holes where air leaks into and out of your home. See the diagram for locations of common air leaks. Note that the biggest air leaks are

almost always hidden in the attic and the basement of the home. Sealing those big holes and replacing more obvious worn out weather stripping on windows and doors can make a big difference.

After air sealing, be sure to check your home's ventilation and test combustion appliances to be sure they are properly venting to the outdoors. Although you want to prevent unwanted leaks throughout the house, a certain amount of controlled fresh air is needed to maintain healthy indoor air quality.

Item# 47209 10.1 Oz. GE Indoor/ Outdoor Silicone Sealant

Item# 220201 10.1 oz. DAP 100% Silicone Rubber Sealant

After sealing the air leaks, it's time to add insulation. The attic is the easiest place to get the biggest savings with insulation. Insulating crawlspace ceilings or walls and insulating basement walls can also make a big impact on comfort. Be sure to address any moisture problems before adding insulation.

#### Seal and Insulate your ducts

How-To

Leaking ducts can decrease the overall efficiency of your heating and cooling system by as much as 20%. Sealing leaks in your duct system and insulating ducts that run through attics or crawlspaces makes a difference in your home's comfort and energy efficiency. Look for duct mastic and metal-backed tape to seal those leaks, and look for duct insulation for wrapping ducts to prevent heat loss in the winter or air conditioning loss in the summer.



#### **Products from Lowe's**

#### **Air Sealing Products**

- Silicone and acrylic caulk for small cracks (less than 1/4")
- Urethane or latex spray foam for larger gaps 1/4" to 3"
- Rigid foam board insulation for covering holes bigger than 3"
- Weather stripping for windows and doors
- High temperature caulk and sheet metal for covering holes near flues and chimneys
- Outdoor faucet covers
- Plastic storm windows
- Plastic window wrap
- Attic stair covers
- Door sweeps and thresholds
- Plastic sheeting
- House wrap

#### **Insulation Products**

- Fiberglass roll and batts
- Loose fill cellulose
- Rigid foam board
- Reflective foil

#### WEEKEND SOLUTIONS: Installing Weather Stripping

Sealing gaps around window and door frames reduces uncomfortable drafts and makes your home more energy efficient. Visit Lowe's Energy Solutions Center at Lowes.com/energy for complete, easy-to-follow guidelines in choosing and using the right weather-stripping to seal air leaks around your home's doors and windows.



#### How Americans Spend Their Energy Dollars

Heating and cooling costs typically account for about half of a home's total energy bill each year. But with the right improvements, you can cut your home's energy expense by up to 30%, or \$450 a year now, and for years to come.



#### Add an ENERGY STAR Qualified Programmable Thermostat

An ENERGY STAR qualified programmable thermostat allows four different temperature settings, which lets you choose a different temperature for different times of the day. In the winter, for example, you can program the thermostat to lower the temperature when you leave the house for work, then raise it just before you return home. And when installed and used properly, it can save you around \$100 per year – enough to pay for the unit in less than one year.

How-To



#### Features:

Programmable thermostats allow the user to set a different schedule for different days. The options range from a different schedule every day to one schedule for weekdays and another for weekends. Most thermostats allow you to store multiple daily settings.

#### Recommended Setpoint Times and Temperature Settings

Setting	Time	Temperature (Heat)	Temperature (Cool)
Wake	6 a.m.	70°	78°
Leave	8 a.m.	62°	85°
Return	6 p.m.	70°	78°
Sleep	10 p.m.	62°	82°

#### WEEKEND SOLUTIONS: Install a Programmable Thermostat

Forget all those manual temperature adjustments. Replacing your current thermostat with an ENERGY STAR qualified programmable thermostat is easy (and more efficient). All you need are a screwdriver and wire cutters. Just visit the "How-To Library" at Lowes.com/energy and follow the quick, easy steps.

# ating and

#### **ENERGY STAR Qualified** Windows, Doors and Skylights

Replace those aging windows, doors or skylights with ENERGY STAR gualified models and relax in comfort every season while saving up to 15% on your energy bills.



- Have confidence. Every ENERGY STAR qualified window, door and skylight is independently certified
  - to perform at levels that meet or exceed strict energy efficiency guidelines set by the U.S. Department of Energy.

Sunscreen for your house. Most ENERGY STAR qualified windows have high tech transparent coatings that protect your furnishings from damaging solar radiation.



Reduced condensation. The advanced materials used in ENERGY STAR qualified windows will reduce the chance of condensation in cold weather.



ENERGY STAR is more than just double paned. A plain-old clear glass double pane window can't earn the ENERGY STAR. Twenty years ago double paned and energy efficient were pretty much synonymous, but new advances - in frame materials, glass coatings, gas fills and design - have enabled the development of super efficient windows. Only these windows can earn the ENERGY STAR.

ENERGY STAR qualified windows help reduce outdoor noise compared to single pane and are available in custom sizes and every operator type, including single- and double-hung, casement, horizontal slider, fixed or picture, and patio slider. ENERGY STAR qualified skylights and doors are also available, so if you're planning to replace your front door or install a skylight, make sure to ask for ENERGY STAR.

#### Window Treatments

Add shades, drapes, blinds or window film to reduce summer heat gain and winter heat loss from windows.

# Cooling

#### **Duct Insulation**

Duct insulation can conserve as much as 15% of your forced-air furnace or central air conditioner output.

Uninsulated or leaking ducts – especially ducts passing through unfinished attics or basements - waste a lot of energy. They are essentially heating or cooling areas where vou don't live.

We carry several Frost King duct insulation products to help solve this problem. Choose the one which best suits your particular needs

- For an economical way to insulate your ducts, the foil and fiberglass duct wrap combines a one-foot wide length of 2" thick fiberglass with an aluminum foil backing to provide insulation with an R-6 rating.
- For the simplest way to insulate, especially where space is at a premium, thin, 12" wide self-adhesive foam insulation with an aluminum foil backing provides an effective one-step method for both heating and air conditioning ducts.
- For additional insulation, especially in colder climates, 1" thick rolls of multi-purpose fiberglass offer you extra protection.

#### **Air Filters**

The four types of 1" residential filters are fiberglass, washable, non-electrostatic pleated and electrostatic pleated – all of which can keep dust from accumulating on the heating and cooling coils. Electrostatically charged filters are the best at helping your system operate at peak efficiency as well as removing dust, pollen, pet dander and smoke. And you can find them all at Lowe's.

#### Garage Door Insulation

DID YOU

KNOW?

Even though your garage probably isn't heated or cooled, air infiltration and heat-and-cold transfer at the garage door can make a difference in your home's energy efficiency. Lowe's carries a wide selection of insulated garage doors in a variety of styles.



Your home generates more greenhouse gas emissions than your car.



# Kitchen & ENERGY STAR SOLUTIONS



Your kitchen uses more energy than any other room in your home – up to 20% of your total energy consumption. So if you can't take the cost, get out of those old appliances and lighting fixtures and get into ENERGY STAR.

#### DID YOU KNOW?

An ENERGY STAR qualified

refrigerator saves enough energy per year to make 4,500 ice cubes.

An ENERGY STAR qualified dishwasher saves enough

water per year to brush your teeth more than 575 times.

#### **Refrigerators: The Chilling Facts**

If your refrigerator was manufactured before 1993, it uses more energy than any other major appliance in your home (except for an old clothes washer). Compare it to an ENERGY STAR qualified refrigerator, which uses less electricity per year than a 75-watt light bulb left on all year. Replacing a refrigerator manufactured before 1993 with an ENERGY STAR qualified model can cut your electricity bill by \$30 to \$70 a year, depending on the model.

#### Dishwashers: A Gentler Billing Cycle

Replacing a dishwasher manufactured before 1993 with an ENERGY STAR qualified model saves \$25 to \$50 a year in energy costs. Plus, there's an added benefit; ENERGY STAR qualified dishwashers have their own internal water heaters, allowing you to lower the temperature of your home's full-size water heater from 140°F to a safer and less costly 120°.

# Laundry

#### The Laundry Room: Lightening the Load

If you have an older clothes washer, it's taking you to the cleaners. An ENERGY STAR qualified clothes washer uses up to 68% less water and up to 67% less energy than a conventional washer. Plus, an ENERGY STAR qualified washer:



Is gentler on your clothes because there's no central agitator. Clothes are tossed and tumbled rather than rubbed back and forth.

Allows you to wash delicates – and even many "dry-clean only" items – safely.

Gives you more room for bulky items such as blankets and bedspreads.

Operates more quietly than a conventional clothes washer.

ENERGY STAR qualified clothes washers are available in front- and top-loading models, and many include matching side-by-side or stackable dryers that fit just about anywhere.



Item # 30588 Whirlpool Duet™ Super Capacity Washer No front-loading washer is more energy efficient. The Duet™ uses 68% less water and 67% less energy than conventional washers, saving you up to \$150 every year without any compromise in performance!



An ENERGY STAR qualified clothes washer saves enough water in 1 year to wash 12 months worth of laundry.

#### Water Coolers: Feel the Energy Flow

ENERGY STAR qualified water coolers use less energy when they are in standby mode (not heating or cooling water) than standard models. In fact, about 60% of the energy consumed by standard cool and cold water coolers and 90% of the energy consumed by standard hot and cold water coolers is consumed while these units are not in use - enough to power a new, full-sized refrigerator.

With ENERGY STAR qualified hot and cold water coolers, you can save as much as \$47 per year on your annual energy bills. For cool and cold qualified models, savings are up to \$7 per year on each unit.

Item# 58583 Three Temp Water Cooler with Refrigerator



# Living Room



# Change a light and brighten your outlook

The average American home has 30 lights, which can account for up to 10% of the home's total energy bill. A simple way to save energy is to change the lights that are used the most to compact fluorescent light bulbs (CFLs) and fixtures.

CFL fixtures that have earned the ENERGY STAR label use 2/3 less energy than incandescent lighting. And they are available in designs to match any décor, from traditional to modern, and in styles that include table lamps, torchieres, wall sconces, ceiling-mounted fixtures, hanging pendants and more. ENERGY STAR qualified CFL fixtures also

distribute light more efficiently and evenly than standard fixtures, making them ideal for activities such as reading or dining.

If you're not ready to change your light fixtures, it still pays to change your bulbs. ENERGY STAR qualified CFLs will fit most standard light fixtures and lamps, and Lowe's stocks a variety of shapes and sizes. CFLs produce a warm, inviting light and last more than 6,000 hours, which is especially convenient for those hard-to-reach spots. So even though CFLs cost a bit more up front, they'll cost you much less in the long run - time and money.



Each CFL can *save you up to \$42 in energy costs* over the life of the bulb versus an incandescent bulb. Multiply these

savings by the number of lights in your home and you could pocket some sizeable savings.

Item# 142605 Stiffel lamp

#### Dimmers: Lower Lights, Lower Bills

Dimmers help conserve power by allowing you to control the amount of light based on your needs. Dimming your lights an average of 50% can reduce electricity usage by up to 40%, and make bulbs last longer. Make sure the fixture and bulb are compatible with dimmers before installing.



If only one room in every home used ENERGY STAR qualified lighting, one trillion pounds of greenhouse gases would be prevented – because less power would need to be generated. That's energy savings equivalent to lighting more than 34 million homes.

When we're home, we spend most of our waking hours in the living room, family room or den – which means we use a lot of energy there. So it makes good sense (and can save lots of dollars) to improve the overall energy efficiency in these areas of the house.

### Motion-activated switches

Motion-activated switches detect your movement and turn the lights on when you enter a room. When no motion is detected, the lights will go off (these switches have timers which allow you to adjust the time before the lights turn off). Not only an energy saver, but a real convenience in closets and kid's rooms.

# & Family Room

## Ceiling fans that can turn heads

ENERGY STAR qualified ceiling fans circulate air up to 20% more efficiently than conventional models, so they move more air while using less electricity. In summer, setting the fan to turn counter-clockwise will keep air moving throughout the room. In winter, the clockwise setting (and a low speed) will pull warm air back down from the ceiling. As a result of the increased comfort level, you'll be able to keep your thermostat at a higher setting in summer and a lower one in winter, saving you energy and money.

In addition, a ceiling fan that uses an ENERGY STAR qualified light kit can further improve your energy savings by about 30% – for a total savings of 50%.



Lowe's Installation Available Item # 54108 Harbor Breeze 52" Builder's Best Ceiling Fan

D

#### Meet the coolest room air conditioners

If you don't have central air but want to stay cool, ENERGY STAR qualified room air conditioners exceed federal standards for energy efficiency by at least 10% — and have the highest energy efficient rating (EER) available. Replacing a 10-year-old unit with a new ENERGY STAR qualified model can save you up to \$20 a year on your electricity bill. And ENERGY STAR qualified air conditioners are quieter than conventional ones.

The key to selecting a room air conditioner is to choose the right capacity for the room you want to cool. An oversized unit cools a room quickly but doesn't run long enough to remove all the humidity, leaving the room damp and clammy – not to mention wasting energy. The table you see here shows which cooling capacity is best for each room size.



Area To Cool (sq. ft)	Capacity (BTU/HR)	Area To Cool (sq. ft)	Capacity (BTU/HR)
100 to 150	5,000	450 to 550	12,000
150 to 250	6,000	550 to 700	14,000
250 to 300	7,000	700 to 1000	18,000
300 to 350	8,000	1000 to 1200	21,000
350 to 400	9,000	1200 to 1400	23,000
300 to 450	10,000	1400 to 1500	24,000

Item# 107060 Whirlpool 8,000 Btu Air Conditioner

#### Room Air Cleaners: A Fresher Approach



The energy you save each year by purchasing an ENERGY STAR qualified room air conditioner over a non-qualifying model is enough to run a microwave for three straight days.

ENERGY STAR qualified room air cleaners are designed to remove dust, pollen, and tobacco smoke from indoor air while using less energy. The EPA estimates that because a typical room air cleaner often operates continuously, its annual electricity consumption is roughly equivalent to powering a second refrigerator in your home.

Room air cleaners that have earned the ENERGY STAR are 35% more energy-efficient than conventional models. Choosing to use an ENERGY STAR qualified room air cleaner may save you more than \$200 on your energy bills over the air cleaner's lifetime. Best of all, the new ENERGY STAR qualified units deliver the same, if not better performance and Clean Air Delivery Rates (CADR) than non-qualified air cleaners – there's no sacrifice in performance for energy efficiency.

### **OTHER SOLUTIONS**

#### Improve or Replace Your Water Heater

Insulate your water *heater and pipes*. Wrap your water heater with an insulating blanket. (Follow the manufacturer's directions.) Also insulate the first 5' of your water heater's piping.



Flush the sediment. The buildup of sediment in a water heater tank reduces the heater's efficiency - costing you money. Flush the tank once or twice a year by opening the tap on the bottom of the tank. Catch the water in a 5-gallon bucket, or connect a hose to the tap and allow the water and sediment to go outside or into a drain.



Have an Energy Smart™ Water Heater installed. Lowe's stocks a variety of sizes. Energy Smart electric water heaters reduce standby heat loss by up to 30%. Refer to the yellow EnergyGuide label on the water heaters to choose the model that's best for your family's needs. A Lowe's sales associate will also be glad to help you.

**NOTE:** The Home Safety Council recommends setting your heater at 120°F or below for your family's use. Higher temperatures could result in scalds or burns. Visit HomeSafetyCouncil.org for more information.



Item# 188415 Whirlpool Energy Smart™ Electric Water Heater

#### Water Heater Insulation

If you put your hand (carefully) on the upper part of the outside of your water heater and it feels warm or hot...you are wasting energy. You can save up to 10% on your water heating costs by wrapping a fiberglass blanket around it!

Look for water heater blanket kits which contain everything you need to accomplish the job on gas, oil or electric water heaters up to 60-gallon size.

#### Pipe Insulation

In many homes, hot water pipes run through crawl spaces, basements, garages, attics and other areas which are unfinished, unheated and often uninsulated. In these cases, your hot water is being wasted at a surprisingly rapid rate on its way to your sink, shower or tub. Water loses an estimated one degree per foot of pipe. This causes you to run the hot water longer or to turn the water heater up higher – wasting energy and costing you money.

Our selection of pipe insulation products is a great solution to this problem.

### Want to learn more about saving energy? Plug into the answers at Lowes.com/energy.

Our comprehensive energy-solutions database gives you 24-hour access to money-saving facts and features, printable How-To Guides and the latest ENERGY STAR qualified products. So you can lower your energy consumption, enhance the comfort and value of your home - and in the process, do your part for the planet.

Some additional resources:

www.energystar.gov 888-STAR-YES (888-782-7937) (For fact sheets, retail links, tips and more.)

www.energysavers.gov (For U.S. Department of Energy tips)

877-EERE-INF (877-337-3463) (For a free copy of the Energy Saver Virtual Home CD)



• Shop the on-line ENERGY STAR products catalog

- Sign up for the quarterly ENERGY STAR newsletter
- Learn about the benefits of ENERGY STAR products





Improving Home Improvement

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