# ENERGY STAR Home Upgrade

## General Messaging

### What is an ENERGY STAR Home Upgrade?

An ENERGY STAR Home Upgrade is a set of six high-impact energy efficiency improvements that are designed to work together to deliver significant energy and cost savings. The upgrade includes the following ENERGY STAR certified equipment:

- Heat pump HVAC
- Heat pump water heater
- Smart thermostat
- High-performing windows
- A well-sealed and insulated attic
- Plus, making sure your home is electric-ready.

**Heat Pump HVAC**

Significantly more efficient than a furnace or boiler, an ENERGY STAR certified heat pump serves double duty with heating and cooling, providing year-round savings. Save even more with up to $2000 in tax credits and visit energystar.gov/HomeSavings for additional utility/state rebates and discounts and eligibility.

**Smart Thermostat**

While a smart thermostat itself doesn't use much energy, it is an important part of an ENERGY STAR Home Upgrade because it controls equipment that uses a lot of energy for heating and cooling. Being smart about how you control your temperature settings will help you save money and stay comfortable in your home. A smart thermostat lets you control your home's heating and cooling temperature settings from your smart device (phone, tablet, or computer). It uses a wireless connection, which allows you to control your home's temperature and other features through an app. Refer to ENERGY STAR for more information on how smart thermostats are a key element of an ENERGY STAR Home Upgrade.

**Heat Pump Water Heater**

Your water heater is the second-highest energy user in your home. An ENERGY STAR certified heat pump water heater is up to 4 times more efficient and uses at least 70 percent less energy than a standard model. Save even more with up to $2000 in tax credits and learn more about available incentives at energystar.gov/HomeSavings.

**A Well-Sealed and Insulated Attic**

Making sure your attic is well-sealed and properly insulated is one of the most important things you can do to reduce air leaks, keep the conditioned air in and help you be more comfortable at home while saving up to 10% on your annual energy bills. Save even more with up to $1200 in tax credits and visit energystar.gov/HomeSavings for additional utility/state rebates and discounts and eligibility.

**High-Performing Windows**

If you have old, drafty windows, make sure your ENERGY STAR Home Upgrade includes new ENERGY STAR certified windows to make a big difference in energy savings and comfort. Low-emissivity, or low-e glass coatings on many ENERGY

STAR certified windows also reduce UV sun damage to floors, carpets, and furniture. Save even more with up to $600 in tax credits and visit energystar.gov/HomeSavings for additional utility/state rebates and discounts and eligibility.

**Electric Ready**

You can prepare for the future by making sure your home is wired and ready for additional electric appliances, including heat pump equipment, all-electric appliances, and EV charging. Save up to $1,000 with tax credits and more in utility/state rebates.

The ENERGY STAR Home Upgrade improvements work together to optimize efficiency, saving you an average of $500 a year on utility bills. You can choose the improvements that make the most sense for your home and implement them as old equipment is replaced.

Communities around the country have begun the transition to cleaner energy. More and more of the electricity we use is being generated from clean, renewable sources instead of fossil fuels. The ENERGY STAR Home Upgrade is designed to help you and your family be part of this transition in a way that saves you money on your energy bills and improves the health and comfort of your home.

Expensive upgrades can be made more affordable through tax credits and discounts on products and services to help you improve your home with efficient products that are part of an ENERGY STAR Home Upgrade.

## Promotional Messaging for Partners

- <Partner Products/Program/Service> puts you on your way to realizing the benefits associated with an ENERGY STAR Home Upgrade. This carefully crafted set of six high-impact ENERGY STAR certified energy efficiency improvements are designed to work together to deliver significant energy and cost savings, while improving the health and comfort of your home. Products that earn the ENERGY STAR label are independently certified to save energy and help protect the environment. Learn more at energystar.gov/HomeUpgrade.

- <Partner Products/Program/Service> includes these ENERGY STAR Home Upgrades: <List program/service provided improvements>

## Sample Social Media Messaging

### General

- Get started on serious energy savings and your ENERGY STAR Home Upgrade today with rebates on x, x, and x from <Partner Product/Program/Service>. Save even more with tax credits up to $3,200! Visit <Partner.com> to learn more.

- Save energy and money by starting your ENERGY STAR Home Upgrade today with rebates on x, x, and x from <Partner Product/Program/Service>. Plus up to $3,200 in tax credits! Visit <Partner.com> to learn more.

- Get started on your ENERGY STAR Home Upgrade for a more efficient and comfortable home with rebates on x, x, and x from <Partner Product/Program/Service>. Save even more with tax credits up to $3,200! Visit <Partner.com> to learn more.

**Heat Pump Water Heater**

- Save more than $600 per year on electric bills and about $6,300 over the lifetime with an ENERGY STAR certified heat pump water heater! It's one of six high-impact, energy efficiency improvements in an #ENERGYSTARHomeUpgrade designed to work together to deliver significant energy and cost savings Start saving today at <Partner.com>

- Want a steady supply of tax credits and rebates with all that hot water? Choose an ENERGY STAR certified heat pump water heater – now up to $2,000 in tax credits!
  https://www.energystar.gov/products/energy_star_home_upgrade/super_efficient_water_heater

- An ENERGY STAR certified electric water heater uses about one quarter of the energy of a standard model while helping you transition from fossil fuels to a cleaner, healthier home. Learn more about the benefits of heat pump technology and other high-impact energy efficiency improvements with an #ENERGYSTARHomeUpgrade.
  https://www.energystar.gov/products/energy_star_home_upgrade/super_efficient_water_heater

**Air Source Heat Pump**

- An ENERGY STAR certified heat pump cools and heats, saving energy all year long. It's one of six high-impact energy efficiency improvements in an #ENERGYSTARHomeUpgrade designed to help you save big while improving the comfort and health of your home. Now save even more with an up to $2,000 tax credit! Get started today at <Partner.com>

- Upgrading to an ENERGY STAR certified heat pump can help you transition from fossil fuels for a cleaner, healthier, more comfortable home. Learn more about heat pumps and other high-impact energy efficiency home improvements. #ENERGYSTARHomeUpgrade.
  https://www.energystar.gov/products/energy_star_home_upgrade/clean_heating_cooling

- **Cooling:** Need new A/C? Replace with a super-efficient heat pump and save about $600 over the life of the product, on cooling costs alone! Save even more year round and with tax credits and available rebates.
  https://www.energystar.gov/products/ask-the-experts/consider-heat-pump-replace-your-central-air-conditioner

**Smart Thermostats**

- Installing an ENERGY STAR certified smart thermostat is one of six high-impact, energy efficiency improvements in an #ENERGYSTARHomeUpgrade and an easy first step to help you save big while improving the comfort and health of your home with <Partner.com>

- A certified smart thermostat will learn your family's preferences for heating and cooling without you having to lift a finger. It is an easy first step to year-round savings with the six high-impact improvements in an #ENERGYSTARHomeUpgrade
  https://www.energystar.gov/products/energy_star_home_upgrade/smart_thermostats

**Insulation**

- Sealing and insulating your attic saves energy and improves comfort. It's one of six high-impact, energy efficiency improvements in an ENERGY STAR Home Upgrade designed to help you save big while improving the comfort and health of your home. Get started today at <Partner.com> #ENERGYSTARHomeUpgrade.

- Make sure you properly seal and insulate your attic to maximize the efficiency of your new air source heat pump. Best to combine these upgrades together for the most year-round energy and money savings. #ENERGYSTARHomeUpgrade savings.
  https://www.energystar.gov/products/ask-the-experts/improved-home-insulation-helps-heat-pump-perform-better

**High Performing Windows**

- ENERGY STAR certified windows save energy and improve comfort. They are one of six high-impact, energy efficiency improvements in an #ENERGYSTARHomeUpgrade designed to help you save big while improving the comfort and health of your home. Get started today at <Partner.com>.
- Replacing old, drafty windows with ENERGY STAR certified windows can lower household energy bills by a national average of 13%. Now save even more with tax credits! Learn about other high-impact energy efficiency improvements included in an #ENERGYSTARHomeUpgrade.
  https://www.energystar.gov/products/energy_star_home_upgrade/windows_and_storm_windows
- ENERGY STAR certified storm windows are an affordable option for homes where full window replacement may be difficult. You can count on ENERGY STAR for expert advice and resources to make high-impact energy efficient improvements that work for your budget and your home. #ENERGYSTARHomeUpgrade
  https://www.energystar.gov/products/energy_star_home_upgrade/windows_and_storm_windows

## Expanded Content for ENERGY STAR Home Upgrade Measures

In the section below, the ENERGY STAR program has compiled more extensive messaging for each of the energy-saving measures included in an ENERGY STAR Home Upgrade. Service Provider Partners are encouraged to pull from this messaging to educate consumers about the benefits and considerations of these individual upgrades. Partners may either pull this content directly for use in their own website or marketing materials or refer the customer to the ENERGY STAR Home Upgrade web pages where they can learn more about each upgrade.

## CLEAN HEATING AND COOLING

Significantly more efficient than furnaces and boilers, ENERGY STAR certified heat pumps serve double duty with heating and cooling, providing year-round savings. Save on the upfront costs with up to $2000 in tax credits plus more in utility/state rebates.

### Is it time to replace my HVAC system?

In most cases, your HVAC equipment shows signs that it is underperforming well before you reach the point of needing an emergency replacement. Recognizing the symptoms early can help you plan for a replacement that will not only keep your home comfortable year-round but will save you money as well. Here are the signs that you should consider an upgrade:

- **Your heating and cooling equipment is more than 10 years old or needs frequent repairs and your energy bills are going up.** The age and condition of your heating or cooling equipment may have caused it to become less efficient. Oversized units tend to have shorter lives due to "short-cycle," or turning on and off rapidly, which inflicts excessive wear and tear on the compressor.
- **Some of your rooms are too hot or cold.** This could also be due to inadequate air sealing, windows, or insulation which makes your heating and cooling systems work harder to keep your home comfortable.
- **Your home has humidity problems, excessive dust or rooms that never seem to get comfortable.** This could also be due to poorly insulated ductwork which impacts the efficiency of your heating and cooling.

### What kind of heat pump HVAC should I choose?

If you have been looking into/considering upgrading your home's HVAC system, you have probably heard about heat pumps. Here are a few different types of heat pump systems you should consider. We can guide you on the best system for you.

#### Ducted Air Source Heat Pumps

- Ducted air source heat pumps use your home's existing ductwork to deliver heating and cooling. In most climate zones, these units can be installed as a drop-in replacement for your central air conditioner or furnace.
- During the summer months, the heat pump serves as a central air conditioner and reduces cooling costs compared to conventional air conditioners. In the winter months, a heat pump can deliver up to three time more heat energy than the electrical energy it consumes, costing less to operate than traditional HVAC equipment such as furnaces, boilers, or electric resistance heat.

#### Ductless or "Mini Split" Heat Pumps

Often referred to as a "mini split", a ductless heat pump, is a good alternative to replace a window cooling unit (room AC), as well and as radiator or baseboard heating, meaning it can replace a traditional HVAC system while delivering savings year-round.

A head unit, or multiple head units, are mounted on an interior wall or ceiling, with an accompanying unit outside. The outside unit extracts heat from the air, even when it's cold. Refrigerant carries the heat directly to the head(s) inside, which then delivers heated air to occupied space. In warmer months, the system works in reverse for quiet, efficient air conditioning.

Mini splits are increasingly being used in these types of situations:

- Older homes with no existing ductwork (e.g., radiators or baseboard heat) that have never had central air conditioning before.
- Additions or outbuildings (e.g., shed, barn, garage) where extending ductwork or heating/cooling capacity is difficult.
- Spaces adjacent to unconditioned spaces where ductwork would be exposed to harsher temperatures (e.g., a guest room above a garage)

**Available Tax Credits and Rebates**

You can save up to 30% of your project cost when you upgrade your heating and cooling to heat pump technology, with a federal tax credit of up to $2,000. Learn more about this tax credit and see which ENERGY STAR certified products qualify by visiting energystar.gov/about/federal-tax-credits/air-source-heat-pumps.

**SUPER-EFFICIENT WATER HEATER**

Your water heater is the second-highest energy user in your home. An ENERGY STAR certified heat pump water heater is up to 4 times more efficient and uses 70 percent less energy than a standard model. Save on the upfront costs with up to $2000 in tax credits and more in utility/state rebates.

**Is It Time to Replace my Water Heater?**

If your water heater is 10 years old or older, chances are it is heating water inconsistently, or worse - going to fail and flood your home. Some common signs that can indicate water heater failure are:

- **Visible corrosion:** look for corrosion around water lines coming in and out of the unit, or on the unit itself.
- **Water leaking:** water leaking from any joint, seals, or seams of your hot water is usually an sign that there is a problem.
- **Rust in your water:** rust in the water is usually a sign that the interior of the water heating system is corroding and breaking down.
- **Lack of available hot water:** as hot water tanks age, sediment can build up in a way that reduces capacity of the tank.
- **Rumbling noises:** water heaters are designed to operate consistently, quietly, and reliably. If your water heater is making unusual noises, rumblings, or vibrations, that may indicate sediment buildup or other problems.

Avoid the hassle, stress, and extra costs of water heater failure by planning ahead and replacing your old water heater early, before disaster strikes, with a new ENERGY STAR certified water heater.

**Heat Pump Water Heater Installation Considerations**

In most homes heat pump water heaters can be installed right where your current water heater sits. There are a few simple installation considerations to We will help you choose the right heat pump water heater for your home, but there are a few simple installation considerations:

- **Air circulation:** Access to air is essential for your heat pump water heater to run at peak performance. Most models need about 700 cubic feet of surrounding air space which is about the size of a 10 ft x 10 ft room, though some models operate with as little as 450 cubic feet of air. If your water heater is tucked away in a tight closet, a

simple louvered door or duct will do the trick. Your installer will determine the proper setup based on manufacturer specifications.

- **Tank Size:** Choose a size that meets your needs. Heat pump water heaters are generally a bit larger than conventional water heaters. They typically come in 50-, 65-, and 80-gallon options. If your existing water heater is electric and meets your needs, consider replacing it with the same size. If you are making the switch from gas tank to heat pump water heater, or your family needs have increased, it is advisable to upsize to a larger tank size. If you do not have the necessary space to accommodate a larger tank consider a split system heat pump water heater. This includes a small unit mounted outside the house which is linked to the hot water tank inside.
- **Condensate drainage:** Heat Pump Water Heaters produce a small amount of clean non-acidic condensate water which can be directed to a nearby drain or condensate pump.
- **Location:** Heat pump water heaters typically perform best in spaces that do not regularly get colder than 38F. Locating your water heater in a basement or garage can be a great option if the space normally remains above freezing.
- **Access to 240V Electric Outlet:** If your existing water heater is electric then you already have a 240V outlet. If you are switching from a gas, oil, or propane, you may need to check with us about locating a 240V outlet. We will know what to look for when installing your heat pump water heater. The electrical requirements of installing a heat pump water heater are no different than that of a standard electric tank. Some homes may need an electric panel upgrade to make room for the new 240V outlet. This can be done by us.

**Available Tax Credits and Rebates**

You can save up to 30% of your project cost when you upgrade your water heater to heat pump technology, with a federal tax credit of up to $2,000. Learn more about this tax credit and see which ENERGY STAR certified products qualify by visiting energystar.gov/about/federal-tax-credits/heat-pump-water-heaters.

**WELL-SEALED AND INSULATED ATTIC**

Making sure your attic is well-sealed and properly insulated is one of the most important things you can do to reduce air leaks, keep the conditioned air in and help you be more comfortable at home while saving up to 10% on your annual energy bills. Also save on upfront costs with up to $1200 in tax credits and more in utility/state rebates.

**Do I Need More Insulation and Air Sealing in my Attic?**

We can determine whether you need more insulation and air sealing in your attic, but here are some basic steps that can help you:

**Step 1: Access Your Attic**

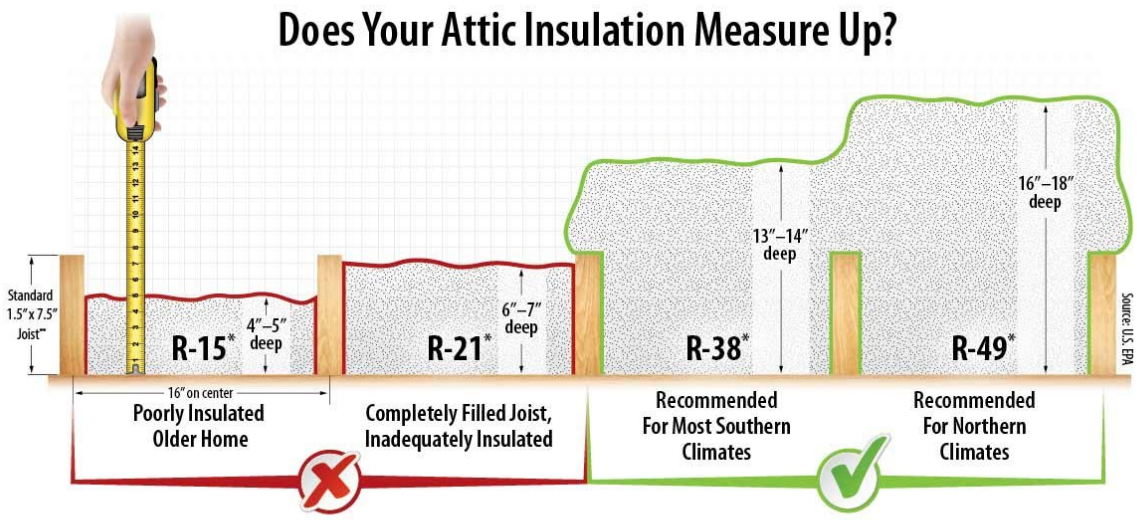
- You have it easy if you have stairs or a set of pull down-stairs going to your attic. However, if you just have an attic hatch or cover, you may need a ladder.
- Bring a flashlight, a ruler or tape measure, and your cell phone to take a picture.
- If you can see and reach the insulation on the floor from the attic hatch, you do not need to get all the way into your attic. If there is flooring around the attic hatch, you may need to crawl inside the attic to reach the insulation.
- Some homes have 'cathedral ceilings' with no attic. In this case, the insulation is placed right up against the roof deck and covered with drywall.

**Step 2: Check Your Attic's Insulation Level**

Once you have access to the attic, there are several quick checks that you can do to determine where you may need more insulation in your home.

- **Do a Visual Check of Insulation Levels** - When looking across your uncovered attic floor, if the insulation is at or below the level of the floor joists, **you probably need to add more insulation**.
- **Measure Insulation Levels** - Use a measuring tape/ruler to measure the depth of the insulation (inches). Record your measurement so you can determine how much more insulation you need to achieve the recommended levels.

**NOTE:** Insulation levels are specified by R-Value, which is a measure of its ability to resist heat traveling through it. The higher the R-Value the better the thermal performance of the insulation. Here are some example R-values for an attic floor.




* Recommended Dept. of Energy attic insulation levels for commonly used fiberglass, mineral wool, and cellulose insulation assuming about R-3 per inch.

** Standard joists are sold as 2"x 8" but usually measure closer to 1.5"x 7.5."

Since most common insulation types (fiberglass, cellulose, mineral wool) have an R-value of about 3 – 3.5 per inch it is easy to estimate how much R-value your attic's insulation currently has. Just take the depth in inches x 3 to get an estimated value.

**Available Tax Credits and Rebates**

You can save up to 30% of your project cost when you seal and insulate your attic, with a federal tax credit of up to $1,200. Learn more about this tax credit and see what qualifies at energystar.gov/about/federal-tax-credits/insulation.

**HIGH-PERFORMING WINDOWS**

**Is it Time to Replace my Windows?**

Windows have many uses in your home from adding light to making your home more appealing. However, old, poorly made, drafty, or degraded windows can waste lots of energy and leave you very uncomfortable when weather is the most extreme. We can tell if you should replace your windows, but below are a few big indicators that it may be time

Any of these major problems could be a good reason to replace your windows.

- **Single-pane windows** (windows with only one layer of glass) – These windows are very bad at insulating against cold weather and typically do not have coatings to block solar heat in the summer increasing air conditioning costs. Single-pane windows are big energy wasters.
- **Windows with air leaks or drafts and degraded sills and sashes** – These windows also waste energy and are very uncomfortable to sit next to when it is cold and windy out. Degraded windows can also leak water into your walls causing more problems and allow insects and other pests to enter your home.
- **Windows that do not open or are painted shut** – Windows that do not open prevent you from enjoying fresh air on a nice day or a cool evening after a hot day which can reduce energy costs. Windows that do not open are also hard to clean and maintain.

**Other Considerations**

- **How many windows do you plan to replace?** - To get the best price per window, it helps to plan to buy at least 10 windows to reduce installation costs. Window installation costs are lower if you replace multiple windows at one time because of the time it takes to haul the windows to your home, set up the site, and clean up the site.
- **Was your home built before 1978?** – If so, we will likely have to take precautions due to possible lead paint. Following lead paint clean-up protocols is good for your home because they require us to catch any lead paint chips that fall during removal of the old windows, to clean up the site with extra care when the job is completed, and to dispose of the old windows correctly. The US EPA has excellent guidance on lead paint issues at this website.

**Which Windows Are Right for my Home?**

Windows that earn the ENERGY STAR certification come with a label indicating where the product is certified for. ENERGY STAR ratings vary depending on the climate where you live so you get the right balance of comfort and savings. We can help you decide what windows are best for you, but here are some key things to consider before you shop.

If you are considering buying new windows, it is important to choose ones that make sense for your climate. While some windows are better at keeping you warm in the winter, others help reduce air conditioning costs in the summer. Some windows balance heat and cold for climates in the middle of the country. We can help you decide what windows are best for you, but here are some things to consider:

**U-factor** – A measure of the insulating power of a window. The lower the number the more the window will insulate. Therefore, a window with a low U-factor is better for cold climates to keep the heat inside. The U-factor range for windows is typically between 0.15 and 0.50.

**SHGC (Solar Heat Gain Coefficient)** – A measure of how much solar heat from sunlight is blocked by the window. The lower the number the more heat is blocked. Therefore, a window with a low SHGC is better for hot, sunny climates, where blocking the heat entering the home will reduce air conditioning costs. The SHGC range for windows is typically between 0.15 to 0.60.

Every ENERGY STAR window is independently certified and verified to perform at levels that meet or exceed energy efficiency guidelines set by the U.S. Environmental Protection Agency.

You can see the current guidelines by climate zone for ENERGY STAR certified windows here.

**Windows Buying Guidance**

There are a variety of window types available for homes. We can help you decide what windows are best for you, but here are some things you should consider when you choose for your home.

- **Energy Performance**: If you live in the Northern part of the U.S., ENERGY STAR recommends lower U-factor windows (0.27 and less) which saves energy in cold weather because they insulate better. If you live in the South, look for lower SHGC levels (0.25 and less) which block more solar heat to keep your house cool in the summer.
- **Frame Material:** Do you want traditional wood or a lower maintenance material like vinyl or fiberglass? Do you want to paint the window after it is installed, or do you want it pre-finished?
- **Color:** What color do you want inside and out? You can even have one color outside and a different color inside.
- **Grids or Grilles:** Grids today often come between-the-glass, making the windows much easier to clean. Some companies offer grids that clip on the interior of the window to give a more traditional look to the window from the inside. Some companies also offer the traditional multi-pane window with each lite being a separate unit of 2 layers of glass.
- **Window Opening Style:** The most common type in the Eastern U.S. is a double-hung window, also called a vertical slider. On the West coast, horizontal sliders are common. There are also window types that project out, often opening with a crank, known as casements, awnings, and hoppers. They open from the side, bottom, or top respectively. Fixed or picture windows do not open at all.

**There are 6 common window operator types:**

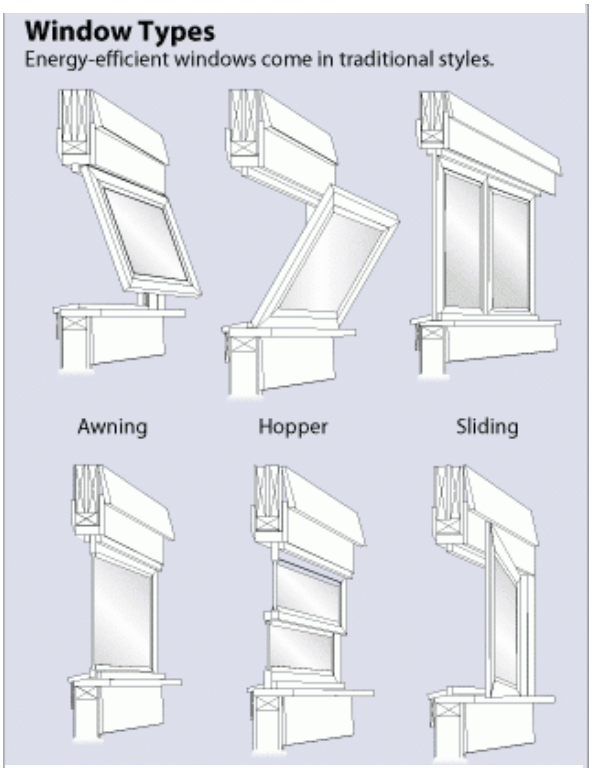



**Image Source:** U.S. Dept of Energy

For more information on window types and how they work, check out the U.S. Department of Energy's Window Types and Technologies website and the Efficient Window Collaborative website.

**How Cost Effective is Window Replacement?**

Windows are one of the more expensive things that a homeowner can replace in their home. Replacements start at about $400 per window for a simple, yet energy-efficient 3 ft. by 5 Ft. double-hung window including a good installation. The upper end of the cost range for the same product is $1500-$2500 per window or more for premium options like specialty wood finishes, historically accurate designs, laminated glass for impact resistance, or extra-strength frames. With that wide a price range, here are few things to consider:

- Window replacement almost never pays for itself in energy savings alone. But it is one of the few home improvements done to save energy and improve comfort, that is known to also improve the value of the home. When someone sells their home after replacing their windows, they can recoup some of the cost of the replacement from a higher value sale.
- While the full cost of window replacement does not pay you back in energy savings, it is typically cost effective to upgrade windows to ENERGY STAR certified versions which save more on energy bills. The cost of the technologies to make windows more efficient are quite affordable but some companies charge much higher prices for the same upgrades.

- It is important to understand that just because a window is expensive does not mean that the window is energy efficient. Again, we will supply you with the U-factor and SHGC performance parameters of each window brand you are considering to better help you compare products. We can answer all your performance questions and document them in your sales agreement.

**Storm Windows – A More Affordable Option**

ENERGY STAR certified storm windows are an affordable option for homes where full window replacement may be difficult, such as lower-income households, low-rise multi-family households, households working with HUD or weatherization programs, or households in historic preservation districts.

ENERGY STAR certified storm windows use "low emissivity" or low-e glass to improve the energy performance of your home compared to clear glass storm windows. ENERGY STAR certified storm windows are designed to allow the right amount of solar heat through your windows to keep your home cool in the summer and warm in the winter, and help you save on energy bills.

**How much can I save with ENERGY STAR Storm Windows?**

EPA estimates that on a national average, ENERGY STAR certified (low-e) storm windows can save you $350 on your annual heating and cooling bills (about 10%) when installed over single-pane clear glass windows (without existing storm windows). You can expect to pay back the incremental cost of the ENERGY STAR certified storm windows in about three (3) years.

If you already have clear glass storm windows over your single pane windows and replace the storms with ENERGY STAR certified (low-e) storm windows you can save an additional $50 per year on heating and cooling (about 2%) on a national average.

**Additional Benefits of Modern Storm Windows:**

- Can be installed on the interior or exterior of an existing window.
- Cost ½ to ¼ the amount of common replacement windows with much lower cost installation. They can also be Do-It-Yourself installed without training in a few minutes to save even more money.
- Come in both fixed and operable (open and close) options and with insect screens.
- Come in a variety of colors to match your home.
- Can be purchased conveniently at many home improvement stores and can be specialty manufactured to perfectly fit to your current windows.
- External storm windows are designed with weep holes to manage moisture while also controlling air leakage.
- ENERGY STAR certified storm windows have high-gain low-e coatings for Northern climates to optimize solar gain when it is cold. ENERGY STAR storm windows for Southern climates are designed to block solar gain because they are low-gain, low-e, which helps to lower air conditioning costs.

**Available Tax Credits and Rebates**

You can save up to 30% of your project cost when you upgrade to energy efficient windows, with a federal tax credit of up to $600. Learn more about this tax credit and see which ENERGY STAR certified products qualify by visiting energystar.gov/about/federal-tax-credits/windows-skylights.

## SMART THERMOSTATS

For the average American household, almost half the annual energy bill goes to heating and cooling - more than $900 a year. Being smart about how you control your temperature settings will help you save money and stay comfortable in your home. Save on the upfront costs with available rebates from your State or local utility.

### Why Choose an ENERGY STAR Certified Smart Thermostat Model?

A smart thermostat lets you control your home's heating and cooling temperature settings from your smart device (phone, tablet, or computer). It uses a wireless connection, which allows you to control your home's temperature and other features through an app.

- **Energy savings: To earn the ENERGY STAR certification, smart thermostat service providers must prove that the product saves energy as it should.**
- **Consider this:** a smart thermostat unit itself doesn't use a lot of energy, but it controls devices that use a lot of energy through heating and cooling. To demonstrate that the thermostat meets the energy saving criteria, smart thermostat manufacturers must show how the presence of their model reduces the HVAC system's use in different climates across the country.
- Only smart thermostats that earn the ENERGY STAR label have been independently certified, based on actual field data, to deliver energy savings. In addition, ENERGY STAR certified smart thermostats are required to be able to enter a low-power standby mode when inactive, which saves you even more energy!

### Smart Thermostat Buying Guidance

Before you invest in a smart thermostat, we can help you make sure it works with your heating and/or cooling system and give some thought to the features you are most interested in. ENERGY STAR certified smart thermostats typically include features like learning capabilities, occupancy sensors and even voice assistant integration.

### What Features You Should Consider When Choosing a Smart Thermostat

Each smart thermostat uses slightly different features to help you save energy, so do your research, and we can help you choose the ENERGY STAR certified smart thermostat that's right for you.

- **Learning capabilities:** Learns and adapts to your routine and your temperature preferences and automatically establishes a schedule that adjusts to energy-saving temperatures when you are asleep or away.
- **Geofencing:** With your permission, your smart thermostat may use the app on your phone to detect when you are away or at home. When you leave the house and travel outside of a certain distance, the smart thermostat will lower the temperature (if in heat mode) or raise the temperature (if in cool mode). When you're on your way home, the smart thermostat can automatically adjust your home's temperature to your liking, so you arrive to a comfortable temperature.
- **Vacation mode:** Lets the thermostat know when you will be gone from your home for longer periods of time to manage the temperature, avoiding frozen pipes in the winter and extreme heat in the summer.
- **Automatic updates:** Updates software periodically to ensure it uses the latest algorithms and energy-saving features available.
- **Sensors:** Helps to manage extreme temperature differences in a home through either temperature or occupancy sensing technology.

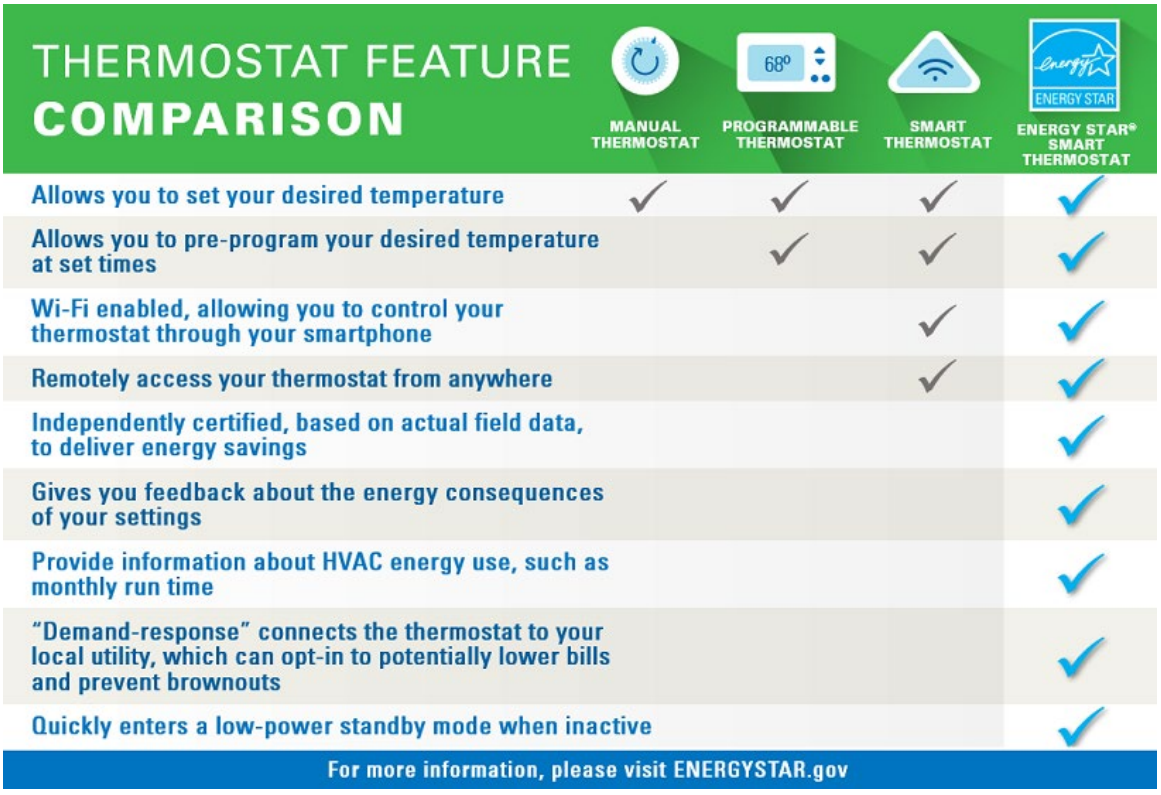
*Temperature sensors* work in single zone homes (meaning you have one HVAC system controlling the whole house) to monitor rooms with differing temperatures due to lack of insulation, sun exposure, etc. Sensors allow the smart thermostat to adjust the overall temperature to manage hot and cold spots, especially critical in larger homes.

*Occupancy sensors* work to determine which rooms are the most high-traffic and prioritize managing their temperature, without sacrificing comfort in the rest of the house.

- **Voice assistant integration:** Some smart thermostats are compatible with popular voice assistant programs, meaning you can simply ask the thermostat to turn the temperature up or down a few degrees, among other things.
- **Music streaming:** Some smart thermostats contain a speaker that let you stream music right from your thermostat.

**Available Tax Credits and Rebates:**

Some smart thermostats include more high-end features than others, so prices for smart thermostats can vary widely, ranging anywhere from $50-$300. Depending on where you live and your utility, there may be an opportunity to get an ENERGY STAR certified smart thermostat at a reduced price, either through a discount or rebate. Use the ENERGY STAR Product Finder to review product features and use the home improvements savings tool to find savings in your area.




**ELECTRIC READY**

As electricity generation relies more on renewable sources of energy and with the steady increase of electric vehicles on the roads in the United States, preparing for an electric future is smart. As part of your ENERGY STAR Home Upgrade, we help make sure your home is wired and ready for additional electric appliances and an EV charger.

## Why Should I Make My Home Electric Ready?

The future of home energy and transportation is electric, so even if you don't plan on getting electric appliances, equipment, or an EV right away, there are things you can do now to make your home electric ready. Electric ready means getting the wiring in your house ready for the new demands that come from electric heat pumps, water heating, cooking and EV chargers.

Ensuring you have the necessary wiring at your house will help you prepare for the change to cleaner, healthier, cheaper energy and make replacing old appliances quicker and easier.

The extent of the electric upgrades your home might need vary depending on your circumstances, but we will help you figure it out.

- Most newer homes are outfitted with a 200A breaker box, which is sufficient to accommodate the addition of new electric appliances.
- If you already have a central AC, you should not need an electrical upgrade to switch to a heat pump.
- The chargers that come with a new electric vehicle purchase use a standard 120V socket and are generally able to provide up to about 60 miles worth of charge overnight. There are also some chargers that use a 240V outlet that can charge your car quicker.

## Benefits of Being Electric Ready

- **Air Quality** - Electric Appliances don't burn fuel in your home so there is no release of combustion gasses into your living space. Studies have shown that gas stoves can contribute to indoor air pollution that causes higher instances of asthma in children. Having an EV charger eliminates tailpipe emissions.
- **Comfort** - Induction electric stoves are at least twice as efficient as gas stoves and produce much less waste heat that can make your kitchen uncomfortable in the summer.
- **Convenience** - Charging an electric vehicle at home eliminates your need to find a public charger or go to a gas station.
- **Financial** - Many electric appliances are more efficient, so you use less energy and, in many cases, save money on your utility bills.

## Available Tax Credits and Rebates

You can save up to 30% of your project cost when you upgrade your electric panel, with a federal tax credit of up to $600. Learn more about this tax credit and at energystar.gov/about/federal-tax-credits/electric-panel-upgrade.